A MIND'S OWN PLACE

THE THOUGHT OF SIR WILLIAM MITCHELL

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Errata

p. iv, l up. "... philosophical psychology. The topics that concerned Mitchell are only now being revisited ..."
p. xi, l. 6: delete pipe.
p. 15, 3 up: delete Berkerleian
p. 21, 6 up: "*phenomenalism* was acceptable ..." = "sensations were acceptable ..."
p. 29, l. 7: delete "central"
p. 30, n. 37, delete Smart
p. 32, 5 up: McCauley = McAuley
p. 37, n. 1: *Philosophy and Psychology* = *Psychology and Philosophy*
p. 37, 6 up: "one of the founding fathers" = "as an important figure"...
p. 38, l. 5: "is alleged to have been" = "is said to have been"
p. 42, 6 up: Aristotelian, Kantian and Hegelian
p. 42, l. 5: delete "own"
p. 45, l. 8: "like" = "such as"
p. 48, 8 up: "which Anderson" = "like Anderson"
p. 51, 3 up: "to contain"= "as containing"
p. 58, 8 up: full stop inside bracket
p. 60, n. 58: ["The index"] ... ["The elaborate table of contents provided"] ...
p. 78, 5 up: full stop inside bracket
p. 91, l. 7 texural = textual
p. 102, 8 up: warrently = warrantedly
p. 120, 4 up: add footnote: The thermometer model is discussed in D. M. Armstrong's *Belief, Truth and Knowledge* (1973)
p. 126, l. 9: "like how" = "in a similar way to how"
p. 127, l. 11 delete "tensed".
p. 128, l. 4: full stop outside bracket
p. 132. 9 up: "true beliefs are useless ..." = "the notion of "belief" is useless ..."
p. 158, 4 up: "points" = "assumptions"
p. 164, l. 7: "by the leakage point" = "not persuaded by the conservation of energy argument".
p. 164, 4 up: "if mental processes and states are identical to physical processes and states ... there need be no non-physical things that have energy"
p. 167, l. 4: delete sentence referring to Armstrong
p. 170, l. 11: "that, because certain things can be said of the brain that cannot be said of the mind (and vice-versa), this justifies ..."
p. 203, n. 26: "The following few pages are based on ..."
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p. 401, l. 12: "thought" = "though"
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Abstract

The subject of this thesis is the work of Scottish-born Sir William Mitchell, the Hughes Professor of Philosophy and Vice Chancellor at the University of Adelaide, and the first major philosopher who lived in South Australia. Mitchell worked at Adelaide University during the years 1895-1940 and died in 1962.

Mitchell is a major, yet long forgotten, historical figure and intellectual, and an important figure in the history of Scottish and Australian philosophy. He was a part of Scottish schools of thought that influenced early Australian intellectual and cultural life. (The same influence is behind the work of the more famous figure, John Anderson, former Professor of Philosophy at Sydney University.) Anderson's work recently underwent a revival due to the publication of a recent biography (*A Passion to Oppose: John Anderson, Philosopher,* by Brian Kennedy, Melbourne University Press, 1995). However, there has never been a serious scholarly appraisal of the work of William Mitchell. At the time of preparation of this thesis there was no recent published material on Mitchell's life, work or influence.

This thesis fills this need. I argue that Mitchell's work is surprisingly relevant to current concerns among cognitive scientists and philosophers of mind. He wrote on issues that are only today being discussed by philosophers and psychologists under the auspices of 'cognitive science'. His major work: *Structure and Growth of the Mind* (MacMillan, 1907) is a major treatise on philosophical psychology which is only now being revisited in the form of contemporary debates.

The specific aims of the thesis are as follows:

- To assess the impact of late nineteenth/early twentieth century science (especially neurology, psychology and physics) on Mitchell's philosophical work and trends in philosophical psychology during that period.

- To demonstrate the importance of Mitchell's philosophical work in the context of contemporary theories of mind and content, cognitive science, and the philosophy of science and perception.

- To make clear the extent of Mitchell's philosophical influence on others at the time

- To locate Mitchell's work in relation to other influences on philosophy in Australia.

This work contains no material which has been accepted for any award or any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference is made in the text.

I give consent to this copy of my thesis, when deposited in the University Library, being available for loan and photocopying.

Signed

William Martin Davies
12/11/2001

Abbreviations

The following abbreviations for the major works of William Mitchell are used throughout the thesis:

MO:	*Moral Obligation* (1886)
LEE:	*The Logic of the Ethic of Evolution* (1890)
WP?:	*What is Poetry?* (1898)
LM:	*Lectures on Materialism* (1903)
SGM:	*Structure and Growth of the Mind* (1907)
LLFU:	*Lectures on the Two Functions of the University and their Cost* (1917)
GL 1st Series:	*Syllabus for the Gifford Lectures: The Place of the Mind* (1925)
GL 2nd Series:	*Syllabus for the Gifford Lectures: The Power of the Mind* (1926)
NF:	*Nature and Feeling* (1929)
PMW:	*The Place of Minds in the World* (1933)
QL:	*The Quality of Life* (1935)
UL:	*Universities and Life* (1937)

Complete Writings of Sir William Mitchell

1886 'Moral Obligation', *Mind,* 11, No. 41, pp. 35-48.

1890 'The Logic of the Ethic of Evolution', *Mind,* 15, No 59, pp. 342-356.

1893 'L'Evolution Intellectuelle et Morale de L'efant', *Mind,* 4, No. 2, p. 529.

1895 *The Advertiser,* 19/12

1895 *Reform in Education.* International Journal of Ethics, October.

1898 *What is Poetry?: A Lecture given to the South Australian Teachers Union.* Southern Cross Print.

1903 *Three Lectures on Materialism* (Extension lectures) Thomas and Co: Adelaide: W. K. Thomas.

1907 *Structure and Growth of the Mind.* London: Macmillan and Co., Ltd.

1908 'Discussion: Structure and Growth of the Mind', *The Journal of Philosophy, Psychology an Scientific Methods,* 5, pp. 316-321.

1917 *Lecture on the Two Functions of the University and their Cost.* Hassel and Son Press, Adelaide.

1909 *Lecture on the Rate of Interest.* Adelaide: Vardon and Sons. Institute of Accountants in South Australia

1912 *Christianity and the Industrial System.* Issued by the Methodists Social Service League. Adelaide: Hussey and Gillingham Ltd.

1918 'The National Spirit',*The Advertiser,* 19/12.

1925 'The Place of the Mind', *Syllabus of the Gifford Lectures.* First Series. University of Aberdeen: UK.

1926 'The Power of the Mind', *Syllabus of the Gifford Lectures.* Second Series. University of Aberdeen: UK.

1927 *Jubilee Celebrations 1876-1926.* Adelaide (Preface).

1929 *Nature and Feeling,* University of Queensland John Murtagh MacCrossan Lectures. Hassel and Son Press: Adelaide.

1929 'How Far Nature is Intelligible', *University of Adelaide Public Lectures,* July 30th and August 6th 1929. Lecture Advertisement: Hassel Press, Adelaide.

1931 *Letter on the University and Education to the Committee on Public Education.* Hassel and Son, Adelaide.

1933 *The Place of Minds in the World.* Gifford Lectures at the University of Aberdeen, 1924-1926. First Series. London: Macmillan and Co., Ltd.

1934 'The Quality of Life', *Proceedings of the British Academy,* XX. Annual British Academy HenriettaHerz Lecture. University Press: Oxford.

1937 *Universities and Life.* Introductory Address. Australian and New Zealand Universities Conference. Adelaide: The Hassell Press.

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This thesis was not long in the making thanks partly to a period of unemployment-forced idleness. For this, I am grateful to both Federal Governments for bringing about savage cutbacks in the Australian higher education sector (1996-2001).

There are others who deserve a genuine appreciation of thanks. Chris Mortensen provided initial encouragement to begin the project, and cast a critical eye over the content of the manuscript while it underwent various transformations of style and content. The South Australian Arts and Cultural Development Department provided two generous grants during 1997 and 1998. The Australia Research Council provided a grant during 2000-2001. I am especially grateful to their early sponsorship. Were it not for them—as the saying goes—there would be no thesis at all. What one Government department giveth, it seems, another taketh away.

Thanks also to my friend Roger McCart from the John Curtin School of Neuroscience at the ANU for his kind yet critical comments on the manuscript while it was in draft form. Rodney Allen, George Couvalis, Greg Currie, Andrew Brien, Jane Childs, George Davie, Nigel Dower, V. A. Edgeloe, Margaret Finnis, Jim Franklin, Rev. Peter Gordon, Professor Gordon Graham, Alex Hope, Alan James, Mina Muecke, David Nash, Neil Nilsson, Jeremy Shearmur, Ken Sievers, Jane Simpson, Jack Smart, Dorothy and Joanna Simpson, Jenny Tannoch-Bland also provided useful advice, comments or suggestions in one form or another.

Emeritus Professor Jack Smart should be singled out for special mention. Jack was Mitchell's successor to the Hughes Chair bar one. He knew Mitchell personally and was able

to recall so much about the man and his ideas—helping me to bring the man to life with various anecdotes and stories involving Mitchell. Jack wrote me long and interesting letters—some while on holiday in the UK—which displayed his fond affection for Mitchell. The relationship between the two men was obviously more like foster father and son than philosophers of different intellectual persuasions. (*Smart:* "When he died, they gave me his tobacco case and pipe. I don't smoke!") His recollections about his discussions and arguments with Mitchell around the fireplace were also a delight. ('Why do you always say "Nonsense!" when you are arguing about philosophy with Jack?'. *Mitchell:* "Nonsense!"... I never say "Nonsense!"'). Another anecdote worth telling was when Mitchell was asked by a journalist how he came to live to 101. His reply was: "Be sure of 100 first.". When Smart and others presented Mitchell—a cricket lover—with an autographed cricket bat on the occasion of his 100th birthday, it was to help him "see in his next century". Alas, Smart recalls: "He only made a single".

For other recollections about the man I am indebted to Mina Muecke who recalled much about him while working as his typist. On one occasion she returned a type written speech to Mitchell, who—fixing her with a serious gaze—exclaimed firmly: 'And don't tell me I can't start a sentence with "And": *I am the Chancellor!'*

Jim Franklin is also to be especially thanked for sending me drafts from his forthcoming book on Australian philosophy (which enabled me to complete Chapters 1 and 2). I have made reference to Jim's excellent book in several places in these pages. Ken Sievers also made available his doctoral thesis on F. H. Bradley which was most useful in helping me make sense of the idealist tradition from which Mitchell came, but to which he certainly does not belong.

My penultimate acknowledgment is to Mr Harry J. Allen. Harry was one of Mitchell's former students. He provided me with a generous bequest when the manuscript was completed. It was Harry's idea to sponsor a philosopher to write something about Mitchell. I am, of course, overwhelmed by his generosity in these lean times, but I am also grateful for his enthusiasm for "Australia's forgotten philosopher"—not least of being that his consuming

interest in Mitchell helped to spur my own. I dedicate the thesis to Harry. Let this thesis on Mitchell not be the last word.

A final tribute of thanks must go to my wife Alice who supported me when funds were short and gave me the necessary time for quiet reflection needed to complete the thesis.

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A Word about Textual Interpretation

In studying Mitchell's works I am reminded of Kemp-Smith's remarks about Kant's first *Critique.* 'The Critique of Pure Reason', Kemp-Smith wrote, 'is more obscure and difficult than even a metaphysical treatise has any right to be'. This applies equally well to Mitchell's writings. His work is undoubtedly hard. Since this thesis is the first ever large-scale critical appreciation of Mitchell's writings, it can scarcely be claimed that it presents a unique interpretation. However, I have aimed at a *consistent* interpretation. I will, in closing, be more than happy if this work prompts other, contrary interpretations, which might generate debate in the literature.

The reason why, while science makes a straight course, Philosophy makes a zigzag and doubling advance is that the one is aware from the first of the precise facts with which it has to deal, while the other labours under the disadvantage of having itself to determine what they are. Philosophy must somehow state its own problem, and it cannot do this without first answering it.

'Moral Obligation', *Mind,* 11 No. 41 (1886) p. 35

Introduction

> A philosopher has the wise-man tradition to maintain, where free from desire he sits on the fence to judge and select what is best from both sides; if neither camp nor men will use the light on themselves, should he not lift it up? ... even a philosopher cannot relax on a rail.
>
> NF, p. 4

1. Why this Thesis?

The original idea for a thesis of this kind began while I was in Edinburgh on a period of overseas study for my first doctoral dissertation in 1989-90. Surrounded by the prevailing influence of some of the best of Scottish philosophy—David Hume, G. E. Moore, Thomas Reid—it occurred to me that although much had been written on early Scottish philosophical influences on the development of Australian philosophy, the focus of this work had centred mainly on the Sydney connection—particularly, the writing and influence of John Anderson, Challis Professor of Philosophy at the University of Sydney (1927-58). In contrast to the Andersonian influence, little scholarly work had been undertaken on what impact, if any, Scottish traditions had on philosophical writing elsewhere in Australia.

Any suggestion that there were no traditions of interest outside Sydney is clearly false. Western philosophical thought certainly made an appearance in Australia long before Anderson arrived in New South Wales, yet it may be forever overshadowed by Anderson's legacy. From approximately 1850 a small community of scholars—mostly of Scots origin—working against the considerable difficulties of time and distance (both among themselves and also between them and their colleagues in the northern hemisphere) managed to bring together a philosophical community in Australia, add to the then dominant idealist and quasi-religious

debates which occupied the intellectual scene in America and Europe, and leave behind a number of manuscripts and assorted papers which provided the basis for the metaphysical and epistemological work of those that followed. These scholars included Barzillai Quaife, John Woolley, Charles Badham and Francis Anderson in Sydney; M. H. Irving, H. A. Strong, W. E. Hearn, Richard Hodgson, Alexander Sutherland and Harry Laurie in Melbourne; William Mitchell and McKellar-Stewart in Adelaide; Elton Mayo and Scott Fletcher in Queensland; R. L. Dunbabin in Tasmania; and P. R. Le Couteur and A. C. Fox in Western Australia.

Any systematic survey of the earliest Australian philosophers and their ideas is beyond the scope of this thesis.[1] However, it seems surely necessary to outline the background of those philosophers in broad terms before turning to the subject of this thesis—William Mitchell. For Mitchell spanned two groups of philosophers having very different concerns: the idealist and "common-sense" philosophers who worked from the mid to late 1850s until the late nineteenth century; and, what might be called the realist and materialist revolutionaries beginning in the early twentieth century with Anderson, and later dominated by the work of J. J. C. Smart, U. T. Place, D. M. Armstrong, C. B. Martin, and others—a "school" now known internationally as "Australian Materialism" (all except Armstrong were based in Adelaide). [2] Any understanding and appreciation of Mitchell's work, I suggest, must be understood in the context of these two very different traditions.

2. The Intellectual Background to Mitchell's Ideas

Mitchell was the product of an old and vibrant school of philosophy which had its roots in the Scottish traditions of idealism and "common-sense" philosophy. The dead hand of Berkeleian idealism and the consequences it had for philosophical realism, was one of the influences which gave rise to Mitchell's work. Other early Australian philosophers before, during and

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1 For a comprehensive review of the history of this period see: Selwyn Grave, *A History of Philosophy in Australia*, (1984), especially chapters 1-2.

2 For the Andersonian influence, see James Franklin: *Corrupting the Youth: Australian Philosophy in the Last 70 Years*, unpublished manuscript, especially Chapters 1-2.

after Mitchell's time also owe their foundations to these traditions. This influence needs to outlined before we can begin to understand Mitchell.

However, there was another influence on Mitchell's philosophical development: the challenges forced by the growing relevance of the physical sciences to philosophical speculation about mind. Developments in physics and neuroscience, for example, were considerable influences at the time Mitchell was working. Both these influences conspired, not intentionally but effectively, to bring about a materialist reaction to idealism which, for better or worse, shared more of its idealist ancestry than the materialism we know today. Consequently, this flavoured Mitchell's work in Australia during the same period. I shall very briefly discuss each of the influences mentioned. In later chapters we will look at Mitchell's critique of materialism, and his account of the growing neurosciences.

2.1 Idealism and Common Sense Philosophy

The background to idealism in this context is outlined clearly by J. A. Passmore.[3] Idealism, especially subjective idealism, is famously seen as a reaction to Locke's distinction between primary and secondary qualities and Humean scepticism about external causal laws. Berkeley's *tour de force* was to take seriously—or, at least, further than Hume and others were prepared to do—the claim that the external world might itself be mind-constituted. Hume was to later suggest that the only grounds for thinking that there might be causal laws in the world were due to the imposition of "regularity and association".

The two "great discoveries" which gave rise to this situation—both due to Berkeley—were, firstly: that our visual sensations (for example, of objects being at a distance from us), are no more than inferences deriving from our sensations which we learn to interpret as signs of distance (a doctrine which Mill described as 'the earliest triumph of analytic psychology over first appearances'); second, that objects themselves can be seen as clusters of such associations grouped together by the power of association and 'held together by a permanent law' (the so-

called "doctrine of association"). [4] With these two assumptions, taken together with the scepticism inherent in Hume's empiricism, it was easy to see why subjective idealism gained a foothold in the nineteenth-century mind. In the philosophy of perception this thesis manifested itself as the slogan *esse est percipi* ("to exist is to be perceived"); in the philosophy of mind, our perceptual states began to be thought of as *conditions* for mental sensations about external objects, not—as is the case with representative realism—merely the *cause* of them.

Of course, the phenomenalism of Berkeley could go only so far without meeting the severest criticism; and this came first from some Scottish philosophers troubled by the implications of idealism for our common-sense beliefs.

Beginning with Thomas Reid (1710-96) and including Dugald Stewart (1753-1828) and James Beattie (1735-1803) and later involving the work of William Hamilton (1788-1856), the so-called "common sense" philosophers had the following principal concerns and beliefs in common: First, there was the view that the 'ideal hypothesis'[5] must be rejected. This was the doctrine that the mind and its actions were always mediated by the role of "ideas in the mind"; more generally: 'the immediate object of every sort of "external" cognition is a representative substitute for what we would ordinarily say that we saw or touched, that we remembered, or in any way thought of.' [6] The common sense theorists attacked this claim with considerable venom—denying the long-standing idealist tradition of the existence of "ideas" in the mind. (I shall outline some of the points made to this conclusion below.)

Secondly, they argued for a theory of perception according to which sensations were considered to be "original perceptions" closely analogous to the system of natural signs in a language. The only difference being that sensations are understood "intuitively" (for example, we don't need to infer the feeling of hardness or roundness of an object); whereas the signs in a language need to be understood by convention—but both are equally natural, immediate and,

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3 John Passmore, *A Hundred Years of Philosophy,* (1984), especially Chapter 2.
4 Ibid., pp. 30-31.
5 Called so by Selwyn Grave, *The Scottish Philosophy of Common Sense,* (1960), p. 11.

to some extent, untutored. In this sense, the common-sense theorists argued for an account which regarded sensation in somewhat similar terms to the claims made today by modularity theory—i.e., sensations are regarded as the outputs of visual modules, which are autonomously-functioning, local, and encapsulated information-processing devices. [7]

Grave points out that to the common-sense theorists, *sensations* and *perceptions* were considered to be quite different things: 'it is the difference between a sensation and a sensation functioning as a natural sign (the difference between a word looked at blankly and a word understood)'. [8] This distinction too seems to have parallels with contemporary accounts of perception and cognitive functioning in which various levels of information processing hierarchies are involved. Plausibly, the common-sense theorists also held that the untaught "language of sensation" was mirrored in an analogous capacity for gestural features, facial expressions, voice intonation, etc., which enable us to make immediate sense of the mental states of others (frowning as a sign of unhappiness; shaking as a sign of stress or shock, and so on). [9]

Thirdly, the common-sense theorists embraced, to some extent, the Lockean division between primary and secondary qualities, but with a twist in emphasis. The primary qualities (solidity, extension) in their view, gave rise to different sensations to that of the secondary qualities (tastes, sounds, smells). The first gives rise to sensations which 'give us a direct and a distinct notion of the primary qualities, and inform us what they are in themselves.' [10] (Touch, for example, informing us of the shape of an object.) This former kind of sensation, they

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6 Loc. cit.

7 See, for example, J. A. Fodor: 'You can't help hearing an utterance of a sentence ... as an utterance of a sentence, and you can't help seeing a visual array as consisting of objects distributed in three-dimensional space. Similarly, *mutatis mutandis,* for the other perceptual modes: you can't, for instance, help feeling that what you run your fingers over is the surface of an object'. *Modularity of Mind: An Essay in Faculty Psychology,* (1983),p. 53.

8 Grave, op. cit., p. 166.

9 Compare U. T. Place's recent work on the gestural origins of language. 'The Role of the Hand in the Evolution of Language', *Psycholoquy,* 23/1/2000. See also the work on simulation theory, M. Davies, and T. Stone, (eds) *Mental Simulation.* (1995).

10 Thomas Reid, *Essays on the Intellectual Powers of Man,* (1785), Essay II, Chapter xvii; Works, i. 313. See also Norman Daniels, *Thomas Reid's 'Inquiry': The Geometry of Visibles and the Case for Realism.* (1989).

believed, was also an "original", and thus unmediated, sensation in the sense that we can't help feeling the shape of the object in question (compare Fodor's examples). The latter, however, gives rise to sensations which were the province of science to discover as properties of physical objects and, thus, have to be acquired and learnt (the smell of a rose being a feature of roses, for example).[11]

Since the large part of our perceptions consist in learning, through secondary qualities about the properties of objects, most of our perceptions, on this view, were acquired. However, both kinds of qualities were needed. For the common-sense theorists, mental states of various kinds are characterised by their capacity to bring about various *significations:* in perceiving a primary quality, for example, there is usually no need to recall the sensations which were brought about ('when a primary quality is perceived, the sensation immediately leads our thought to the quality signified by it, and is itself forgot'); [12] in the case of a secondary quality, however, this is not so—we cannot reflect upon it without thinking of the sensation which it occasions ('the thought of a secondary quality always carries us back to the sensation which it produces'). Thus: 'the sensations belonging to secondary qualities are an object of our attention while those which belong to the primary are not'.[13] In this way, both "qualities" are essential, on the common-sense view, for our understanding and appreciation of the physical world, but for Reid and his followers, there is a shift in emphasis from the Lockean account in which only the secondary qualities producing sensations in us, to an account where sensations are produced, and significations are caused, from both sources.

It is in the light of these concerns that the common-sense attack on the idealist theory is relevant. Reid's specific contribution to the common sense tradition began by taking up

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11 'Imagine a man suddenly and for the first time in his life given the power of smell, and there is a rose in front of him. ... What does he perceive by means of this sensation? Not the rose—not to begin with. He is aware of a new sensation in himself. It signifies the existence of its external cause, but nothing further as to the nature of its cause. What is signified by the sensation is what is perceived by means of the sensation. When the rose is taken away the sensation of smell disappears and returns when the rose is brought back. The cause of the sensation then is the rose or something in the rose ... The rose becomes an object of perception through smell.' Grave, op, cit., p. 167; See, Reid, *Inquiry,* II. ii; Works, i. 105.
12 Reid, *Intellectual Powers,* II, op. cit., xvii; *Works,* i. 315. See also Daniels, op. cit.

Hume's sceptical challenge in epistemology; a challenge which arose from Locke's distinction between primary and secondary qualities. On Hume's account, the "veil of ideas" always mediated between us and the external world; the latter we could know only by forming "habitual associations" in the mind which is, in turn, projected out on the world; a world consisting of "entirely loose and separate" events unconnected and disparate until associations and regularities are imposed upon it by us through a process of concatenating our ideas (concepts) from the raw materials of sensation and/or reflection.

Such a conclusion struck the common sense philosophers, especially Reid, as a monstrous suggestion: on this account, if concepts are a composite of one's ideas of sensation and reflection, then 'what is beyond sense or introspective experience is conceptually blank' [14] Reid thought that it was simply a philosopher's mistake to wedge a "fourth thing" (a sense datum or "idea") between the mind that perceives, the operation of that mind (perception) and the object being perceived.[15]

Reid had three main criticisms of the argument. For one thing, the concept of "ideas" does no useful work: either it precisely resembles the object which is being thought about or perceived, or it doesn't. If it does resemble it then the object itself must be somehow impressed on the mind like a wax seal is an impress: but this doesn't seem right at all; otherwise, why call it an "idea"? An "idea" of a thing is not the thing itself. But neither does the idea resemble the sensation received when perceiving a thing. For sensations, to Reid, are feelings—touch, sounds, colour hues and so on—*quale* as philosophers call them today—not "ideas"—'our direct experience is not constructed out of sensations and the images of sensations, which are their fainter copies'.[16] Thus "ideas" play no useful role. This was Reid's so-called *experimentum crucis.* For common sense philosophers such as Reid the "idea hypothesis" was something of a philosophical redundancy.

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13 Loc. cit.
14 Ibid., p. 16.
15 See Grave, op. cit., p. 20.
16 Ibid., p. 15.

The second point against the account that Reid made was that for any sense to be made about the idea hypothesis, then we should have to do what the account itself claims is impossible. Access to "ideas" was what Berkeley and Hume claimed was our only point of access to the world. However, before we can know that ideas do inform us representationally of the objects, we need to 'cross the chasms of externality and temporal remoteness that supposedly made ideas necessary in order to compare them with their objects'.[17] Remembering or thinking something is just that: thinking about a *thing,* not thinking about an "idea" of a thing. Were the latter the case, then one is already denying what the associationist theorists claimed was impossible.

Thirdly, Reid argued that the "ideas" thesis leads any serious epistemology down the road to solipsism. Where Locke drew attention to the distinction between primary and secondary qualities, Berkeley argued that the qualities we received in perception could not be known other than by the ideas resembling them—nothing could be like an idea except another idea. Hume cast the final stone at realism by suggesting that it was only by the ideas provided by minds that any regularities seemed to exist in nature. Thus, through a progressive series of steps the world collapses into the content of the mind's ideas.

This, to the common sense theorists, was a sufficient reason to be sceptical of idealism and its implications. It is important to note, though, that the commonsense theorists were attacking the conclusions drawn by the idealists, they were not attacking the idea that we have sensations. To Reid and others *phenomenalism* was acceptable, scepticism was not.

There were further criticisms of Berkeley and Hume's work, but from thinkers who were themselves idealists. The work of T. H. Green, F. H. Bradley and James Ward, in particular, attempted to show that the assumptions of the empiricists could not support their sceptical conclusions. These thinkers retained their idealist views—becoming "Absolute" idealists rather than empiricists—and in doing so, rejected much of what Berkeley and Hume proposed.

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17 Paul Edwards, (ed.) *Encyclopedia of Philosophy,* (1967), p. 119.

T. H. Green claimed that the idea of sensation as an "immediate given" in experience was flawed. Calling something "a sensation" was already to attribute relations to it: a sensation *of white,* for example, was—by this very description— already related to other white things or to other sensations. It is also inextricably related to organisms which have such sensations and which recognise white things. Thus, to make any judgements at all is already to make connections or relationships. This means that sensory impressions beloved of empiricists could not be the foundation of reality at all because they already propose relationships and connections with knowing minds. 'To talk at all, Green concludes, is to relate; thus: "to suppose that the simple datum of sense is the real ... is to make the real unmeaning, the empty, of which nothing can be said'. [18]

Hume argued that the sensory impressions were related by the powers of the mind imposing regularities and associations on immediately perceived, unrelated, sense data. However, according to Green, this was wrong: sensory impressions were not unrelated at all but *already* related to minds. Thus, while idealism might follow, the scepticism of the real does not. Experience was not 'a "given", a set of data that contains no relations. Remove their relations ... and the objects of experience entirely vanish. The unrelated "given" is an unintelligible fiction'. [19]

F. H. Bradley, like the Scottish "common sense" philosophers, was also critical of the British empiricists, but for different reasons. Like William James, who was also to influence Mitchell, Bradley's metaphysics begins with a recognition that reality does not consist of sense impressions, but "immediate experience". This experience was an immediate, feeling of unity according to Bradley. However, unlike Green, the foundation of experience was considered by Bradley to be non-relational. In the case of epistemological relations, it was not a composite of *knower* and *known,* or *ourselves* knowing or feeling *something* (for this presupposes a

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[18] Passmore, (1984), p. 58.
[19] Loc. cit.

distinction between subject and object), but a feeling of unified diversity. [20]

In the process of making sense of this feeling of unified experiential diversity—when we explain, justify or analyse something, for example—we begin to break down the unified epistemological immediacy of experience. In abstracting away from this unified experience—as scientists do when they make sense of reality by means of general laws and principles—we already break the nexus of immediate experience and this results in the knowledge relation turning into a series of irreconcilable contradictions. These contradictions were evidence, for Bradley, that the analysed experience was not reality but mere *appearance.* Hence, there was something more than mere appearance—this was evidence for reality really being an Absolute: a unified reality beyond contradictory sensory appearances.

An example of Bradley's argument is given by Passmore. When we say "sugar is sweet" we don't mean that sugar is *identical* with sweetness, because sugar has other properties by which we identify it, and sugar can't be identical with being white, or being hard and being sweet at once. Nor do we mean that sugar consists of various qualities unified by something which underlies all the qualities because the predicated properties have no intrinsic relation to one another (i.e., sweetness is not whiteness or hardness). If we do this, moreover, we begin to move away from identifying sugar with anything in particular, and instead begin to identify it with what it is not. The "contradiction" is that either a judgement about reality boils down to saying what something is *not,* (and is hence unhelpful) or we merely state what something is which is tautological, and hence, empty.

The same goes when trying to make sense of the epistemic relations between subject and object. Once we begin to say that reality consists of sense impressions we have to make sense of what this means. We can't make sense of seeing a red thing by describing secondary qualities, such as red patches. For the patch is both predicated of the thing and not predicated of it (it is considered to be a sensation in us and it is considered to be a property of the thing).

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[20] Passmore, (1984), pp. 62-3.

But this too leads to a contradiction. According to Bradley, reality can't consist of such contradictions and hence reality is really an Absolute which lies behind all such appearances. In Bradley's hands it is easy to see how the subjective idealism of Berkeley became transmuted to Absolute idealism. Franklin summarises the innovation:

> [T]he general idea is that, while the physical world may exist, its nature is essentially mental rather than (what we take to be) material. Everything is interconnected, and is a manifestation of the Absolute, which is something like God, but less crudely personal, and less distant from oneself.' [21]

We cannot go into the details of Bradley's metaphysics here. The key point to note is the claim that experience, for Bradley, consisted of unified, non-relational elements in an undifferentiated whole. Though he doesn't buy into Bradley's idealism, the idea of a seamless and integrated sensory experience was another influence on Mitchell, as it was on other early Australian philosophers, such as Henry Laurie. [22]

James Ward was another philosopher who influenced Mitchell. Ward contended that the debate between realists and idealists arises from bad metaphysics originating with the work of Descartes. Descartes originally divided the world into an external, material, mechanistic world operating by means of the laws of physics, and a world of the mind, morality, religion and value. Descartes' Dualism resulted in the problem of how minds connect with the physical world. This resulted in many philosophers making minds a product of mechanical physical laws; others—such as the idealists—interpreting the physical world as being mind-constituted; and yet others, such as Bradley, subsuming both under the aegis of the Absolute. [23]

Ward regarded the sciences as describing abstractions, not real things (for example, atoms are regarded as real when they are, in reality, convenient fictions). This, however, is the wrong approach, according to Ward. It results in solving the mind-matter divide by denying the

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21 Franklin, op. cit., Chapter 11: 'Idealism: Old and New', p. 2.

22 See E. M. Miller, 'The Beginnings of Philosophy in Australia and the Work of Henry Laurie', *AJPP*, (1929).

23 Passmore (1984), p. 83. See also K. H. Sievers, 'Reality and Immediate Experience', *F. H. Bradley and*

reality of minds in preference to the "reality" of material fictions. This is a falsifying abstraction. A better methodological approach is for science to follow the course of history. History assumes *purposeful striving* of organisms. Organisms grow and adjust to their environment, and mental activity is part of this which historical, but not scientific, explanations acknowledge. Historical explanations, unlike scientific explanations, do not require their theoretical postulates to explain away mental activity; rather, they assume purposeful conscious activity. Historical explanations require meaning and value; they are pointless without them. They assume a world of organisms with minds that act for reasons. This is anathema to the scientific enterprise: 'We can make nothing of the striving, valuing individual: for to understand the individual, ... we must make use of that category of purpose which the materialist discards'. [24]

Ward did not wish to abandon the scientific enterprise entirely, merely to change the emphasis from mechanistic to humanistic. Scientific laws, in his view, could be understood not as inviolable mechanistic forces, but more like the "laws" created in a community: a product of concerted minds in action. Laws become products of minds on Ward's view. Though he arrived at this by different means, this was clearly an idealist conclusion.

From this conclusion Ward eventually derived an idealist argument for a pluralist theology, an account which will not concern us here.[25] The real contribution which Ward made to the debate of the relation between idealism and realism, was the idea that the organism could be characterised as a creature which was striving to develop its own mental growth. To understand the relationship between knowers and what is known, it is necessary to understand how organisms *grow*. This insight, if nothing else, was something which Mitchell later adopted as a fundamental part of his own philosophical views. [26]

This all too brief summary of the commonsense and idealist influences prominent in the

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the Coherence Theory of Truth. Ph.D Dissertation (1996).

[24] Loc. cit.

[25] See his *Naturalism and Agnosticism* (1899).

nineteenth century serves to indicate Mitchell's philosophical heritage. Such ideas were prominent in Australia during the middle of the nineteenth century. Most of the individuals mentioned as Australia's earliest philosophers—Quaife, Woolley, Badham, Francis Anderson, Irving, Strong, Hearn, Hodgson, Sutherland and Laurie—subscribed to some part of it. When Mitchell arrived on the scene they had reached their zenith. But while Mitchell certainly did not work in the spirit of the Christian Idealists in Australia at the time, neither did he attempt to run the gauntlet of their criticisms: 'isolated in Adelaide and uninterested in philosophical controversy, he did nothing to oppose it or to undermine its influence'. [27] Instead, Mitchell appeared to borrow what he liked from idealism and set about constructing his own system.

From the common-sense philosophers such as Reid, Mitchell accepts the arguments advanced against solipsism and anti-realism, and the idea that the mind may exhibit different information processing hierarchies. From Green, Mitchell derived the idea that an uninterpreted sense datum was simply folly. From Bradley, Mitchell takes the idea that experience—at least initially—is a seamless unity of knower and known. From Ward, Mitchell takes the important idea that organisms grow and an adequate explanation of mental activity must capture this. As we shall see, from Anderson and James, Mitchell adopts a version of realism. Each of these ideas are represented in one way or another in Mitchell's thought.

2.2 The Emerging Sciences

The second influence on nineteenth-century thought, and hence Mitchell's work, was the growing influence of the sciences on philosophical speculation. The sciences which made considerable advances during this time included work in physics and biology. The technological applications which resulted from these advances were also influential as we shall see.

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[26] Mitchell makes reference to Ward in PMW (1933).

[27] Passmore, in A. L. McLeod, *Patterns of Australian Culture,* (1963) p. 148.

In physics, for example, Helmholtz's doctrine of "the conservation of energy" emerged out of speculation in the physical sciences. This told against the idea that minds could possess freewill which played no role in the energy system. In biology, of course, the evolutionary discoveries of Darwin and Wallace were profound, but there were also minor discoveries of consequence to do with the purely material basis to physiological systems, such as the reflexes and the digestive system—discoveries which pointed to the redundancy of mental phenomena to explanations of mechanical and biological systems.[28] The advancing application of the fruits of industrialisation to the increasingly technologically-reliant world was also relevant.[29] In Germany, this materialist emphasis in the sciences made Büchner rail against the institutionally-entrenched Hegelian idealism of the local universities, [30] but the debates also spilt over into vociferous discussions about the application of scientific studies too: the relationship between religion and science; mind and soul; the known and the unknowable; and other debates in both Britain and the colonies—including Australia.

The sum of these advances resulted in the dislodgment of some time-honoured beliefs and assumptions. Was evolution by means of natural selection true, then—as Lady Wilberforce so contritely put it—"we pray it does not become widely known". Fear in the outcome of the emerging scientific developments was widespread:

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28 Passmore cites the example of the discovery of a frog which could function purposefully with most of its brain—and hence most of its "consciousness"— removed; a prospect which greatly excited nineteenth century intellectuals (see T. H. Huxley 'Of the hypothesis that Animals are Automata' (1874) rpt in *Science and Culture* (1882)); see also A E. Du Bois-Reymond's *Animal Electricity* (1848) which did something similar for advancing the cause of purely mechanical physiological systems.

29 See J. A. Passmore, *A Hundred Years of Philosophy,* (1984), op. cit., pp. 35-7. 'Science was gaining ground rapidly, pulled along, as we might say, by the locomotive, which for the first time made tangible the advantages of scientific progress'. p. 37.

30 See Passmore, ibid., p. 35. *Force and Matter* (1855) was Büchner's contribution to the debate: 'Science gradually establishes the fact that macroscopic and microscopic existence obeys, in its origin, life and decay, mechanical laws inherent in the things themselves, discarding every kind of supernaturalism and idealism in the explanation of mental events.' (quoted in Passmore, ibid., p. 36).

> Instead of Adam, our ancestry is traced to the most grotesque of creatures; thought is phosphorous, the soul complex nerves, and our moral sense a secretion of sugar.[31]

The philosophical responses which this influence occasioned were, to say the least, dramatic. Some thinkers ingeniously devised various theories to accommodate the implications of Darwinism under the auspices of Christianity. Others developed positions in which science and the Absolute were compatible. As Passmore notes: 'naturalism, evolution was soon adapted ... to the purposes of idealism' [32] Haeckel, for example, adopted the new scientism with alacrity. [33] But in his hands it amounted to a defence of a world-view consisting of spiritual atoms obeying cosmic laws. Some, such as James McCosh, for example, admitted the truth of natural selection, but combined it with an absolute idealism by interpreting God's role as the "Great Selector". [34] Others—Du Bois-Reymond and biologist R. Virchow, for example—avoided the difficulties entirely by suggesting that the sciences should be concerned only with the "facts" and not encroach on consciousness at all—the latter being the proper province of religion. Still others began to develop working compromise positions, which allowed the sciences to flourish and evolutionary theory to be genuinely descriptive of reality, but denied that the scientific truths being propounded had any causal influence whatever on the "intimate connection" between mind and matter. Huxley's epiphenomenal views were an example of this trend:

> The consciousness of brutes would appear to be related to the mechanism of the body simply as a collateral product of its working, and be as completely without any power of modifying that working as a steam-whistle which accompanies the work of a locomotive engine is without influence on the machinery. [35]

However, others took the challenges of the emerging scientism very seriously, abandoning all pretensions to return to the idealism of the past. For some, philosophy had to become an

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31 B. Disraeli, Lothair (1870), quoted in Passmore, ibid., p. 38.
32 Passmore, (1984), op. cit., p. 44.
33 'Natural selection is a mathematical necessity of nature that needs no further proof', Ernst Haeckel, *The Riddle of the Universe* (1899).
34 J. McCosh, *The Religious Aspect of Evolution* (1888).
35 T. H. Huxley, 'Of the Hypothesis that Animals are Automata' (1874/1901). Cited in Passmore, op. cit., p. 39. cf. Mitchell's statement of the same position later in chapter 5.

under-labourer for the sciences; empirical research was now to be preferred over argument and speculation; and problems such as consciousness and reality had become questions for scientists, not metaphysicians. It is against this backdrop of ideas that Mitchell and his countrymen emerged on the Australian philosophical scene.

3. Anderson and Andersonianism

Now let us look at the other main influence on Australian intellectual traditions. This influence consists of one central Australian philosopher, John Anderson. Anderson, like Mitchell, had come to Australia under the influence of the idealist and common sense influences. Like Mitchell, he was also imbued with excitement and enthusiasm brought on by the scientific changes of the time. However, unlike Mitchell, Anderson had rather different interpretations of the relevance of these ideas. Though they were contemporaries, Mitchell and Anderson never met. They also serve as examples of very different responses to the idealism of the time. But looking at Anderson's views helps us locate and appreciate Mitchell's.

The influence of Anderson on the development of early Australian thought is already well-known. A good deal of literature, both philosophical and biographical, already exists which traces Anderson's influence; an influence which began in New South Wales and spread far and wide to other parts of the country.[36]

While it is certainly not correct to say that Anderson brought with him to Sydney the Scottish tradition of idealism (that was already put in place by his Scot predecessors, as we have seen); he did bring his own version of "common sense" philosophy—a form of radical empiricism—and quickly developed a reputation for advocating a particularly virile form of common sense realism, which to this day characterises the key element distinguishing the whole of the Australian philosophical *oeuvre*—such was the extent of Anderson's influence.

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36 See, for example, the recent biography by Brian Kennedy, *A Passion to Oppose: John Anderson, Philosopher,* (1995). For Anderson's social libertarianism and influence on culture in general, see: Ann Coombs, *Sex and Anarchy: The Life and Death of the Sydney Push,* (1996). More specific books on his thought include A.J. Baker's *Anderson's Social Philosophy,* (1979) and D. Z. Philip's' *Education and Inquiry,* (1980). Articles of note include J. A. Passmore's 'John Anderson and Twentieth Century Philosophy' in John Anderson, *Studies in Empirical Philosophy,* (1962), p. xix; J. L. Mackie, 'The Philosophy of John Anderson', (1962). See also: 'Fifty Years of John Anderson', *Quadrant,* 21, July, (1977); and Franklin, Chapters 1-2, op. cit.

Known for his empiricism, rationalism and political pluralism, Anderson also made major contributions to setting the scene for the emergence of "system"-based philosophy for which Australian philosophical writing was later to be known—at least during the 1950's and 1960's.[37] Anderson's reputation as a teacher also became synonymous with a doctrinaire form of *doing* philosophy which was, for good or ill, to change much of philosophical teaching in Australia. Much of the influence on Australian philosophy can largely be traced to Anderson's considerable influence in these, and other, areas.

When Anderson arrived on the scene, he brought a new attitude to the idealism pervasive in Australia at the time. In the customary exaggerated tones often adopted by Anderson fans, Morris Miller describes what happened:

> A new phenomenon appeared in the Australian sky. John Anderson came to Sydney in the form of a catalyst, and stirred up the dovecote of rationalism; and facts, activities, events, and occurrences as they happened came forth in full splendour ... The old strongholds of idealism were put on the defensive. An era of critical evaluation dawned for the world of thought in Australia. [38]

Passmore describes the philosophical situation somewhat more calmly and in more detail:

> Anderson had stood for everything which the Christian idealists had been opposed. That he was prepared to describe himself as a materialist, a positivist, an empiricist, a realist was sufficiently startling, for in Australia these had been terms of abuse. But even more disconcerting was the fact that he did not fit into the picture which Australian idealists had constructed of their opponents—as in the fortress at Singapore, their guns had been pointing in the wrong direction. [39]

When Anderson arrived the attitude that the idealists were prepared to attack were the attitudes

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[37] Selwyn Grave, perhaps the first to write a comprehensive treatment of the history of Australian Philosophy, described work being done at this time as that of "system building" and a "return to metaphysics": 'During the period we have been considering, not only did metaphysics ... make a return, but the old idea that philosophy should attempt to present a world view has come to have powerful advocates.' *Philosophy in Australia Since 1958,* (1976), p. 23. See also his *A History of Philosophy in Australia,* (1984). Grave cites the later work of Smart and Armstrong as examples of this philosophical "world-view" building. Grave also attributes this influence to that of Anderson (p. 3) as does Armstrong: 'Anderson resembled Hegel in having a worked-out view on every conceivable philosophical and intellectual question ... a ready-made system' in R. Bogdan, (ed.) (1984), *D. M. Armstrong,* Profile Series Volume 4, D. (1984), p. 6.

[38] Passmore, in A. L. McLeod, *Patterns of Australian Culture,* (1963) p. 149.

[39] Loc. cit.

of traditional empiricists, such as Berkeley and Hume. Fresh with the critical ideas of Green, Bradley, Reid and others, the early philosophers in Australia—many of them Scots—had a well-tested arsenal to counter these objections. What shocked them was that Anderson was a critic of traditional empiricism as much as he was a critic of Absolute idealism. Anderson claimed that there was no "reality" either above or below the complex objects of ordinary experience—i.e., neither sense data, impressions or ideas, nor what is 'hacked out of the Absolute'. [40]

As we have seen, the idea of *relations* between things (impressions and minds, for example) is crucial to associationism. The empiricist assumes that knowledge was acquired by means of successive experiences which we "build up" over time. Anderson, however, was against the idea of relations between objects, or knower and known. His argument against it was disarmingly elegant. To suggest that we learn to associate relations between things in experience already admits that we know what relations are relevant; and this means that they are not really required as part of the explanation at all:

> If whatever is intelligible has both connections and distinctions, then in order to speak intelligibly of what is contributed by the mind we shall have to assume that it has both connections and distinctions, and in order to speak intelligibly of what is given by things we shall have to assume that *it* has both connections and distinctions, so that no "work of the mind" is required to make it intelligible. [41]

For Anderson, then, we don't impose abstractions on the world, nor do we construct things in experience from immediate, uninterpreted sense data. Rather, the world consists of complex states of affairs, which, when we describe them, constitute reality as it *really is*. Hence, seeing a red table is just that: it is not a window on the Absolute, not a cluster of sensory impressions built up by associating relations between things. The *real* red table is an explanatory primitive: a spatio-temporally located individual in a world of other individuals—no further explanation is required. This was the beginning of Australian Realism, and the start of 'the only indigenous

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[40] J. A. Passmore, 'John Anderson and the Twentieth Century Philosophy', in *Studies in Empirical Philosophy* (1962), p. ix.

[41] J. Anderson, 'Empiricism', in *Studies in Empirical Philosophy,* op. cit., p. 12.

philosophical school which Australia has yet produced'.[42]

Bradley, it will be recalled, argued that an item of experience can't be identical with its properties (because it is distinct); and yet there must be something which is the bearer of such properties (with which it is connected). As these were contradictory requirements, according to Bradley, the experienced item must be mere appearance and the real object must be part of the Absolute. However, Anderson—along with James, whom Anderson followed—would have none of this mystery-mongering: they argued that things in the world were both connected with other things in the world and distinct from it at once; a complex, irreducible composite, which was present and available to us in ordinary experience. [43]

The upshot of Anderson's realist view, very briefly, was that man was, like everything else in nature, an irreducible complex which cannot be further simplified: 'His central doctrine is that there is only one way of being, that of ordinary things in space and time, and that every question is a simple issue of truth or falsity.' [44] Accordingly, in Anderson's view, there were no relations of ideas; no 'consciousness' nor conscious knowers (knowledge was a matter of direct observation of what is objectively the case); no normative values, judgements nor feelings; no "self" nor purpose nor God. Moreover, there were no abstract entities of any sort, no entities over and above the spatio-temporal world. In social terms he held that 'there is no such thing as the pure individual apart from society, any more than society apart from the individuals who compose it.' [45] As James McCauley was later to put it famously: John Anderson had an answer to every conceivable question. It was "No".[46]

In his philosophical views about mind, Anderson's views were equally extreme.[47] Minds were characterised as non-relational entities just as everything was. Minds weren't to be characterised as cognitive entities; for cognition is a relation between knowing and known, and

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42 A. N. Prior's words, as quoted in Passmore, ibid., p. 150.

43 Passmore, (1963), op. cit., p. x. James is also an influence on Mitchell in this sense.

44 J. L. Mackie, 'John Anderson', *Australasian Journal of Philosophy,* Vol. 40, No. 2, 1962. pp. 124-5.

45 J. Anderson, 'Is the State a Moral Agent?' Silver Medal Prize Essay 1916-17. *University of Glasgow Archives.*

46 The recollection is cited by David Armstrong, himself strongly influenced by Anderson, in his self-profile. Bogdan, op. cit., pp. 6-7. Gilbert Ryle reputedly said of Anderson that: 'he thinks there are only brass tacks'. T. Honderich (ed) *The Oxford Companion to Philosophy,* (1995), p. 58.

47 See Anderson's paper: 'The Non-existence of Consciousness', in *Studies in Empirical Philosophy,* op. cit. See also J. R. Maze, 'John Anderson: Implications of his philosophic views for Psychology', *Dialectic* (1987), pp. 50-59; see also W. M. O'Neil, 'Psychology: Another View', *Dialectic,* (1987), pp. 60-62.

Anderson rejected constitutive relations, as we have seen. Nor can minds be characterised as striving entities, for this too is relational, 'impli[ing] a striver—the mind, whose nature is still to be discovered—and a striven for, i.e., the situation which will ease our wants'. [48] Anderson's account of feelings as a characteristic of the mental is complex, but it too amounts to consisting of relations, and is hence, rejected. What remains, for Anderson, is an early version of what was later to emerge out of Australian philosophy; namely, central state materialism: minds are just *brains,* complex, information-gathering, spatio-temporally located entities in a world of other physical objects. Further understanding of how brains perform the feats of information-gathering was the duty of the emerging neurosciences, not philosophy, to provide.

On all counts, this was clearly an emphatic philosophical position to take. When one compares Anderson with the early Scottish influences on Australian philosophy, it can be seen that their concerns were radically different. As we have seen, while the rest of the early Scots in Australia were concerned with salvaging phenomena with common sense; Anderson was concerned with abandoning the conception entirely. While the early Scots were mindful and interested in the emerging scientism, Anderson adopted it *holus bolus* allowing it to influence, in an extreme way, his radical empiricist, materialist and realist views. What emerged from Andersonianism—for it was very much a "school" of its own—was what we now have as a dominant theme in Australian philosophy: extreme realist views, supplemented by an equally radical materialism of mind, and an emphasis on the empirical grounding for philosophical ideas; themes perhaps shared nowhere else in the world with such enthusiasm. [49]

As a consequence, idealism as it existed before Anderson, disappeared never to resurface. Franklin summarises how radical the change was:

> Absolute Idealism in its day—around the 1890s—became the first and only philosophy to be accepted as orthodoxy in the whole learned world (Paris, Heidelberg, Edinburgh, Peking, Adelaide ...). Then it simply evaporated. [50]

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[48] Maze, ibid., p. 55.

49 Among the memorable conversations I had while in Edinburgh University was with Geoffrey Madell, who upon our introduction, asked me: "You're not an Australian Materialist are you?"

[50] Franklin, op.cit., Chapter 11, 'Idealism, Old and New', p. 2.

What changed when Anderson arrived on the scene? How did this characteristic philosophical *Australian-ness* emerge? Was the attitude widespread in the country at the time or localised? Such questions naturally arise as historical matters which require answers. Were this a different thesis, I should attempt to answer them. My suspicion is that the forceful personality of Anderson (much less the strength of his ideas), along with a persistent, self-congratulatory Sydney intellectual bias, conspired to overwhelm other philosophical views current in Australia at the time, and continue to do so. There is no doubt that the Anderson myth still survives, and there is no doubt that there are philosophers who still worship him.[51] However, while this is not in itself dangerous, there are persuasive grounds, forced by considerations of balance, for looking afresh at intellectual ideas from other parts of Australia. As we shall see, while Mitchell shared the common sense and idealist ancestry that formed Anderson's early influences, their philosophical trajectories were very different.

The fact is that while the Andersonian influence is clearly important in the context of the development of philosophy at Sydney, it was merely one factor in the development of the characteristic Australian philosophy as we know it today—a tradition which nowadays not only emphasises a critically realist attitude to philosophical theorising, but also an unforgiving materialist ontology, lucidity in argumentation, and general disinclination to accept philosophical slip-shoddiness of any sort. As mentioned earlier, those other early influences include lesser known figures such as Anderson's predecessors at the Sydney chair Francis Anderson and Bernard Muscio; Henry Laurie in Melbourne; William Mitchell at the University of Adelaide, and others.

That Anderson's work was only one factor in the development of Antipodean thought should come as no surprise. For those that don't live there, Sydney is not Australia. And philosophy as it was done at Sydney—despite Anderson's influence—is obviously not tantamount to Australian philosophy in general. Interesting and important work had very likely been done elsewhere on this vast and enigmatic continent. However, despite my misgivings,

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51 Recently M. Harris has published a fawning paper on the Anderson legacy. See 'Anderson and Andersonianism', *Quadrant,* December (1999): pp. 11-18. At various points, Harris describes him as "Australia's greatest philosopher" (p. 13), "the greatest Realist philosopher of all time" (p. 18); "the clearest and most powerful exemplar of a passionate commitment to a life of critical inquiry"; and—most absurdly of all—"among the top 10 philosophers of all time" (p. 18).

in reflecting back on the development of Australian philosophical writing, there is little mention of anyone other than Anderson, who still stands as the indisputable founding father of Australia's early philosophical development.

A number of factors probably explain this neglect: the overwhelming dominance of Anderson as a figure in the early part of the twentieth century, and the isolation of the philosophical work being done in a country larger than Europe with (as it was then) none of the sophisticated means of modern communication, few roads and fewer cultural societies and traditions with which to bind together the intellectual milieu of the developing settlements. Early Australian philosophical work was, because of these factors, being done in a vacuum—or, strictly speaking, a number of vacuums: small centres of intelligentia far from each other, with no means of sustaining lively debates other than through periodicals printed in the northern hemisphere—usually in the United Kingdom. All this led to the relative obscurity of many of the other key figures in the development of Australian philosophical writing. As we shall see, however, there were streams and currents which developed in Adelaide, South Australia, which had a rather different focus to those on the Eastern seaboard, and those currents still colour Australian philosophical traditions even now; in ways in which contemporary Australian philosophers may find surprising.

The original task of this thesis was to uncover the importance of those other influences and in an objective and critical way assess their impact. And, as my association was with the Scottish traditions, and as my own philosophical foundations were based in South Australia, it was natural to focus on what useful scholarly links could be made between those traditions. Since Mitchell was the first philosopher to emerge in that part of the continent, it became clear that it was Mitchell's work which would be the focus of the thesis. It is to Mitchell himself that we now turn.

I: Life and Thought

Chapter 1, Sir William Mitchell, Philosopher

> The conscious world ... grows with the mind racial and individual. Life has discovered many curious tricks for making nature maintain it. But none are so strange as the trick of consciousness.
>
> NF, p. 19.

1. Biographical Sketch

William Mitchell was born in Inveravon in north Scotland in 1861, the son of a hill farmer. He was one of 6 children. Before he died in 1962 at the age of 101, he had distinguished himself both as Vice Chancellor (1916-1942) and later Chancellor (1942-48) at the University of Adelaide in South Australia. He held the Hughes Chair in English Language and Literature and Mental and Moral Philosophy, and was the first (and to date only) philosopher working within Australia to give the Gifford Lectures at the University of Aberdeen, this he did in 1924 and 1926. In 1927 he was knighted for his services to South Australia.[1]

In South Australia, Mitchell is remembered as one of the founding fathers of Adelaide University. He is certainly well-known for his contributions to scholarly life: this included obtaining grants for the University; founding the chair of biochemistry; spending large sums on library acquisitions; making many administrative contributions (the neo-Gothic 'Mitchell building' on North Terrace is named in his honour). However, it seems he was also a first rate philosopher. He published his first paper in *Mind* while still an undergraduate, and later, two

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[1] E. M. Miller, 'The Beginnings of Philosophy in Australia and the Work of Henry Laurie', Part 1 *Australasian Journal of Philosophy and Psychology,* VII, 4 (1929), p. 248.

discursive and wide-ranging books with MacMillan; the first entitled: *Structure and Growth of the Mind* (1907) ranged over issues in mind and content, philosophical psychology and neuroscience; the second *The Place of Minds* (1933) covered issues overlapping mind and the philosophy of physics, including the then relatively new area of quantum mechanics. The only copy of the third manuscript *The Power of Mind*—part of the trilogy—is alleged to have been lost during the London bombing raids. There are surviving manuscripts of this last book and proceedings of it as the last in the series of Gifford lectures—none of which, however, have ever reached print. There are also a number of shorter papers including: 'Nature and Feeling', 'Universities and Life', 'Reform in Education', 'Christianity and the Industrial System', 'The Quality of Life', and others, which were published as monographs by the Hassell printing company in Adelaide. Mitchell was also a regular contributor to the early editions of the *Mind* journal and regularly wrote shorter topical pieces for *The Advertiser* when it was a newspaper of some repute.

As a teacher and academic, Mitchell was highly regarded and something of a polymath, being engaged to teach economics and education as well as philosophy, psychology and literature. It might be disputed how much teaching he actually did in economics and literature, but there is no doubt that he was a man of considerable energy. For this reason perhaps he described his chair, not as a chair but a sofa! He was also an unpretentious character. It is said, for example, that he didn't have need for a room in his capacity of Vice Chancellor. If he wanted to see someone on an administrative matter, he'd see them in *their* room! [2] Because of his considerable abilities as an academic, administrator, and intellectual/social commentator, Duncan and Leonard describe Mitchell as 'the nearest approach to a philosopher-king the academic world has ever seen'. [3]

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[2] J. J. C. Smart, 'Sir William Mitchell, K. C. M. G (1861-1962)', *The Australasian Journal of Philosophy,* 40 (1962): pp. 261-263.

[3] Duncan, W. G. K., and Leonard, R. A., *The University of Adelaide, 1874-1974,* (1973). See especially Chapter 7, 'The Mitchell Era', p. 78. This sentiment is endorsed in R. C. Trahair, *The Humanist Temper,* (1984), p. 52.

2. Mitchell's Philosophical Influences

Mitchell always considered himself to be, first and foremost, a philosopher.[4] He was, arguably, Australia's first significant philosopher. Yet, curiously, he is not remembered at all as such. In academic terms, he is today a largely forgotten figure. The last serious discussion known to appear in print on Mitchell's work was probably in Blanshard's *Nature of Thought* in 1939; the last review of his books appeared in 1934;[5] the last postgraduate dissertation in 1984. [6] No mention is made of Mitchell in contemporary philosophical writing. In Honderich's *Dictionary of Philosophy*, Mitchell's main work: *Structure and Growth of the Mind* is described as the last remaining example of Australian idealism which 'still survives'.[7] If it survives at all, it certainly doesn't survive by very much. In this thesis I aim, at least in part, to remedy this. I shall begin this review of his work by outlining what I take to be his major influences.

2.1 Idealism

As I have mentioned, I think that it is wrong to describe Mitchell as an idealist in the strict sense, though he certainly came from the idealist tradition. As we shall see, some of his more shaky arguments even turn on idealist assumptions. This should not be surprising. Mitchell's views, after all, descend from the influence of the British idealists, T. H. Green and F. H. Bradley, among others, who endeavoured to push the empiricist views of Locke and Hume closer to the views of the German idealists. On the other hand, Mitchell was also impressed by the arguments of his compatriots T. Reid, D. Stewart, J. Beattie, W. Hamilton—the Scottish "common sense" theorists, who attacked idealism and tried to outline a doctrine closer to what we would now call "realism". While it should be acknowledged that idealism is

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[4] J. J. C. Smart, pers. com. See also Smart's obituary, op. cit.

[5] J. W. Harvey and H. B. Acton wrote reviews of Mitchell's *The Place of Minds* in the same year.

[6] H. J. Allen, *Mitchell's Concept of Human Freedom,* Masters Dissertation: University of Adelaide (1984). See also, by the same author, (1995), *An Exposition of Selected Aspects of the Philosophy of the Late Sir William Mitchell.* Unpublished manuscript: University of Adelaide.

[7] Ted Honderich, (ed.),*The Oxford Companion to Philosophy,* (1995) p. 67.

a broad church, and can encompass a wide variety of positions, on balance, I think Mitchell's views are best placed at the beginning of another tradition entirely.

Mitchell's views, I want to suggest, demonstrate cautious materialist and non-doctrinaire realist themes—themes which have more in common with contemporary philosophical work (for example, current work in cognitive science) than with the idealist tradition; views which are also indicative of the region of the world in which he worked. His writing, I think, is best described as marking a transition between the idealist tradition which arrived on Australian soil in the early part of the nineteenth century, and the more radical materialist views which followed (especially in Adelaide)[8]—but, strictly speaking, he belonged properly to neither tradition. There is no doubt that Mitchell wrote like an idealist—sometimes argued like one—but there is an ambiguity in his work which seems to indicate that he was attempting to stake out a position that, for the time, was genuinely original. If he was an idealist, he was only a *methodological* idealist. That, at least, is what I am going to argue in this thesis.

2.2 Realism and Materialism

There is a light-hearted reason why Mitchell should not be seen as an idealist: for were it so, it would stand as an anomalous case to the oft-quoted remark of Armstrong (and quoted by Devitt) [9] that realism is born only of dry countries with harsh landscapes and strong sunlight, whereas anti-realisms are born of moist countries with misty air and green landscapes where the mind is allowed to wander. (Devitt even claims that a bastion of idealism still survives in Victoria where the sun doesn't shine quite as much!) Since Mitchell spent most of his philosophical life in Australia—and in the very harsh climate of South Australia—it would be unfitting that, if he was an idealist, he would remain one for long. J. J. C. Smart remembers Mitchell regarding himself as a staunch realist. One recollection recalls Mitchell in

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[8] I think of the birth of Australian Materialism under Place and Smart, but also B. H. Medlin's strong physicalist views (Medlin was once heard to say: 'The mind is the brain, dammit: it's only a matter of figuring out the details!').

[9] Michael Devitt, *Realism and Truth.* (1984), p. vii.

conversation with a solipsist: "You know, the trouble with you, is that you think only minds exist", and adding (under his breath) "and *your* mind at that!" [10] Not the kind of remark an idealist would make. And, it is certainly not like an anti-realist to make claims such as the following: 'No object is made mental, nor altered, by being felt, imagined, or known in any way' [11] and: 'When your ideas quarrel with mine, and when they agree, it is because they ... grasp the same object as mine, and to find it independent of our grasp.'[12] Or, finally, his claim: 'The room is .. . not affected by my perceiving it'.[13] If Mitchell is an idealist, he is an unusual one indeed. However, if he is a realist, as Mitchell himself claimed, we may see his pronouncements to the contrary as mere epistemological lapses—perhaps even forgivable ones given the preoccupation of early Australian philosophers with the idealist curse.

Just as Mitchell was no idealist or antirealist, it is also clear that he was no anti-materialist. There are a number of passages which indicate this. Here's one example (recall that is was written at the turn of the century):

> When you try to picture the structure and the action of the mind, remember you are trying to picture the structure and action of the nervous system. In this way you will avoid the usual confusion of trying to picture a hybrid process consisting partly of visible movements and partly of invisible feelings. [14]

It is not unreasonable, therefore, to look for evidence of realist and materialist themes in Mitchell, given that he worked here and not in the misty green landscape of Scotland, and given such pronouncements as those above. It should certainly not be automatically assumed that his views are similar to the tradition from which he descended. I shall submit that Mitchell's work has been badly misrepresented in past discussions and should be reconsidered in the light of contemporary philosophical debates. Perhaps J. A. Passmore was only partly

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[10] J. J. C. Smart, pers. com. The remarks were made to A. J. Schultz who became the principal of the Teachers' Training College that Mitchell initiated. (See: V. A Edgeloe, *Servants of Distinction: Leadership in a Young University 1874-1925,* (1993).

[11] Mitchell, PMW, p. 33.

[12] Ibid., p. 45.

[13] Mitchell, SGM, p. 60.

right when he described Mitchell's work as articulating 'an introduction to an Idealist philosophy for which the mind is the central ontological conception'.[15] While it is certainly true that, for Mitchell, the role of the mind is a pre-eminent consideration, this doesn't by itself make him an idealist. The common qualification for being an idealist is that what is real is in some way *confined* or at least related to the contents of our own minds. [16] And I think the evidence for this in Mitchell's writing is somewhat less clear.

2.3 Psychology

Aside from the Scottish idealist and common sense traditions, there were other influences which complicate the picture further. These influences indicate that Mitchell was a more sophisticated philosopher than previously thought. These influences came from the discipline of psychology. Mitchell was a near contemporary of the Swiss psychologist Piaget, who argued for an epistemology which was both dynamic and materialist—setting the stage for a later cybernetic approach to epistemology.[17] Mitchell articulated, I believe, a kind of early dynamic process philosophy of the structure and growth of the mind which anticipated some of Piaget's account later to receive wide acclaim in the philosophy of psychology. There are considerable differences here, of course. Whereas Piaget aimed at a strictly empirical developmental psychology underpinned by the influence of some Kantian and Hegelian philosophical conceptions (with empirical work predominating), Mitchell aimed at—in Passmore's words—'a psychology which is in turn an introduction to philosophy'.[18] That is, a psychology which leads to a new way of thinking philosophically about the mind. Indeed, for Mitchell, philosophy *was* a kind of psychology.[19]

While there are differences between the two thinkers, there are also similarities: unlike the

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[14] Ibid., p. 7.

[15] J. A. Passmore, 'Philosophy', from A. L. McLeod (ed.) *The Pattern of Australian Culture* (1963), p. 146.

[16] Ted Honderich, op. cit., p. 386.

[17] Piaget published his first substantial works in 1923, some 16 years after Mitchell's SGM.

[18] J. A. Passmore, op.cit., p. 145.

[19] J. J. C. Smart, pers. com.

focus of contemporary philosophy of mind (which deals centrally with ontological questions such as what the mind *is*—how a neural state can *be* a representational state, for instance), both Mitchell and Piaget seemed more interested in how the mind *grows* (how the mind of an infant is different from the mind of an adult; a learned mind differs from one which exhibits "invincible stupidity"; how the minds of lower animals differ from those of primates; and so on.) It was, in other words, an entirely different philosophical agenda. The issue of *what minds are* was, for Mitchell and his contemporaries, subordinate to the issue of *what mind's do.* [20] *Structure and Growth of the Mind* is, broadly speaking, an attempt to outline the precise processes undergone by minds during different stages of their growth, and under different conditions. It might be considered an *conceptual psychology*—or an *analytic phenomenology*—of the stages of mental growth. And, the central category of this "psychology" was the category of experience. This way of looking at things is currently out of favour among philosophers of mind, though it does seem to be making a come-back (see for example, Karmiloff-Smith's amalgamation of Fodorian modularity theory and Piagetian themes). [21]

Other psychologists to influence Mitchell were Wundt, Helmholz and Stumpf. Other strong influences on his work come from ethology and related disciplines. For example, Mitchell approvingly cites Lubbock's work on the senses of insects and Preyer's and Münsterberg's views about the behaviour of lower animals. These influences seem to discredit the claim that Mitchell was an ontological idealist. He was more interested in a naturalist account of mind and content. And he was certainly more interested in evidence from emerging sciences than the inchoate ramblings of British and German idealists (there are no references to either in his books). [22]

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20 'Of the mind, as of other things, there is no saying what it is in itself apart from all its connections, because the question is in error. We know it, as we know other things, by what it does'. SGM, op. cit., p. 19. Quoted by Passmore, op. cit., p. 146.

21 A. Karmiloff-Smith, *Beyond Modularity: A Developmental Perspective on Cognitive Science,* (1992).

22 There is, by contrast, much psychological literature cited: Ebbinghaus, *Grundzüge der Psychologie,*

2.4 Neuroscience

There is also his interest in neuroscience to consider. Were Mitchell an antimaterialist of some conviction, we might expect rather less of this material to feature in his writings. Yet Mitchell devotes an entire chapter reviewing the (then) current work in neuroscience, and much of the rest of his work is sprinkled liberally with evidence from such sources (he looks at experiments involving prosthesis and brain bisection, conjectures about differently weighted neuronal paths in animals, and so on). [23] He called this evidence the "indirect" method of understanding mind—indirect because it relied on evidence from the brain, not "direct" evidence from experience as it seems to us ("phenomenological content", as we might put it these days). Moreover, Mitchell seemed to be aware that any proper understanding of mind required an analysis in which evidence from both sources was required. He didn't think that

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(Fundamentals of Psychology);*The Pathology of Emotions;* Galton, F., *Inquiries into Human Faculty;* Giessler, *Psychopsysik,* (Psychophysics); Grasset, *La Biologie Humaine;* Groos, *The Play of Animals;* Horwicz, *Psychologische Analysen,* (Pyschological Analysis); James, *Principles of Psychology,* I&II; *Talks to Teachers on Psychology;* Le Bon, *The Psychology of Peoples,* Münsterberg, *Grundzüge der Psychologie,* I, (Fundamentals of Psychology); Perez, *The First Three Years of Childhood;* Preyer, *Development of the Intellect;* Richtmyer, *Psychology of the Emotions;* Romanes, G. J., (1883), *Mental Evolution in Animals;* Royce,*Outlines of Psychology;* Sidis, *Psychology of Suggestion;* Siegert, *Die Periodictät in der Entwinkelung der Kindesnatur,* (The Periodicy in the Development of the Child's Nature); Stratton, *Experimental Psychology and Culture;* Storch, E., *Zeitschrift für Psychologie,* Vol. XXIV, (Magazine for Psychology); Stout,*Analytic Psychology* Vol. II; Stumpf, *Zeitsch. für Psychologie,* XXIV, (Journal for Psychology); Thompson, H. B., (1905),*The Mental Traits of Sex;* Thorndike, *Educational Psychology;* Tracy, *Psychology of Childhood;* Wundt, *Grundzüge der phys. Psychologie* (Fundamentals of Physical Psychology);*Outlines of Psychology,* (2nd edition);*Physiological Psychology,* III.

23 The following are representative samples: Baldwin, *Mental Development in the Child and the Race;* Barker, *The Nervous System*; Beth, *Comparative Physiology of the Brain; American Journal of Physiology,* III; Bolton, (1903) ,'The Functions of the Frontal Lobes' *Brain;* Broadbent, *Brain,* Vol. XXVI; Bucke, R. M., (1897), *British Medical Journal;* Campbell, *Localisation of Cerebral Function;* Cope, *Primary Factors of Organic Evolution;* Donaldson, *The Growth of the Brain;* Engelmann, T. W., (1876), *Morpholoogisches Jahrbuch,* (Morphological Yearbook); Exner, *Entwurf zu einer Physiologischen Erklärung,* (Sketch regarding a Physiological Explanation); Flechsig, *Gehirn und Seele,* (Brain and Soul); Flint, (1904), *Philosophy as Scientia, and History of Classifications of the Sciences;* Foster,*Text-book of Physiology;* Fréré, *Sensations et Mouvement,* (Sensations and Movement); *The Pathology of Emotions;* Giessler,*Psychopsysik,* (Psychophysics); Gutberlet, *Psychophysik,* (Psychophysics); Head, *Studies in Neurology;* Haldane, J. S., *The New Physiology;* Helmholtz, *Popular Scientific Lectures,* Vol. II; Jennings,*American Journal of Physiology,* VIII; (1904), *Contributions to the Study of the Behaviour of Lower Organisms.* Loeb, *Comparative Physiology of the Brain;* Luys, *The Brain and its Functions;* McDougall, *Brain,* Vol XXIV;*Physiological Psychology;* Morat, *Physiology of the Nervous System;* Norman, *American Journal of Physiology,* III, pp. 273-74; Obersteiner, *Functionelle Nerven-Krankheiten,* (Functional diseases of the Nerves); Raymon y Cajal, (1895), *Archiv für Anatomie,* (Archives for Anatomy); Romanes, G. J., (1883), *Mental Evolution in Animals;* Mental Evolution in Man; Schaefer, *Text-Book of Physiology,* II; Watson, *Animal Education: An Experimental Study on the Psychical Development of the White Rat, Correlated with the Growth of its Nervous System;* Wasmann, *Instinct und Intelligenz im Thierreich,* Instinkt und Intelligenz im Tierreich; (Instinct and Intelligence in the Animal Kingdom); Wundt, *Grundzüge der phys. Psychologie* (4th Edition) (Fundamentals of Physical Psychology); *Physiological Psychology,* III (5th Edition).

one needed to be subordinated to the other. I think Passmore's description is right here when he claims that Mitchell 'saw in psychological and neurological inquiry alternative means of explanation—the philosophical being the more "direct"—rather than attempts to describe entities of a different ontological order'. [24] This concludes what I take to be his major influences.

3. Contemporary Philosophy of Mind

In contemporary cognitive science, philosophers refer to the "easy" and the "hard" problem of consciousness. The "easy" problem consists in how brains might do things like represent perceptions in thought in a neural or computational form; the "hard" problem consists in explaining how things seem to us in experience (the "what it is like?" of consciousness).[25] A dawning realisation in contemporary cognitive science is that one can't understand mind without an understanding of the "hard" problem, as this requires an understanding of "subjectivity", or experience "from the inside".

This distinction approximates Mitchell's "indirect" and "direct" distinction to this extent: While the "indirect" method offers a potentially complete understanding of 'the immediate physical correlates' [26] of experience, only the direct method offers an understanding of what experience is like "from the inside". Both approaches, according to Mitchell, are essential. While Mitchell did not have the conceptual resources to understand features of mind that we have today (courtesy of the modern computer and its binary method of information storage), he did have enormous faith that the direct method would yield considerable insights; hence his emphasis on neuroscience. However, while he thought this important, he also thought that this could only ever be a "correlate" of mind as it is experienced by us. Thus, he argued, I believe, for a cautious, non-reductive physicalism and rejected materialist accounts which promised more. One certainly can't understand mind without both the "direct" and "indirect" methods

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[24] Passmore, op. cit., p. 147.

[25] See David Chalmers, *The Conscious Mind,* (1996) *passim.*

according to him. Mitchell's account of mind, to the extent that it makes a contribution to such views, is thus historically relevant to the debates in present day philosophy of mind.

It could even be argued, as I shall later do, that Mitchell anticipated the views of contemporary theorists such as Thomas Nagel, Colin McGinn and David Chalmers—the "new mysterians", as they are sometimes disparagingly called. [27] These theorists argue, in very different ways, for the claims that: 1. the subjective quality of experience is essentially dissimilar from objective descriptions of brain states; and 2. the current brain sciences are limited in their application. They are united in their view that, while the evidence from the neurosciences are impressive, they don't tell us anything about consciousness properly so-called, even though they might tell us a good deal about associated problems to do with mentality (how a propositional attitude can be a representational state, and so on). They are also united in their regard for the importance, and non-reducibility of *subjective experience.*

None of the "new mysterians", I take it, are dualists by fiat (although many of them openly espouse dualism); they are, rather, unconvinced that a materialist theory of mind *in its present form* will do the job. Materialism can't be said to be false—indeed, Nagel states this much explicitly. [28] Chalmers, likewise, exhibits a reluctance to say that materialism can't at present do the job required, and advocates a monism which is "broader".[29] So it seems that the new mysterians are not hostile to materialism—only unwilling to take it seriously as a *complete*

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[26] SGM, op. cit., p. 450.

[27] The term "New Mysterian" was originally used by Owen Flanagan, I believe, to mean those that hold that we are forever cognitively closed to the solution of the problem of how consciousness is linked to the brain. The term has come to mean, informally but incorrectly, those that are sympathetic to *sui generis* contentful qualia which cannot be fully captured by physicalist accounts; that is, those that think that consciousness is a mystery for physicalism. Strictly speaking, McGinn and Nagel (and perhaps Searle?) are New Mysterians while Chalmers is not. Chalmers tries to show on *a priori* grounds that there are fundamental, emergent, psychophysical laws.

[28] 'It would be a mistake to conclude that physicalism is false. ... It would be truer to say that physicalism is in a position we cannot understand because we do not at present have any conception how it might be true'. *Mortal Questions,* (1979); p. 175 and 176.

[29] See, for example: 'Materialism is a beautiful and compelling view of the world, but to account for consciousness we have to go beyond the resources it provides'. *The Conscious Mind,* op. cit., p. xiv. Elsewhere he endorses a "Russellian" —"odd sort of materialism"—which holds that: 'physical reality is all that there is—but it says that there is much more in physical reality than physical theory tells us about! 'Moving Forward on the Problem of Consciousness' in *Explaining Consciousness: The Hard Problem,* J.

theory of mind (this point is not often stressed in the literature). The theory of mind they argue for would have to offer an account of the subjective character of experience without attempting to eliminate, reduce or otherwise distort the "what it is like" of phenomenal experience. To paraphrase Chalmers, the right theory of consciousness will have to "feel the problem [of subjective experience] in its bones". One can, perhaps, describe the new mysterians, in a very liberal mood, as *very cautious* materialist (so cautious as to plump for dualism or panpsychism). And, in this sense, I shall claim that Mitchell was one too—though he doesn't reach such radical conclusions.

The other point that I hope to demonstrate is that Mitchell also anticipated the views of some contemporary cognitive scientists, especially those theorists who are somewhat sympathetic to the claims of the new mysterians but who don't wish to be tarred with the same "new mysterian" brush (see **§5.8.2** below).

Where is the evidence that Mitchell anticipated such views? This will be the burden of this thesis. To understand why will require a careful elaboration of Mitchell's writings in the context of contemporary work. Briefly, though not conclusive evidence on its own, some of his remarks about mind do see him articulating a position which has similarities with some of these more recent theorists:

> A mind and its experience are realities that are presentable to sense as the brain and its actions. In that respect the mind and experience are not parallel with nature, but part of it. And, on the other hand, the facts of nature, including the brain, whenever they are phenomena, are not parallel with mental phenomena, but part of them. [30]

In one sense, it is easy to see why the American idealists in the 1930s embraced such comments.[31] On one reading they seem to suggest that Mitchell thought the brain might be a

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Shear (1997). Chalmers opts for a panpsychist solution as does Nagel (though Nagel doesn't commit himself to it).

[30] SGM, p. 23.

[31] See Passmore, ibid, p. 147. See also Blanshard's work: *Nature and Thought* (1939) for extensive references to Mitchell's writings.

product of minds: whenever brain states are "phenomenal" states, they are mental phenomena, he seems to say. Such an interpretation would be an incorrect one, I believe. Given his outright rejection of idealism, and his own insistence that he was a realist, other interpretations of his remarks seem called for. Another, more benign reading we might make is that Mitchell was arguing a similar line to that of Thomas Nagel's "Dual Aspect" theory: According to Nagel's account, 'both the mental and the physical properties of a mental event are essential properties of it—properties which it could not lack". [32] This too can be a way of interpreting Mitchell's assertion above. This reading makes no such commitment to idealist doctrines and seems to suggest that Mitchell was trying to outline a kind of non-reductive account in which mental and physical states both feature in a more inclusive account of mind—a "fundamental" theory incorporating both. This too is the emphasis in the theories of Chalmers and McGinn. [33] Later I shall show how Mitchell's account also bears close similarities to Sellars' articulation of the "manifest" and the "scientific" images.

Gone are the days, it seems, of either being a realist and materialist, or an idealist and/or dualist, and shunning the possibility of intermediate positions. Now, it seems, empirically-minded philosophers seriously entertain alternative accounts; theories which Anderson, no doubt, would have disapproved. [34] Chalmers is an example of an Australian who has attempted to stake out such an account, though there are others: Keith Campbell and Frank Jackson are examples of contemporary Australian dualists or *qualiaphiles* as they are called; though Jackson has recently undergone a change of heart. In any case, a kinder face of Australian materialism can be seen emerging in the late twentieth century, and this probably began with Mitchell. What seems clear from Mitchell's work is that this trend began long before Anderson's arrival in Australia, but was overlooked. It is certainly true that Mitchell, unlike

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[32] Thomas Nagel, *The View From Nowhere,* (1986), p. 48.

[33] See David Chalmers, op. cit., (1996); Colin McGinn, *The Subjective View,* (1983).

[34] A doctrine of "panpsychic idealism" has recently been outlined, for example, unthinkable decades ago, see Paul Marshall, 'Transforming the World into Experience', *Journal of Consciousness Studies,* Volume 8, No. 1, (2001), pp. 59-76 (though see Sprigge, 1983).

Anderson and those materialists that followed him, took consciousness as a phenomenon to be explained in its own terms, not reduced, eliminated or ignored (hence the enigmatic quotation at the beginning of this chapter). What were the circumstances which prompted this lack of philosophical attention in work which seems oddly contemporary?

Working in Adelaide, South Australia, in the latter half of the nineteenth century, full appreciation of Mitchell's work was a casualty of the tyranny of distance and from Rylean and Wittgensteinian philosophical trends in the early part of the twentieth century. His work was later overshadowed by the influence of fellow Scot, John Anderson, and those more famous Australian philosophers who followed him. Thus, Mitchell's work has never received the attention that it deserved.

In this chapter, I account for Mitchell's loss to the intellectual world. I previously outlined the Scottish traditions and Australian traditions which helped to shaped Mitchell's work. In a later chapter, I shall suggest that Mitchell's work has surprising application to current trends in cognitive science. His work thus deserves serious study by contemporary philosophers of mind. I shall briefly outline the central elements of Mitchell's ideas here and in later chapters we will look at the detailed arguments.

4. Mitchell's Philosophy of Mind

Mitchell's philosophical contributions have, as their focus, the nature of mind and experience. Particularly, he is interested in the *growth* of the mind; and, to a lesser extent, its ontology. He does make contributions to the philosophy of science and education; but, as we shall see, these fall naturally out of his philosophy of mind. It remains to introduce in general outline what these contributions are and how they differ from present-day theories.

The key elements of Mitchell's thought are easy enough to state in general terms: experience is the crucial element of our mental lives; or, to put it another way: 'mental activity

is central in experience'.[35] As we have seen, Mitchell is a forerunner of what we now call the "New Mysterians", who regard conscious *subjective experience* as a crucial, ineliminable feature of our lives. For Mitchell, it was no different. We are happy or depressed; we worry and at other times we are elated; we feel pains and pleasures. This kind of experience is fundamental to our mental and physical lives, and cannot to be reduced or eliminated.

However Mitchell is not merely interested in such conscious experiences. He recognises that not all experience is conscious, but is nonetheless important to the growth of the mind. Experience, for Mitchell, covers everything from qualia to high-level intentional content at various levels. There is no principled epistemic divide to be drawn between these levels on Mitchell's account. One learns about the mind primarily by studying experience directly as we live it (the "direct" approach); and secondarily, by studying the mind indirectly by means of the emerging sciences of the mind, for example, neuroscience (the "indirect" approach). Knowledge acquired by means of the direct approach aids in directing attention to relevant features of the indirect approach (thus, an adequate neuroscience might be directed to features of interest by means of contentful phenomenal experience).

The action of mind is always action on an *occasion.* The occasion is the moment and conditions under which an experience happens and the content that such conditions bring about. The occasion is a stimulus property (either mental, physical or environmental). Experience is what the mind, the "reacting structure", does in reaction to its environment (a definition which is sufficiently vague to cover all aspects of content). Not everything about the mind is always involved on an occasion, only the activity which the occasion calls forth (so, for example, low-level modular-type processing, which do not seem to involve higher level concepts, is consistent with the concept of an occasion).

The organism aims to resolve occasions in order to achieve pragmatic and experiential ends. Thus, we focus our eyes to achieve a better view, etc. However this also occurs at higher

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[35] E. M. Miller, op.cit., p. 249.

levels. So, for example, our concepts are deployed in making sense of more complex experiences. Organisms start off by resolving low-level instinctual experiences, and then move to higher, more satisfactory levels of experience, though this is not so for all creatures on which there might be evolutionary and experiential constraints. As the idea of resolving experiences is a key to Mitchell's account, this leads to an account which demands levels of experiential content.

There are three main levels of content according to Mitchell: sensory, perceptual and cognitive intelligence. The sensory level is roughly equivalent to instinct. Some organisms remain at this level and advance no higher. As Mitchell defines it, the courses of instinctive action is: 'the power of pursuing an infinite variety of course, directed throughout by present sensation'.[36] Thus, we resolve our eyes to focus; cup or fix our ears; sniff with our noses. The next level is perceptual intelligence which is equivalent to content which already comes with the power to anticipate further experiences (for example, we simply "see" a display of objects and know how to react; we don't have to infer our course of action). Some organisms—some humans—even remain at this level. The last level is cognitive intelligence which is influenced by rules, language and principles, and it helps differentiate the expert from the non-expert. Thus, in Hanson's sense:

> There is a 'linguistic' factor in seeing ... Unless there were this linguistic element, nothing we ever observed could have relevance for our knowledge. We could not speak of significant observations: nothing seen would make sense, and microscopy would only be a kind of kaleidoscopy. For what is it for things to make sense other than for descriptions of them to be composed of meaningful sentences? [37]

Mitchell differs from Hanson in regarding the higher level conceptual intelligence to contain features of the lower levels as well. Thus, while at higher levels there is a "linguistic factor in seeing", this is not all there is. Cutting across this tripartite division of forms of intelligence,

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[36] SGM, p. 194.

[37] N. R. Hanson, *Patterns of Discovery,* (1975), p. 25. Hence Hanson's remarks: 'The visitor [to the

which constitute broad bands or levels of content, is a distinction between the functions and forms of experience: *feeling, interest* and *action.* Each of these typify the kinds of content that organisms are interested in at particular moments. We will return to this issue in later chapters.

On the metaphysics of mind, Mitchell has an interesting case to put. He regards the capacity to experience allows an *inference* to the notion of mind.[38] This is rather different from some current approaches which regard the capacity to experience as a reason to *deny* the existence of mind (for, example, Dennett's and Churchland's views). By complete contrast, Mitchell thinks that the very *structure* of experience is evidence that mind exists (otherwise there would be no evident structure).

However, he does not argue for a faculty-based account of mind, nor the notion of "self" as ontically legitimate entities. This, to Mitchell, is an invalid inference. Rather, the working of the mind is a process due to various faculties, but they themselves are not processes and not an experience; rather, the relationship defines nominal entities which stand for what experiences are produced on an occasion. A faculty means, for Mitchell, merely the capacity to produce or the capacity to have, an experience of a certain kind. [39] Thus, Mitchell is no defender of a literal faculty-based psychology—unlike Fodor, who has recently tried to resuscitate the idea.[40] Rather, his account more closely resembles a defence of some kind of early dynamic process account, recently featured in the literature as "interactivist-constructionist" models. [41] We shall look at such subtleties in later chapters.

What of Mitchell's position regarding the metaphysical relation of subject and object? Mitchell claims that in every experience there is differentiation of subject and object. But it does not follow that there is always an experience of *difference* between two subjects of

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laboratory] must learn some physics before he sees what the physicist sees.' op. cit., p. 17.

[38] See: H. J. Allen, op. cit., p. 7.

[39] E. M. Miller, op. cit., p. 249.

[40] J. A. Fodor, *Modularity of Mind: An Essay in Faculty Psychology,* (1983).

[41] See, for examples, W. Christensen and C. A. Hooker, 'An Interactivist-Constructionist Approach to Naturalism, Intentionality and Mind' (1999); see also T. van Gelder, 'The Dynamical Hypothesis in Cognitive Science', (1998); and Port and van Gelder, *Mind as Motion* (1995).

experience (for example, we can be so absorbed in an experience we can forget the object). Rather, this differentiation is a product of the mind's growth. Nor can we infer from one entity to the other *qua* self-subsistent entities.[42] For Mitchell, experience involves an implicit two-factor relation: experience helps in the analysis of the two factors in relation, and experience would be impossible without these factors. But, at the same time, experience begins as mere feeling or sensation without the division into subject and object; i.e., as an undifferentiated whole. In this sense, and only this sense, Mitchell follows Bradley. Experience does not, at least initially, consist of *ourselves* feeling *something* (for this involves higher-level thought—thought which is part of the later growth of the mind); rather, it is feeling as such, or—as Mitchell calls it—*mere sensation;* not *somebody's* feeling or a feeling of *something.* Experience contains diversity, but a diversity which is prior to relations. [43]

Why develop this apparently bizarre idea of mere experience as a non-relational whole? The answer to this is possibly the same as why others, such as Bradley, developed it. As we have seen, Mitchell was writing at a time of considerable Humean influence. Hume, of course, took the opposite assumption to that of Bradley and Mitchell. Instead of regarding experience as an undifferentiated whole, from which distinctions between subject and object arise, Hume took the opposite assumption, a sceptical attitude. He thought of experience as comprising a disconnected "bundle" of sensations on which we impose conventions of regularity and association. On Hume's account the "self", and the subject of experience and action disappears.

Mitchell, like his Scottish forebears, rejected this assumption as irrational and counterintuitive. Like Bradley, he attempted to ground an account of experience which more closely mirrored the unity, coherence and completeness which we really do find in

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[42] Miller, op. cit., p. 249.

[43] J. Passmore, *A Hundred Years of Philosophy,* (1984), pp. 62-3. Hence Passmore's comment that Mitchell is the 'only attempt to deal in detail with nineteenth century psychology from a post- Bradleian point of view'. p. 573.

our conscious lives. Unlike Bradley's Hegelian musings about the Absolute, however, Mitchell was more interested in an account of the growth of the mind from its undifferentiated feeling to the stock of mental constructions and concepts which we know in experience. In other words, he aimed to construct 'a psychology which is in turn an introduction to philosophy'.[44]

Thus, Mitchell's metaphysic is complex: descended from the Scottish common-sense views, British empiricism and idealist metaphysics. He has idealist sympathies in so far as objects can only be understood or known as the subject of experiences. However, he does not confine objects as mental products in our heads, and he clearly sees objects *qua* objects as part of a dynamical exchange between organisms and the world which makes experience possible. In this latter sense, Mitchell can be understood as a die-hard realist. Though if "idealism" is interpreted generously enough to allow for the existence of independent external material objects—as perhaps it should be—he could also be considered an idealist of some conviction.

This point is often confused in the literature. E. M. Miller points out the confusion, and Mitchell's attitude to it, very clearly indeed:

> An idealism that denies external reality is no true idealism. The experience of the real is admitted. What the idealist wants to know is the nature and meaning of reality; and as to its nature and meaning there may be and is a great variety of opinions. No one in his senses doubts the existence of material objects. What brings about endless trouble is the confusion of material existence with the assertion of the existence of a material reality independent of mind. We cannot be conscious of something which is out of consciousness, and if we are conscious of anything, we know somewhat of it. This fact is a necessity of knowledge, and to assert its independence of the relations under which it is experienced as an object of consciousness is to assert nothing. We are not aware of anything to which consciousness does not testify. In a like manner we know mental facts as distinct from physical facts or processes. We may speak of mental processes as internal and of physical processes as external; but neither internality nor externality is applicable to mental processes as such. They are entirely different from the physical. They are not coordinate, to use Mitchell's words ... and "their correlation does not mean identity of nature". [45]

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[44] J. A. Passmore, op.cit., p. 145.

[45] Miller, op. cit., Part II, p. 10.

The latter remark, that the mental is defined in terms which are neither internal nor external, captures the point that, for Mitchell, the *exchange* between subject and object is crucial to the nature of mind. For convenience, we refer to the "internal" and "external" (or subject and object), but the mental is not coordinate with either; and though they are often correlated, this does not amount to a relationship of identity. (Compare, the onset of spring and bees: they are coordinate facts, and there is a high correlation between them, but they are certainly not identical.)

5. Contemporary Cognitive Science

Now let us look briefly at the kind of environment current in contemporary philosophy of mind. I shall make a few points about how Mitchell differs from the contemporary discussions, and where he has sympathies.

1. *Contemporary accounts of mind have no account of how and why minds grow.* With few notable exceptions (Karmiloff-Smith, Piaget, Vygotsky) this is true. Most philosophers are more interested in ontological questions: what is consciousness?, what is a representational state?, What is a pain?, Are representations computational states?; and so on. They are less interested in the developmental question. Mitchell, by contrast, is concerned with the growth of the mind as the primary metaphysical issue.

2. *Contemporary accounts assume that the computational processes of mind are central.* The computational account, or—as it is known—the representational theory of mind (RTM) is dominant in the current literature. Computations performed over amodal, structured symbolic expressions tokened in a neural form is considered to be the main processing mechanism for cognitive states. There are a number of variations on how this is supposed to be achieved, but the metaphor of the mind as a computational system is widespread. Contemporary accounts which stress the processing of non-symbolic, modal, perceptual information is now making an

appearance in the cognitive science literature, but this is a minority view. [46] As we shall see, Mitchell is sympathetic with the modal-format account, which makes him rather contemporary.

3. *Contemporary accounts subordinate the phenomenal features of mind to their representational/computational features.* Many cognitive scientists are principally interested in how brains represent the world in thought. Phenomenological features of experience are an infuriating problem for computational accounts because they seem to resist explanation in the terms of the RTM. If *quale* occur at all—and there is much dissension on the question—they are considered to be another form of representational capacity. Thus, the RTM allows for a variety of representational formats. However, it is not clear how neurally encoding—regardless of format—can capture the "what it is like" of phenomenal experience. Mitchell's account attempts to outline a variety of representational formats employed by the organism at various stages of its cognitive growth.

4. *Contemporary accounts assume the "indirect" (neurophysiological) approach to be the best, or only, approach.* Contemporary accounts generally assume that the advancing neurosciences will eventually shed insight on questions of consciousness, representation and cognition. There are some who claim that there is an "explanatory gap" and that we are cognitively prevented from crossing it (McGinn, Levine).[47] Mitchell agrees that the indirect approach is essential but only in conjunction with the direct approach. As we shall see, this is in line with others who, while they regard the direct approach as valuable, claim that it plays a subordinate role to first person experiential perspectives (Nagel, Jackson, Chalmers). [48]

5. *Contemporary accounts assume that an epistemology of content is subordinate to an ontology of mind.* Contemporary accounts are less interested in epistemological concerns;

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[46] See, L. E. Barsalou, (1999), 'Perceptual Symbol Systems', *Behavioural and Brain Sciences,* 22, pp. 577-660.

[47] C. McGinn, *The Problem of Consciousness,* (1991); J. Levine, 'Materialism and Qualia: the explanatory gap', *Pacific Philosophical Quarterly,* 64 (1983): pp. 354-361.

[48] T. Nagel, (1974), 'What is it like to be a Bat?', *Philosophical Review,* LXXXIII, pp. 435-451; F. Jackson,

when they are, it is usually expressed in terms of how minds represent the world in thought in computational terms. However, this already assumes an ontology of mind. Mitchell's approach is to construct an epistemological account from which an ontology of mind is derived as an inference. The central issue is not what minds are—the key question is how we have the experiences we do. Since experience has structure there must be minds. From the epistemological agenda an "indirect" account of the nature of mind follows.

6. Mitchell's Philosophical System

Mitchell was perhaps one of the last of the great "system" philosophers in the tradition of Plato, Kant, Hegel and Leibniz. That breed of philosopher aimed at constructing a philosophical account thematically linking issues in all the main branches of philosophy: metaphysics, ethics, aesthetics, epistemology and logic. In Plato's and Aristotle's case, this system is united by a conception of the 'forms'; in Kant it was the unifying feature of the categories of apperception and forms of understanding; Leibniz, of course, had for his unifying principle the *monads.* For Mitchell, the unifying feature was the concept he called 'Taking for Granted'. We shall discuss the intricacies of this idea when we look in detail at his metaphysical views later.

Mitchell's philosophical account constitutes an organic unity and an evolving system, a system which demonstrated the optimism of post-Darwinian theorising and an interest in the dramatic scientific changes of his era. However, unlike Hegelian idealism or other idealist views common in European and Australian thinking at the time, there were no corresponding notions like *geist,* the spiritual or the Absolute: in this sense, Mitchell remained a no nonsense realist, but a realist with a difference; very unlike the kind of realism attributed to much of Australian philosophy today.

It is not possible to understand Mitchell's thought without understanding his schematic view of the sciences and where the notion of explanation fits in with this. For while "Taking for

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(1990), 'Epiphenomenal Qualia', *Mind and Cognition: A Reader.* D. Chalmers, (1996), *The Conscious Mind.*

Granted" is the conceptual foundation for his system, his ideas about explanation make his system intelligible. It is, accordingly, to his ideas about explanation and his taxonomy of the disciplines to which we shall turn in the next chapter. Before we do this, however, we should look at the reasons Mitchell's work has been forgotten.

7. Why Mitchell has been Forgotten

The reasons for the lack of interest in Mitchell's philosophical work are fourfold: firstly, Mitchell's work is historically badly poised. As I have already mentioned, he dealt with themes and ideas at the cross-over point between the death of idealism and "common-sense" philosophy, and the rise of Australian materialism and realism. This virtually ensured that his work sat uncomfortably between scholarly periods, but belonged properly to neither.

Secondly, his style of writing was poor. Even taking into account the stylistic conventions of the time—and allowing for the difficulty of the philosophical concepts he was engaged with—his work is badly written: often divorced of clear central themes, lacking in detailed exegesis and often ponderous in delivery. (A professor of classics at Adelaide at the time 'used to say that he could never understand Mitchell's books until he had translated them into Latin').[49] True enough, obscurity of style is no barrier to greatness (e.g., Wittgenstein). But in Mitchell's case there were other factors *in addition* to stylistic obscurity which conspired to defeat him. Moreover, this estimation of Mitchell's writing was not an individual complaint, but, by and large, consensual: reviewers of Mitchell's first book complained about the difficulty 'in focussing to a definite view the central conceptions upon which the work as a whole rests.'[50] It was also criticised for its 'obscurity', its 'somewhat oracular style',[51] and even its 'undeniable dreariness'. One reviewer pointed out that, while reading it, one always

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49 W. G. K. Duncan and R.A. Leonard, *The University of Adelaide 1874-1974* , (1973) p. 19. This anecdote is also cited in S. A Grave, *A History of Philosophy in Australia,* (1984), p. 22.
50 Norman Kemp-Smith, 'Structure and Growth of the Mind' (Review), *Philosophical Review,* Vol. XVII, No. 3 (1908) p. 333; Also cited in Grave, op. cit., p. 23.

has to 'retrace one's steps and grope for the context'.[52] The same complained that, because of 'no contour or difference in emphasis', reading the book was like 'swimming under water with never a chance to come up and look about'.[53] Norman Kemp-Smith, a philosopher later famous for his extremely clear exposition of Kant's *Critique of Pure Reason,* even had the audacity to suggest that Mitchell's work could have been 'condensed to half its present size' without loss, and complained about his 'obscurity' and 'constant digression into ... side issues'.[54] Everybody, except Mitchell himself, found his work virtually impenetrable.

Thirdly, Mitchell's perspective on the issues of the day were unconventional, and are hard to understand even with the hindsight of trends and developments in the late twentieth century. A number of his views are simply unfashionable: for instance, the emphasis taken in both his writing and his classes was that psychology 'is the proper introduction to philosophy'; a view certainly not popular today notwithstanding recent interest in a return to "philosophical psychology".[55]

Fourthly, Mitchell made no allowances for the reader: his second book was premised on the reader having read and digested the first; however the first book assumes an acquaintance with the themes and concerns of nineteenth century thought not merely in philosophy, but also in developmental psychology, neuroscience, physics and biology. Thus, for the contemporary reader Mitchell's writing is now almost beyond reach. His second book, universally regarded as harder to read than the first, presupposes a detailed knowledge of quantum mechanics and other areas of physics very fresh for the time.[56] Not only this, but Mitchell makes no attempt to

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51 H. B. Acton, 'The Place of Minds in the World' (Review), (1934), p. 245.

52 R. B. Perry, 'Structure and Growth of the Mind', (Review), *Journal of Philosophy, Psychology and Scientific Methodology,* V (1908), p. 45.

53 Ibid., p. 45.

54 N. Kemp-Smith, ibid., p. 332.

55 J. J. C. Smart has informed me (in correspondence) that for Mitchell, psychology *was* philosophy; he also shared the common misapprehension at the time—the late 1800s—that psychology was an enterprise which was especially to do with explaining and exploring "the mind" (cf the title of the journal *Mind*). This is confirmed by J. A. Passmore's account of Mitchell's work in A. L. McLeod (ed) *The Pattern of Australian Culture,* (1963), pp. 145-6.

56 When it first appeared, a reviewer of *The Place of Minds* remarked that 'The book is undeniably hard ... In

connect his ideas with the debates which were current at the time in the literature and 'never ties his reflections to a specific philosophical controversy'. [57] To make matters worse, Mitchell never provided indexes to his books, and gives no summaries, recapitulations of points, nor linguistic "signposts" to aid the unwitting reader. It is this kind of inconsiderate authorship which helps explain V. A. Edgeloe's cryptic remark that *Structure and Growth of the Mind* was, 'for more than a quarter of a century ... a textbook over which university students, in Adelaide at least, sweated'. [58]

There is no excuse for such obscurity these days, but in the colonies during the late nineteenth century, things were different. Another reason for Mitchell's obscurity is the factor of academic isolation to which I have already alluded. J. A Passmore has highlighted this point in relation to his two works *Structure and Growth of the Mind* and *The Place of Minds:*

> Both books are, very obviously, the products of a solitary thinker. When Mitchell went to South Australia, contacts between Adelaide and the eastern states were rare, voyages to Europe or America even rarer. Few Australian philosophers as much as met Mitchell, and his influence in Australia has not been extensive.[59]

There were yet further reasons for the neglect of Mitchell's work. At around the time Mitchell's work was beginning to be discussed a new philosophical star was on the rise. Wittgenstein had emerged on the scene and, along with the influence of Rylean behaviourism, this presented a potent philosophical cocktail. Subjective states and discussions about *sui generis* conscious states fell into philosophical abeyance. Under the influence of Wittgenstein

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part the difficulty is due to the regions traversed; we are conducted ... through the history of the most recent physical science, relativity theory, quantum theory and wave mechanics in order to illustrate and fortify the author's argument ... [which] tends to perplex the less scientific reader.' J. W. Harvey, *Review* (1934), op. cit., p. 104.

57 J. A. Passmore, 'Philosophy', in A. L. McLeod (ed) *The Pattern of Australian Culture,* (1963), p. 145.

58 V. A. Edgeloe, V. A., (1966), *Australian Dictionary of Biography,* Volume 10, 1891-1939, 'Sir William Mitchell', p. 536. Most of the reviewers of Mitchell's books complained about this lack of authorial consideration. Hoernlé's review is an example: 'I have one serious complaint. There is no index, and there is no marginal analysis. In a book of 512 closely-printed pages, dealing with such a vast material, both are really indispensable to assist the reader in orientation. [The index] does not help one to collect all the scattered passages in which the author refers to a given subject. In the second edition I hope Professor Mitchell will remedy this defect, which seriously impairs the practical usefulness of his book for students. To do all one can for the convenience of the reader is surely a part of the "good manners" of authorship'. R. F. A. Hoernlé, 'Structure and Growth of the Mind' (Critical Notice) *Mind,* New Series, XVIII, (1909), pp. 268.

and behaviourism, issues concerning mind and consciousness began to be seen as no longer topics for fruitful philosophical discussion, but rather avoided or smothered under linguistic analysis. This remained the case well into the latter half of the twentieth century.

Doubtless, for all these reasons, it is understandable why Mitchell is little read today. However, this doesn't mean that he is not worth reading. I have argued elsewhere that Mitchell substantially anticipated themes in present day cognitive science as well as presented a very different kind of Australian materialism than the one that later grew—virulently, as it turned out—from Adelaide soil.[60] This is interesting from the point of view of the history of philosophy; specifically, the history of an *Australian* philosophy. Further historical research might uncover just how extensive and important this influence has been.

8. Conclusion

This chapter has looked in general terms at the work of William Mitchell, a philosopher who, for a variety of reasons, has largely been ignored by philosophers and their students—both in Australia and elsewhere. Perhaps it is time to revisit these influences and assess their contribution to the shape that Australasian philosophy has taken since then. This is surely of matter of considerable historical interest to others in the field.

While Mitchell's work may not have had the enduring impact that it deserves, it does represent an intellectual bridge between the Scottish influences that arrived on Australian soil, and the later materialist and realist traditions which followed—beginning with Anderson, but later made famous by Armstrong, Smart and others. This connection is important for our understanding of Australasian philosophy, but also our understanding of the influence of the Scottish philosophical diaspora. Moreover, I have intimated that Mitchell's work is not merely of historical interest but may also have relevance to contemporary work in cognitive science. If

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[59] J. A. Passmore, 'Philosophy', in A. L. McLeod (ed) op. cit., (1963), p. 145.

[60] W. M. Davies, 'Sir William Mitchell and the New Mysterianism', *Australasian Journal of Philosophy,* Volume 77, No 3, September (1999): pp. 253-257.

true, this loss remains a great intellectual oversight, as well as a national tragedy. At the time of writing, the extent of this influence remains lost to others.

This loss does, however, have a positive side. Mitchell's work represents a unique intellectual time capsule of nineteenth century intellectual concerns that have twenty-first century relevance. It remains very much unstudied, and hence, unappreciated; but because of this, also unencumbered by decades of misinterpretation by others. It may be time to unlock the capsule and look inside.

Chapter 2, Science and the World

> Nature acquired the sensible world by the coming of mental life.
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> QL, p. 11.

1. Introduction

This chapter aims to introduce, in general terms, Mitchell's ontological commitments; including his critique of Humean empiricism. The chapter includes a brief discussion of his views about the nature of mind, and his account of the nature of a "thing". I also discuss Mitchell's account of explanation including his account of the taxonomy of the sciences, including empirical and scientific, real and didactic explanation and the physical and non-physical sciences.

2. Mitchell and Materialism

As we have seen, Mitchell sympathises with the materialist approach, especially its claim of physical causes and identifiable brain states for mental events. However, he also inherited idealist views and is critical of what he terms the 'presumption of a likeness'[1] between mind and brain, which suggests he is sympathetic to dualism. Yet, as we shall see later, Mitchell rejected materialist, dualist and idealist labels on the grounds that all positions confuse the notion of a "thing". The question is: What were Mitchell's ontological commitments?

The standard opinion was that Mitchell was an idealist. The customary view was that Mitchell was part of a triumvirate of Scottish-born idealists who dominated the Australian

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1 SGM, p. 24.

Philosophical landscape from the late 1880s until the early-1900s. As we have seen, the triumvirate included Henry Laurie in Melbourne and Francis Anderson at Sydney. [2] There is certainly evidence for this interpretation—and it is certainly the conventional view.

The idealist interpretation of Mitchell's work is given by Grave in his outline of the history of Australian philosophy—though he also notes that the evidence for this interpretation is somewhat ambiguous: Mitchell was, he notes, 'not a routine idealist'. [3] Grave cites the example where Mitchell says: 'No object is made mental, nor altered by being felt, imagined or known in any way' [4] which seems, on the face of it, to be a repudiation of idealism rather than an endorsement of it.

I shall be arguing that Mitchell's commitments are to a very weak form of materialism with respect to the mind (as I expressed it in the previous chapter, he is a *very cautious* materialist). I shall also argue that he is an epistemological realist. Given this, interesting links can be made with the realist and materialist theories which were later to dominate the Australian philosophical scene. Some of these issues will be dealt with in later chapters, but for now we shall look at Mitchell's views on the relationship between ourselves, science and the world.

3. The "Quarrel"

The central problem of epistemology—Mitchell calls it the "quarrel"—is this: We assume that the world is beyond our minds and exists independently of it. However, when we reflect on the nature of the world we find that it does not seem independent at all, it seems to be inextricably tied to our senses or our capacities to sense. Hume found this to be grounds for empiricism; and Berkeley, phenomenalism. The quarrel is that our realist intuitions are not supported by the fact that we only have access to the world via our senses. Mitchell claims that, once identified, this is a problem which will be 'repeated for all time'. [5] It is clearly important for

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2 'Together with William Mitchell at Adelaide, these three Scottish professors ensured the triumph of idealism in Australian Universities by the turn of the century'. Brian Kennedy, *A Passion to Oppose: John Anderson, Philosopher,* (1995), p. 75.
3 S. Grave, *A History of Philosophy in Australia,* (1984), p. 26.
4 PMW, p. 33.
5 QL, p. 8.

Mitchell to put the quarrel to rest: 'The quarrel is about nothing but the real existence, and the real worth, of the things we know, value, and realise'. [6]

Our initial reaction to this is to suppose our senses "mirror" the world, or are "impressions" of the world. We invoke terms such as "copying" or "resemblance" to capture the relationship (Hume's solution). The analogy, however, is unsatisfying, as sensation is neither an impression of objects, nor a copy of them. Moreover, other organisms experience a world in very different ways to us, and so the copying metaphor can't be adequate: 'How can all those worlds be part of nature, and nature be one and the same for all creatures?' [7] The copying metaphor is a threat to realism.

Another way of approaching the problem is to suppose that we don't copy the world in our senses, we *produce* it (Berkeley's solution). The world we sense might be thus a product of the cerebral cortex; or, in Berkeley's case, God. This allows for a degree of individuality in how we, and other animals, process perceptual information, but it results in the world being the product of minds and this seems counterintuitive; as Mitchell says: 'we know that the object is independent of what we think about it'. [8]

Mitchell suggests that the way of answering the problem is by the metaphor of *completing.* Our representations of the world do not copy or produce the world they represent; rather, our minds complete the world by virtue of being a part of nature: 'sensible objects are completed by nature'.[9] This means that Mitchell is not committed, in a strict sense, to idealism. The external world is not a product of or confined to our minds; the world would have existed had things been otherwise. However, the world is ontologically influenced by the presence in the world of organisms who can represent that world in experience (note, this *doesn't* mean that the world is a product of such representations).

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[6] Loc. cit.
[7] Ibid., p. 10.
[8] Ibid., p. 11.
[9] Loc. cit.

This doesn't amount to idealism in Mitchell's ontology. Rather it amounts to something far more contemporary. Recent naturalist accounts of dynamic representational systems advance the idea that intentional systems are a product of an embedded dynamic exchange influenced by feature landscapes.[10] Along with the assumption of "embeddedness" or "situatedness" of cognitive processing—as opposed to an account which emphasises detached, general-processing devices—the dynamic systems model advances a bold new paradigm for the origins and explanations of conscious, experiencing organisms. The situatedness assumption, in particular, has implications for ontology: how the world is depends on interpretive contexts of such systems. [11] Some even argue that this leads to 'an ontologically plastic (though ... still highly constrained) world'.[12] It is this kind of ontology that Mitchell is advancing. Given that minds exist, they play an important part in the world of physical objects: they complete them, making them accessible for certain other physical objects that sense things. He explains:

> Completing is the final verb against copying and producing. It takes up what is true in them, and rejects the rest. At first we presume that nature, like the sensible world, consists of phenomena; we copy the whole from a part. The whole does not copy, it completes; nature is the system of phenomena. The system does not consist of them, nor of anything that can be imagined, for to imagine is to copy. The other verb does better for itself. While copying pioneers, and then departs, producing remains. ... But who could believe that [nature] completes [phenomena] and takes over all phenomena as parts of itself, no matter what our organs or our points of view, to say nothing of the queer worlds its own in which animals have to live? .... Nature acquired the sensible world by the coming of mental life. [13]

However, this doesn't mean that for Mitchell, phenomena (objects of sense) are a part of this world at *all* levels. Mitchell's metaphor of reality is that of a "surface" of an ontological structure which includes phenomena, but at deeper levels of the structure there are no such entities. It is at the "surface" where we operate as conscious creatures; lower down we have no conception of the real world at all. Perhaps like a multi-dimensional hyperspace of which we

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[10] W. Christensen and C. A. Hooker, 'An Interactivist-Constructionist Approach to Naturalism, Intentionality and Mind' (1999); see also T. van Gelder, 'The Dynamical Hypothesis in Cognitive Science', (1998); and Port and van Gelder, *Mind as Motion* (1995).

[11] See A. Cussins, 'Content, Embodiment and Objectivity: The Theory of Cognitive Trails', *Mind,* 101 (1992): pp. 651-688. See also, J. Barwise and J. Perry, *Situations and Attitudes,* (1983).

[12] Wilson, R. A., and F. C. Keil (eds), *The MIT Encyclopedia of the Cognitive Sciences,* (1999), p. 770.

[13] Loc. cit.

have access only to certain dimensions:

> Wide as it is, it is only the surface of nature; but always of nature. The depths, infinitely vaster, do not contain phenomena, far less consist of them. The surface is their phenomena. They did not appear before there were organs of sense. In those earlier days nature had no phenomena. [14]

This is, to say the least, a rather unusual metaphysical position. Along with the realist, Mitchell admits that objects are independent of what we think about them; however, with the idealist, he acknowledges that we only have access to the world by means of our senses. He refuses to admit the empiricist and phenomenalist conclusions that nature is mind-dependent; that sensations are impressions or copies of objects, or that objects are products. Yet he cannot ignore the compulsion of the problem that access to a world without senses is unachievable. His solution is that phenomena are part of a natural world which is completed by means of sensing organisms. It is, in effect, a world which is entirely opposed to the world which is sought by science; that is, a world beyond perspectival appearances. Mitchell's is a real world, but one which *includes* phenomenal experience at the "surface".

The primeval world (without sensing creatures) was "real" enough, according to Mitchell; given that there are such creatures, there is still a real world, but one which is *completed* or made fuller by minds:

> [M]ind finds and occupies a world of nature which is neither extracted from the primeval one, nor an addition, but the very world from which all has been discovered and extracted. This new world, which contains the old, came when life became conscious. Life became mind, and its appearance or surface is consciousness; nature became a world of objects, and its appearance or surface is the sensible world. The surfaces prove themselves in conscious lives of animals, and they remain the critic of the under-surface explanations which make them more intelligible than they make themselves. [15]

The last remark refers respectively to: our lives as conscious creatures—the way in which thing seem to us in experience, the "surface"; and, the means by which we attempt to explain this conscious life (e.g., physical or scientific explanations), the "under-surface". Mitchell's

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[14] NF, p. 7.

[15] Ibid., pp. 12-13.

point here is that conscious minds may not be entirely intelligible to science, though they are quite intelligible to us since we live in the world as conscious creatures. A scientific understanding of mind as a brain state may be more accurate and informative in one sense; however, it is only in living that minds "prove themselves". [16] He also notes that, in life we routinely have no explanation for the ground of our experiences (what "colour" really is, etc.) and that we readily 'become liable to notions ... that what is felt occurs in the brain ... and that the brain is the place of the mind'.[17] As we shall see later, this account anticipates a number of contemporary views. We shall return to this in Chapter 5.

What brought about this metaphysical stance? Retracing Mitchell's reasons for it helps to grasp his general position. The principal reason for it was to respond to the issues raised by Hume, Berkeley and Locke. However, if this was the only reason, they would be of little metaphysical significance for his account of the structure and growth of the mind. There are two other reasons which are important: 1. the influence the empiricists had on the development of the notion of a "thing"; and 2. the developments in the sciences (especially physics). We shall look at each below.

4. Mitchell's Notion of Things and the "Two Errors"

In this section we will look at Mitchell's discussion on the notion of material entities in general. In a later chapter we shall see his theory of mind in some detail. If Mitchell's rejection of materialist, dualist and idealist accounts is based on their assumptions of what a "thing" is, we are entitled to ask about Mitchell's conception of the same. This will lead us eventually to his theory of mind, by way of his account of science, and his account of the realism/idealism debate. First, though, what, to Mitchell, is a "thing"?

The question: "What is a thing?", according to Mitchell, is misleading. It is precisely this kind of question which gets us into the trouble about the relation between mind and brain. For we are, in fact, asking something which cannot be answered. Mitchell refers to two "errors" which give rise to this problem: one is the error of incorporating into our notion of mind

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16 This is called the "principle": 'Minds in living prove themselves, and ... knowledge is living'. PMW, p. 6.
17 He calls this the "narrow" reading of the principle—for Mitchell it is false and misleading. Ibid., p. 8.

features which we attribute to our ordinary conception of a physical thing: namely, a "core or substance" in which cohere various attributes of things. The other error is bringing to our understanding of mind the nature of the attributes themselves that we attach to ordinary things—attributes like "round", "sweet", and so on—"secondary qualities" as philosophers call them. Both errors are the legacy of the empiricists. I shall discuss each error in turn.

4.1 The Error of Core Substance

On the first, Mitchell notes that we consider there to be a number of attributes which belong to things. Our very language encourages us to believe that ordinary things themselves have an ineluctable "inner" nature and this leads us to the hypothesis of the notion of a thing:

> An orange has colour, taste, size, shape, durability, and whatever other attributes we may discover; but there is a vague notion that no list of its attributes can exhaust it or any thing, that there remains the "it" as the subject which has them all.[18]

Mitchell informs us that there is an evolutionary explanation for this. As creatures we have to survive in a world by reading the signs of nature. Because we function in a world of signs, we tend to project out the signs as qualities belonging to objects:

> [A]n animal must learn the signs of prey or other food, of enemy or other danger; it has to measure times and distances, and unite shapes visible from all angles. The more signs the more qualities in the object, and the more qualities the more signs; an object becomes common to several senses, an object of common-sense, a thing. [19]

The problem is that, in assuming that there is an "it" in which attributes inhere we are, in effect, limiting the way in which we can discover the nature of the things in our experience, thus committing us instead to an endless search for attributes: 'For whatever we might think to know of it would only be another attribute belonging to the "it"'[20] Another possible response is the Kantian approach that the real essence of things is, itself, unknowable. We can only know attributes, not the "thing in itself". Of course, neither the idea that there is an endless

18 SGM, p. 16.
19 NF, p. 6.
20 SGM, p. 16.

number of attributes to which belong to things, nor the idea that the inner nature of things consists of an "unknowable core" are very helpful hypotheses.

For other animals this quest is 'bounded by the reach of their senses'. [21] For mankind, however, we are not limited by our senses: 'man extends his reach first by instruments in aid of sense, and by the apparatus of experiment; it remains for imagination and reason, ... to carry on alone'. [22] The result of this is a futile pursuit of attributes and the explanatory cores of things. It leads to an infinite progression of imaginative guesses. [23] Mitchell describes this as the 'course from surface to depth, flower to root'. [24] This does have its positive side in respect of 'cultivating the field of sense', [25] but, according to Mitchell, it is an ultimately futile means of explaining things (see below the section on the sciences).

We began with what nature provided for us by way of explanation—our senses—but we seek more on the basis of imagination and reason. Our reason functions as an "appetite", we 'hanker after the explanation ... and, when we do not find it, we think we have a mystery on our hands'. [26] We seek an unknowable "core" substance. But, the "explanations" we do find on the basis of reason and imagination often do not satisfy, and we remain perceptually inflexible, preferring the evidence of our senses above other evidence. [27] We shall return to our inflexible senses and the "unknowable core" later. The "error" just described is the error of the core substance.

4.2 The Error of Attribution

The other "error" which is made in relation to things in our ordinary experience is the error of attribution. It goes hand in hand with the error of the core substance. We attribute too much to the *objects* we experience, and not to the dynamic *relationship* that we have with the world. In

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21 Ibid, p. 9.

22 Loc. cit.

23 He describes one such case when the classical system of mechanics gave way to the kinetic theory of gases, the physics of aether, electromagnetism and so on. NF, p. 12.

24 Ibid., 12.

25 Ibid., pp. 11-12.

26 Ibid., p. 13.

27 'An astronomer sees the stars as he saw them when a boy, for all his better knowledge; if you convince a man that they twinkle only in his head, his eyes will not believe you. Is it because reason, though old, remains free as yet, while perception far older is bound?'. NF, p. 13.

Mitchell's metaphysics the second is important, the first is in error.

Appealing once again to the case of attribution in the case of an orange, Mitchell notes that attributes are seriously misleading—we regard objects to have properties, when in fact they don't have them at all: 'It is, no doubt, a shock to our common sense that things have no colour nor taste when they are not being felt, but are only a structure that has no sort of likeness to these sensations.' [28]

The structure he has in mind here is that which disciplines like physics and chemistry aim to discover in terms of underlying primary properties ("core" substances). In the sciences, the attributes of things are routinely discarded in order to reach the *cause* of them. Attributes are, on this account, routinely investigated in ordinary life, but frequently ignored in the sciences. In ordinary life we live by ascribing attributes to things as though they had them (oranges with tastes); in the sciences, attributes are regarded as irrelevant: 'physics has no concern with feelings and their course'. [29]

How is the difference in epistemological attitude to be explained? Mitchell claims that the difference is a function of bad epistemology. He makes the familiar point that although we might be prepared to acknowledge that attributes are less important than the causes when we do science, we do not carry it through to its logical conclusion and see that all properties must be seen in terms of the effect that they have on our organs of sense—even the so-called "primary" qualities themselves. The mistake that we make is to not continue the process of regarding all things as being connected to our potential to sense them:

> But we make the same error about this bare skeleton of a thing if we still think to compound it from our sensations, ... [This is] perhaps the best example of our mental inertia. For if we thought a little, we should hardly be satisfied to say that the qualities and relations of things that we know by our skin and our joints are real, but not those that we know by our other senses. There is nothing in sensations by skin, joint and tendon, to give their objects a better claim to exist unfelt in the form that we feel them, than cold, colour and taste. ... [The physicist] seeks common denominators in whose terms the variety of physical phenomena may be expressed and measured. And the denominators are also phenomena; they are objects of perception, or aspects

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28 SGM, p. 18.
29 NF, p. 16.

> of such objects; they have to be expressed in terms of sensation, for there is no other knowledge of physical things. [30]

Elsewhere:

> But, you may ask, what then is a thing by itself apart from other things, and from being perceived? We have seen that it is not any unknowable core, but just the attributes in their systematic connection. Well, you ask, what is this system or set of them, apart from other sets? The answer is that we know of none apart from others. It is wrong to suppose that a thing would be what it is, or have any attributes left, in the absence of all other things. To ask what a thing is in that case is really to ask what a thing is which it is not. ... A physical thing is neither anything in itself out of relation to other things, nor do we know it for anything but an object of which, directly or indirectly, we can have sense experience.[31]

Mitchell's argument at this point is virtually identical to Berkeley's rejection of indirect realist accounts of perception. However, his conclusion is somewhat different. His point is that our "mental inertia" prevents us from taking the step from recognising some qualities as being secondary, to recognising that all are. There is an unavoidable logic in the slide from indirect realism to phenomenalism. In this passage there is, it seems, little doubt about Mitchell's ontological commitments: he is no materialist; his idealist sympathies are clear. In this sense, we can see why Mitchell was lauded as an idealist philosopher. However, unlike Berkeley, if he is an idealist he is a very odd one indeed. For, as we have seen, Mitchell does not want to attribute reality to human-centred mind-constituted "ideas" as Berkeley did, but to attribute it to an interconnected seam of experience of which us, the world, our sensations and their objects are all a part (in this sense, he is indebted very much to Bradley). Mitchell was after a situated, dynamic-processing materialist account of the relationship between minds and the world, not idealism:

> [T]he things in nature that induce us do not exist but for minds. *They are not in heads;* they constitute the common-sense world; and the depths of nature are nothing but their completing. ... The power of the object lies in its value. Felt or meant, particular or general, it becomes a new kind of cause. *Physical though it is, part of nature, nature can do nothing with it but through minds.* [32]

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30 SGM, p. 18
31 SGM, pp. 18-19.
32 NF, pp. 18-19. Italics mine.

His response to the scientific attitude is to regard the attributes of things, not as providing evidence of a "core", but as providing some sort of "systematic connection" which effects, and in turn, is affected by other things in certain relationships. Just as taste, smell and colour of oranges affect our sense organs when we see them, so our senses, in subtle ways, produce effects on the system of attributes which constitute the orange—our senses provide the colour, sweetness, and so on. The advantage of this account is that one avoids the problems of unknowable cores, and concentrates instead on understanding the relationships of attributes which constitutes material entities. ('[W]hen we say that a thing has an attribute, we simply specify a part or a product of the system.')[33]

Mitchell notes that the standard response to this strategy is naturally a Humean one—the only response possible to this kind of latent "phenomenalism": the nature of objects and their attributions eventually should be considered only in terms of their connections that they have, and not the "thing" which bears the attributes. The "thing" should drop out of the analysis and be replaced. Objects thus should be seen as merely a collection of elemental relationships:

> [T]he real advance is made only when, with the substance, there is dropped that view of the attributes which required it, the view,... that they are merely a series or a collection. ... [T]he system of ... its attributes, and the notion of a structure, replaces that of the idle substance. [34]

Mitchell describes this move as an "advance", which suggests that it is this position with which he has some sympathy. And, indeed, he seems to be claiming that while this is the next logical move in the procession of thinking, it doesn't always follow that we make this move.

His point is not that this procession of thinking is necessarily wrong or misguided. Far from it. His point rather, is that exactly the same procession does and should apply when we think of the mind—only we do not take the final step: We first note that the mind has attributes: ('it sees and hears, ponders and revolves, is pleased and pained'). We then infer that there is a subject which has the attributes, just as we infer that there is an "it" which has the attributes of an orange: ('The union ... seemed to require a substance, something underlying, an essence, or

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33 SGM, p. 17.
34 Loc. cit.

core of reality'). We then begin to regard this "core" as being a useless notion. But then we should recognise that only the attributes remain: ('When this notion of mental substance was also rejected for its uselessness, there was a similar tendency merely to drop it, and leave the mental states as nothing but a series of events, and their elements nothing but a collection.')[35] The result is that our understanding of mind should advance from a thing which has attributes, to a collection of thingless-attributes, to a *structured series of events:*

> The I that thinks, acts, and remains the same individual, that in all experience is aware of itself, and sometimes takes thought of itself, so far from being a simple, structureless, indescribable somewhat, is the persistent growing structure itself.[36]

We don't usually think of the mind as a "persistent growing structure" embedded or situated in a dynamic world. We think of it still as a "thing"—for materialists, the brain and its various states; or, as dualists prefer, non-physical "properties" of the brain. So we do not, in fact, take this final step. Mitchell's argument against both monists and dualists is that both fail to see the mind as a *process,* not a thing. To Mitchell, the whole idea of there being a core or substance in ordinary things—be that "material" or "mental"—is an idea which really has little use. The error of attribution is to stop short of seeing primary qualities as attributes. The solution is to see those attributes as part of the structured series of events as well, minus the unknowable core.

5. The Developing Sciences

Mitchell's account of the developing sciences helps to explain why we fall into the error of core substance and the error of attribution. It is a function of our confused relationship with other elements of the structured system which constitutes Mitchell's ontology.

As we have seen, the sciences start their analysis of nature by assuming an explanatory "core" and regarding our attributions as redundant. They are more interested in what is "beneath the surface" of our experiences. In practice, the aim of the sciences is the 'completest

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35 Loc. cit.
36 Loc. cit.

separation of the events of external nature from those of human perception'.[37] Mitchell explains how Locke began this process by depriving things of all properties but those required by mechanics, and Hobbes added to this by suggesting that appearances were "apparitions".[38] However, while the sciences supported this view, Mitchell claims that what helped to set up this situation was, paradoxically, our very origin as a species.

According to Mitchell, nature produced organisms; organisms completed nature by experiencing phenomena; and then organisms developed intellectual mechanisms by which their own attributions were regarded as analysable, and ultimately eliminable from the progress of science:

> Was there not first nature unadorned, which became producer of life, then of sensitive animal surfaces, behind which phenomena came, and which later found an organ to project them as landscape, and the other apparitions? [39]

An objection to this account might be to respond that sciences, like geology, describe a real world long before organisms and their experiences. It seems *prima facie* implausible that nature itself created the conditions under which the sciences have devised ways to ignore phenomena. Why should it have done? The world has always been there independent of minds, and as such has had no particular connection with minds, "sensitive animal surfaces", nor their projections.

However, Mitchell anticipates this objection by arguing that this misses the point. There certainly was a real world before other organisms. As a "realist" he has never denied this. However, when organisms did arise, they brought a capacity to represent the world as phenomena too. This needs to be included in the scientific enterprise. To neglect this fact is to neglect what is most fascinating about the world: that it has managed to produce phenomenal consciousness. However, the traditional method of understanding the role of conscious minds

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[37] NF, p. 29.
[38] Ibid., p. 34.
[39] Loc. cit.

in nature is by dividing and conquering, separating phenomena from nature and ignoring the former. Mitchell describes this as: 'the royal road by which minds penetrate nature'. [40]

A world in which conscious creatures are part of nature is very different from a world before such creatures. There is no analogy here with the geological world before organisms. To suggest conscious creatures were not a major new ontological advance in nature is to take the strategy of simply doubling up mind and nature, assuming both are part of nature, creating a "hybrid", and then taking the "royal road": carrying on in one's scientific explanation by ignoring phenomena entirely. This is something similar to a sleight of hand card trick where one comes out with less than that which one started.

However, while this is exactly the way science has proceeded, this strategy has recently met resistance in the form of the new physics. With the overthrow of the idea of "space" and "time" and the understanding of "space-time", science now recognises that what were originally two concepts are no longer independent.

Mitchell claims that this is exactly the situation with respect to phenomena and nature. To ignore phenomena in one's scientific account and to focus only on nature is just like studying space without time or vice-versa. Mind and nature, once thought separate, are now thought conjoined in physics. Moreover, Mitchell argues that they have more than this in common; mind and nature and space-time exhibit relational similarities:

> [R]eal nature is ... related to its phenomena as space-time is related to space and time which are its phenomena. [41]

For Mitchell, the sciences are as much implicated in the confusions in our relationships between ourselves and the world as is the path of empiricism. He thinks that the sciences must be held to account.

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[40] Ibid., p. 14.
[41] QL, p. 24.

6. Kinds of Explanations, Didactic and Real

In what remains of this chapter I shall sketch Mitchell's account of explanation and his taxonomy of the sciences. Mitchell contrasts two forms of explanation: what he calls "didactic" explanation with what he calls "real" explanation. The term "real" is not meant to suggest that it is a form of explanation which takes priority over the didactic form; as we shall see later, if anything the reverse is the case.

6.1 Didactic Explanation

"Didactic" explanation constitutes that form of learning about the world by the growth of individual minds. This is especially found in children, but also in adults—indeed, it is essential to Mitchell's philosophy that living as an organism is tantamount to having a growing mind. Typical of this kind of explanation is the manner by which children unconsciously gain knowledge by accretion: by piling up and organising clusters of information—both perceptual and conceptual—into coherent patterns. Initially this starts by concatenating items; piling up words like stones joined by conjunctions. Later, familiarity with the conceptual glue binding ideas: concepts like time, relation, form and function, class and attribute, the child is able to put questions and "take interest" in the world before them and make coherent sense of it. This developmental process is particularly easy to observe in the interactions children have with their teachers:

> Every question that a teacher asks, every call to think about absent things or present examples, is a stimulus to greater definiteness and coherence in the mass, by drawing attention to its connections. The loose empirical character of a child's thoughts are seen in its description of things by a catalogue of striking qualities and powers, and in its narration of events by 'and then', 'and then', 'and then'. The system of its mass of thought becomes less empirical the closer and more definite the descriptions and narratives that are required. But the task is definitely undertaken only when the connections within the mass are separately developed, e.g., number, form, size, cause, and the classes of thing and attribute that are meant by the words of everyday speech. With this goes a gradual development of its power of taking interest, of putting questions, and of receiving explanations; and the power is always relative to the system which its knowledge of things has already assumed. All instruction, all explanation of the didactic sort, and all mental discipline deal directly with this developing system.[42]

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42 SGM, pp. 322.

We shall see examples of where adults inform by taking interest, and hence provide growth to the developing system of mind and content later.

6.2 Real Explanation

"Real" explanation, according to Mitchell, is 'not concerned with the development of knowledge in given minds, but simply with the development of knowledge'[43] It is, by contrast, a form of knowledge gathering which is "indifferent" to the growth of the mind by means of accretion of information and refinement of individual interest and mental development. It is, instead, explanation by means of *existing* knowledge. An example of this is in scientific knowledge which is ... 'a continuous building of the body of knowledge. The workmen come and go, but the work of the building goes on.'[44]

Real explanation takes two forms: the form which is contrasted with classification and description (the "special" sense of real explanation); in the second form it is inclusive of these notions (the "general" sense of real explanation). The second form is understood more widely in the sense that it does classify and describe in the standard investigative ways familiar to us in the empirical sciences—"normal science" as Kuhn would later use the term.

In the first form, Mitchell attempts to capture that kind of scientific theory or idea that makes no attempt to classify or describe the world, but rather to provide a heuristic or methodological model by means of carrying out more detailed descriptive investigation. Darwinism as a general doctrine of mutation by means of natural selection, is an example of this kind of explanation. (Neither "evolution" nor "natural selection" are notions which were not too tightly specified in Darwinian terms, nor in Mitchell's day).[45] This kind of explanation might be considered compatible with Kuhn's later notion of "revolutionary" science in the sense that it is a kind of explanation which aims for maximum generality—reaching beyond the current modes of description and classification to seek 'not to explain why things are as they are, but ... only the most economical way of knowing them as they are', which is

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[43] SGM, p. 324.

[44] Loc. cit.

[45] Evolution, in fact, encompasses at least five mechanisms: a struggle within nature for survival, natural selection, mutation, genetic drift and gene flow.

'satisfied with connections in the abstract ... with definitions of classes and with the statement of generic laws'.[46] Mitchell clearly has in mind here the kind of often rough, unrefined explanations which run cross current to the established kinds of empirical explanations expected of "normal" science (an example might be the bold conjecture that energy and mass are equivalent, for example).

The central point is that while "special" explanations satisfy our need to form "explicit thought of connections" about things in our experience, i.e., about form, mass, size, cause, form, etc; "general" explanations satisfy our need to form thoughts about the general relationships of things in nature. Neither form, according to Mitchell, should be taken as being separate. In fact, he claims that emphasising one form of explanation over the other is a "nominal confusion". Both special and general forms of explanation are needed in understanding nature. This is particularly true in the enterprise of science:

> Science does not explain why things are as they are, but seeks only the most economical way of knowing them as they are; every statement that makes a fact less isolated by connecting it with others does this in some degree; but the aim is not the primitive and the popular one which is satisfied with connections in the abstract, that is to say, with definitions of classes and with the statement of generic laws; for the aim is to reduce things and events not in order to find something more real than themselves, but in order to define them most completely [sic] as factors of a system, the system of nature.[47]

Mitchell notes here that while "connections in the abstract" are sufficient for ordinary purposes of explanation, they are not for the purposes of empirical investigation, which usually require a far more detailed, and much more "economical", account. This is certainly true when broad outline "revolutionary" science is considered. For while this consists of a type of explanation, it is invariably followed by the kind of explanation-seeking which he describes above. Hence, for most purposes, because of the need to seek "economical" ways of explanation, the second kind of explanation-seeking usually predominates. However, this does not mean he is outlining a priority of reductionist scientific accounts ("in finding something more real than themselves"); rather, he is placing both kinds of explanation seeking in the

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[46] SGM, p. 325.
[47] Loc. cit.

context of truth-seeking in general. Both are needed, but one is often preferred for economical reasons.

His points about kinds of explanations should be considered in the context of his systemic account of nature in general. His distinctions between real and didactic and general and specific explanations should not be seen in isolation from his account of mind and its place in nature. Finding explanations is, for Mitchell, crucial to locating oneself and one's epistemic grip on the world. And, this depends on one's already existing "ground" or knowledge base as much as it does on one's kind of explanatory seeking. One kind of explanation is, to another with a more detailed knowledge base, a mere description. One's knowledge base, of course, is constantly changing, so descriptions are sometimes taken as explanations, which in turn, give rise to further descriptions:

> The dodging tides on our coast, as described by a fisherman, are first explained by a chart of their periods. The chart is in turn only a description of the data, when the question is of their causes. Part of the cause being found in the positions of the moon, this explanation becomes in turn a description, as if on a larger chart, when the question is to connect it with the explanation of other movements; then the law of gravitation is the explanation. Finally, this law becomes a description, as if on a chart large enough to include a property of all matter, when the question is to connect gravity with other properties of material systems, e.g., elasticity.[48]

As we shall see, Mitchell's concept of explanation is entirely consistent with his view of the growth and development of minds and experience: 'what needs a mere observing from one person may be unintelligible to another, who is not yet capable of the requisite conceptual perceiving.' [49]

For Mitchell, the difference between describing and explaining is relative and not absolute. In this sense, Mitchell is a methodological relativist: the *means* of knowledge-seeking is relative to one's conceptual capacities and ability to experience; but there is a fundamental ground to one's knowledge-seeking which deepens as one matures and which is not relative at all. One's old knowledge is an explanation with reference to the "cruder data" of one's experience, because it states a ground for them; but itself constitutes the necessity of finding

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[48] SGM, p. 326.
[49] Loc. cit.

further grounds on which one's current knowledge is a mere description. This does not mean that the original crude data was wrong and the new data right; it just means that the ground of one's experience has shifted. One has moved from explanations to descriptions to further explanations, advancing and deepening one's knowledge as one goes.

This distinction is paralleled in the progress of science itself. The descriptive part of scientific inquiry is that part which constitutes "facts" or data; the explanation refers to the question or questions that has required scientific education. In the case of an established scientific issue which is not in dispute, the descriptive part of the enterprise is that part which 'does not care to specify grounds of connection, stating no reason of any kind' [50] for the established issue; the explanatory part of the matter is that which does give a reason and specifies a ground. In this sense, scientific progress consists of both kinds of explanation: real and special; descriptive and non-descriptive, as partners in a common pursuit—the deepening of knowledge and the growth of experience.

6.3 Scientific and Empirical Explanations

Another crucial distinction requiring mention here is that between "scientific" and "empirical" explanations. While most take these terms to be synonymous today, Mitchell carefully distinguishes them. The difference between scientific and empirical to Mitchell is defined in terms of the extent to which they permit explanation. "Scientific" means that kind of explanation which requires further systematic empirical investigation in order to establish its ground. An "empirical" explanation, by contrast, consists of various degrees of justification, the most common being the fact of an occurrence of something being experienced in a certain way in the past (he cites the example of ice being cold, which gains the status of being an explanation because it has always been thus). Thus for Mitchell, "empirical" explanations are something like inductive generalisations on which scientific explanations largely depend.

The different kinds of explanation mentioned taken together with the various divisions of the sciences, mark out the province of various fields of intellectual inquiry. These distinctions

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[50] SGM, p. 326.

constitute a framework for Mitchell's taxonomy of the sciences.

7. The Taxonomy of the Sciences

Mitchell divides the various kinds of intellectual inquiry into the "Physical" and the "Non-physical" (mental) sciences. Why he calls his various kinds of intellectual disciplines "sciences" is a function of Mitchell's intellectual optimism. Imbued with the spirit of nineteenth century scientism, Mitchell regarded all endeavours to be "scientific" or, at least, to be aspiring to be like it.

The Physical sciences are further divided into so-called formal ("mathematical") and material ("real") sciences. The latter are also divided into "formal" and "material" categories. There is thus a bipartite division in both categories. (See Figure 1 below.)

Mitchell's terminology in distinguishing the parameters of the sciences is slightly misleading. By "formal", he does not mean analytic formality (though the formal may include this category), and by "material" he does not mean what philosophers now call "contingent" truths (though this too is encompassed by the "material"). Drawing on the previous distinctions, he means something closer to the idea of enterprises which are satisfied by mere *descriptions* of the phenomena they deal with (i.e., those disciplines which are *didactic* and seek to add to the knowledge of individual minds by enumerating instances of "facts"); and enterprises which aim to *explain* what they deal with (i.e., seek to add to the sum of knowledge, disregarding the knowers).

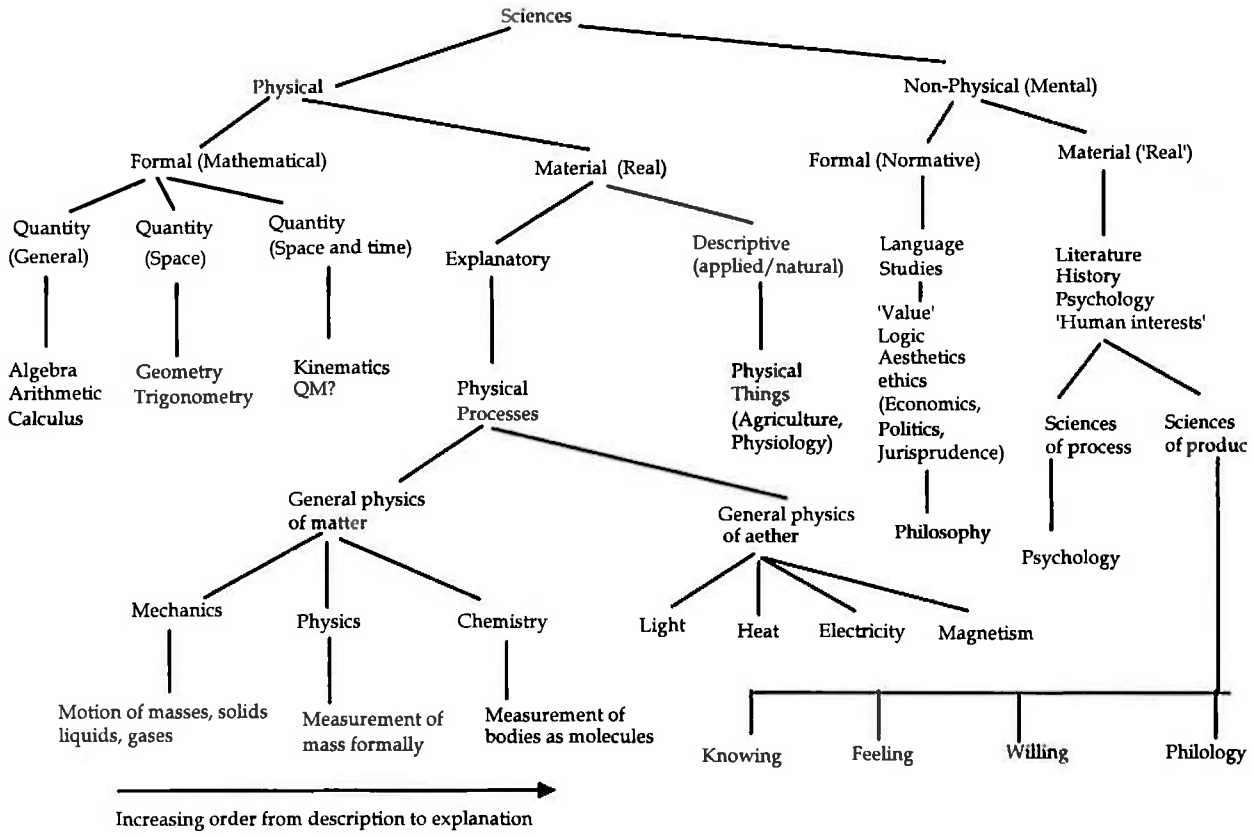

Figure 1: *Mitchell's Taxonomy of the Sciences*

7.1 The Physical Sciences

The formal sciences in this group consist of those sciences dealing in an abstract way with general quantity (algebra, theory of functions, differential and integral calculus); spatial quantity (geometry) and spatial and temporal quantity (kinematics). He calls these formal sciences "explanatory" as understood in the previous section, i.e., as disciplines 'dealing with mutually necessary, and so demonstrable, truths.' [51]

The "real" sciences deal with both explanatory sciences (concerned with physical processes) and descriptive sciences (dealing with physical things themselves). Under the first category are the various sub-disciplines of physics: mechanics, chemistry, thermodynamics, electromagnetism. [52] Under the second category, are included the various sciences of things

51 SGM, p. 328.

52 Mitchell divides these into two groups: 1. the co-called "general physics of matter" (mechanics and chemistry); and, 2. the "theory of aether", being the various areas which don't fit well under mechanical

'classed according to purpose': agriculture, engineering, therapeutics, physiology, astronomy, palaeontology, geology, bacteriology, biology, and so on. Interestingly, Mitchell allows that the mind be included in the study of biology in so far as it does not permit 'reduction to the common denominator'. [53] Precisely what this means will be the subject of Chapter 5.

7.2 The Non-Physical Sciences

Mitchell regards the non-physical sciences to have formal and real aspects too. The formal aspects are broadly concerned with language and its structure; the real aspects with "human interest" issues. Mitchell acknowledges that the various "sciences of the mind"—psychology, and currently, neuroscience, cognitive science and artificial intelligence—while dealing with issues concerning the "space and motion" of physical aspects of the mind, do not have a role to play in the study of the "direct" understanding of the mind. In this sense, the division between "formal" and "material" is not the same in dealing with the non-physical sciences as it is in dealing with the physical sciences. There is, instead, an asymmetry: the physical sciences do have a role to play in the direct understanding of the physical world, but they don't have the same role to play in understanding the non-physical world.

The formal side, being interested in language, is also concerned with disciplines requiring mental activity which use language as a medium. Mental activity involving language includes logic, aesthetics, ethics, and so on. However, this is not the only way in which Mitchell circumscribes the sciences of the non-physical. He says that they are also concerned with what he calls the 'conditions of existence and conditions of value.' [54] The aforementioned disciplines are considered by Mitchell to be "value" disciplines in so far as they are concerned with normative claims about how we live our mental lives: how we should reason, how we should regard beauty; what we should do to be good, respectively. Other disciplines which would belong to this group are jurisprudence, economics and politics; the "social sciences" as we broadly define them today.

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descriptions. In contemporary science, of course, the second group would be incorporated in the first.

[53] SGM, p. 330.

[54] SGM, p. 331.

Those disciplines on the side of the "real" non-physical sciences, Mitchell groups into two: the sciences of "process" and "product", respectively. The former consists of the enterprise of Psychology and its attendant disciplines. As it is understood here, Psychology is not merely the descriptive and applied science which properly belongs under the aegis of the physical sciences—i.e., which concerns itself with details about blood flow, reaction time of muscles, and so on (physiological psychology as it is called now). It is, instead, understood as the discipline which seeks to explain the "grounds" of the human condition in terms of its existence. This kind of psychology might include the work of Freud, Jung, Maslow, Rogers. Theorists like these seek to explain the human condition in terms of maximum generality. The sciences of "process" are thus understood as the disciplines which concern themselves with issues of "value" because they deal with different features of mental production which are considered valuable: i.e., logic, being concerned with the value of epistemological truth and validity; ethics, being concerned with value in practical life; aesthetics being concerned with value in objects which we regard as beautiful or worthy of contemplation. [55]

The sciences of "product", by contrast, concern themselves with issues of "existence". By product sciences, Mitchell has in mind things created by means of the various areas of human ingenuity, i.e., things that involve the sciences, the arts, the practical trades (the 'three great mental functions: knowing, feeling and willing'). Mitchell also associates language as "the most general product" in this category. Each of the more specific sciences of product are further divided into their sub-disciplinary areas, for example, literature (under the category of "feeling"); the various descriptive and historical areas of intellectual inquiry ('knowledge'); the practical trades of humanity, incorporating politics and social issues and concerns, which Mitchell groups under 'the conglomerate name of Sociology' ("willing"). [56]

Notice that the distinction here parallels the groupings in the "formal" category of the non-physical sciences which Mitchell labels as logic, aesthetics and ethics. The point seems to be that each of these areas can be seen as having "formal" and "real" or material aspects: the former—being normative sciences—lay down laws and principles and concern themselves

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[55] SGM, p. 332.
[56] SGM, pp. 331-2.

with discovering the "conditions of truth" of each of the areas; the latter—being sciences of product and process—concern themselves with discovering the mechanisms laying behind the actual practices and processes of these areas in society, not just their in principle desirability or otherwise. An ethicist or theologian, for example, (being "formal" scientists) may look at the rules or grounds of some moral principle independent of its actual practice in society. A psychologist or sociologist (being interested in "real" or "material" outcomes) may look at either the *processes* by which such practices are formed (social conditioning, paternal relationships), or the *products* (in terms of, say, deviant artworks) which are brought about by the practice in question. Of course, the extent to which these areas can be individuated is not clear in practice: a theologian or ethicist may also inquire into the processes and products that a formal moral principle leads to—but then his interests transcend the province of the "formal" and occupy that of the "real" as well.

Mitchell is also clear that his divisions are not merely divisions of the mind and mental functioning, despite the fact that he labels the categories with mental terminology—"willing", "feeling" and so on. As he notes, they are also 'laws of nature'. [57] Consistent with his claim that mind and nature are two sides of the same coin, the various divisions of sciences he mentions are all natural sciences in the sense that they have application to the real world, or at least a world that ought to be real. "Logic" deals with validity in knowledge (the truth conditional application of propositions stated to material conditions in reality); ethics deals with "value in objects for contemplation or absorption"; and so on. The discipline which deals with understanding this group of issues is, of course, Philosophy. Mitchell thus allocates a place for Philosophy as a discipline dealing with what, in his terminology, he calls the non-physical sciences of process and value.

7.3 The Subjective and Objective Sciences

Mitchell's taxonomy of sciences elaborated above can be conceived in two main ways: subjectively and objectively. The first, Mitchell says 'is based on our individual experience .. .

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[57] Ibid., p. 335.

when we argue from the use of our senses'; the second he says obscurely appeals 'to the system of things ... to be true to nature'. [58]

Mitchell draws a distinction between subjective and objective here which is not dissimilar to the familiar distinction as it has been understood since Hume and carried on in the work of Nagel.[59] However, it differs from the Humean division in at least one respect. Mitchell seems to anticipate the recalcitrance of subjective experiences, and issues in modularity, perceptual and cognitive illusions, when he says: 'A biased person is not well able to allow for his bias; illusions persist against our better judgements'.[60] He also acknowledges that subjective experiences are notoriously unreliable and sometimes downright misleading, yet he also notes that we rely heavily on such experiences—our own and that of others—despite their failings: 'We regard our senses, the strength of our convictions, and universal assent as revealing truth, not as creating it.' [61] In this sense, Mitchell is a realist, but a realist in which the subjective is allowed to "reveal" the world; and which comprises an important part of the grounds of conceiving reality. Nonetheless, we should, in Mitchell's view, have no reason to regard subjectivism or solipsism as plausible: 'We are aware that [the grounds of the subjective] are not fundamental, for they are not always to be had ... Even if our senses never distorted things, we are met by our old fact that they are not mirrors, and that we could not know them to be mirrors if they were.' [62] The acknowledgment that the subjective senses "are not mirrors", and "not fundamental" suggests that Mitchell is no empiricist and no foundationalist.

Realism grounds the veracity of subjective experiences according to Mitchell. But what kind of realism does he have in mind? We turn to this question in the next chapter.

8. Conclusion

This chapter has looked at Mitchell's ontological commitments, including his account of materialism and his critique of Humean empiricism. I discussed his account of "things" and

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58 SGM, p. 333.
59 See, 'Subjective and Objective', in *Mortal Questions* (1979).
60 SGM, p. 333.
61 Loc. cit.
62 Loc. cit.

suggested how his view anticipates some contemporary dynamic systems accounts. Finally, I looked at Mitchell's account of explanation, including his account of the taxonomy of the sciences.

II: Truth and Reality

Chapter 3, Realism and Idealism

> It is in nature, and other worlds of real objects, that minds place themselves, and feel at home, not in heads where they should feel in prison.
>
> PMW
> Jacket description.

1. Introduction

Mitchell claimed to be a realist, and not an idealist, as so many have thought. [1] This might seem to be hard to maintain against such pronouncements as: 'Nature is reality as it is presented to sense'; [2] and rhetorical remarks such as: 'what then is a thing by itself apart from other things, and from being perceived?'. [3] But such comments must be looked at in context of other clearly realist claims as: 'No object is made mental, nor altered, by being felt, imagined, or known in any way' [4] and: 'When your ideas quarrel with mine, and when they agree, it is because they claim to grasp the same object as mine, and to find it independent of our grasp.'[5] As mentioned in the previous chapter, if Mitchell is an idealist, as so many have claimed, he is a very unusual one indeed.

In an attempt to sort out this confusion, I shall outline Mitchell's contribution to this issue by first assessing the extent to which Mitchell was committed to the coherence, pragmatic and

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[1] As I have noted, most of the literature on the early development of Australian philosophy locates Mitchell within the idealist tradition, though some scholars admit that this characterisation is sometimes difficult to maintain. See, for example, Jim Franklin (2000), Ch. 11, p. 3; Selwyn Grave (1984) p. 26; Brian Kennedy (1995), p. 75; John Passmore in McLeod (1963), p. 146. By contrast, H. B. Acton, (1934) goes against this trend, proclaiming Mitchell's defence of 'an extreme realist theory of knowledge' (p. 243); J. W. Harvey (1934), similarly against the trend, calls Mitchell an 'uncompromising realist' (p. 105).

[2] SGM, p. 22.

[3] SGM, p.18.

[4] PMW, p. 33.

[5] PMW, p. 45.

the correspondence theories of truth. Later we will look at his account of intentionality and rationality. Finally, we shall see the important role that sensation plays in Mitchell's epistemology. I conclude this chapter by looking briefly at two recent accounts of realism and anti-realism. In the previous chapter, we looked at the metaphysical grounds to Mitchell's realism. In this chapter we look at the epistemic details.

2. Mitchell's Theory of Truth

There is substantial textural evidence that Mitchell's realism has the character of some kind of coherence theory. He makes this clear when he discussed the problem of how we come to keep or reject beliefs: 'We take and reject beliefs according as they are consistent with the system of beliefs that we happen to have formed'. [6] This point is supported by another passage discussing the problem which arises when competing beliefs are seen to give rise to incommensurable world views:

> Whenever we doubt, there is competition between two beliefs, each claiming support for itself, and rejection of the other. But, as a rule, we are not in doubt because the mutual dependence of our beliefs has a systematic character. ... some [beliefs] are readily rejected, causing little disturbance; others less readily because they cannot be rejected alone, but drag others with them; and there are some which so involve the whole system that they cannot be rejected without the ruin of all knowledge or belief. [7]

The "systematic character" of one's belief system clearly has some intuitive support; after all, we are genuinely surprised when the world fails to conform to our inductively-based expectations. Interestingly, Mitchell seems to be prepared to allow for the abandonment of some belief sets, but not others. He possibly has in mind here the kinds of beliefs that Quine was later to describe as being 'farther from the sensory periphery' then others. [8]

However, in science, radical coherentism is not the only game in town: were this so, then substantial scientific theory change—a common occurrence—would be a difficult exercise. However, on the same page, Mitchell's account clearly embraces both coherentism and some

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[6] SGM, p. 334.
[7] Loc. cit.
[8] W.V. O. Quine, in 'Two Dogmas of Empiricism' in *From a Logical Point of View.* (1961).

kind of epistemological pragmatism:

> We take and reject beliefs according as they are consistent with the system of beliefs that we happen to have formed, but what is the test of the system itself? How do we know that it is true to nature? The answer is not different from what we saw to be the warrant of perceptual belief, namely, it works. [9]

There seems to be an inconsistency here. Coherent beliefs may work, but that doesn't make them true (Ptolemaic astronomy, for instance, was coherent, and so is a madman's irrational belief that everyone is chasing him). [10]

By the same token, beliefs that work need not cohere with the systematic character of one's belief system in general (after all, seeing the sunrise *as a sunrise*—and not an earth-sink—is surely a very workable source of information, but that clearly doesn't fit in with our otherwise coherent body of beliefs about modern astronomy). If Mitchell is wanting to be a coherentist and yet insist that best practice epistemology, "theoretical fit", is a pragmatic matter, then he faces some serious epistemological difficulties.

Mitchell anticipates this problem by associating pragmatic beliefs with what he calls the 'expectation of sensations.' [11] The idea is that while beliefs are known to be true by the condition of pragmatic necessity, they are supported (or refuted) by the reliability of what our sensations tell us. Anticipating something like Putnam's "internal realist" position much later (see **§8.1** below), the veracity of beliefs is grounded not in the world ("externalism"), nor in our coherent conceptual schemes ("internalism"). Instead, what Putnam calls 'warranted justified true belief',[12] for Mitchell, is a mere regulative ideal which is true-for-us as long as the stream of sensation continues to justify and sanction its use. The "expectations of sensation" are what makes beliefs true, and this is, strictly-speaking, neither a matter of coherence nor pragmatism:

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9 SGM, p. 334.

10 But, importantly, in the case of the madman Mitchell notes that they are not coherent with *our* beliefs: 'We do not doubt that an insane person has the visions, and hears the words, that he professes, but we do not hesitate to reject them, because they are inconsistent with the rest of our beliefs', Loc. cit.

11 Loc. cit.

12 Hilary Putnam, *Reason, Truth and History,* (1981).

> Every belief that we have in the existence of present or absent objects or attributes is the assertion of conditions on which we have, or may have, sensation. And that we are having sensation and not dreaming is tested in the same way.[13]

Mitchell dismisses Descartes' much-cited "problem" about whether we are really consciously experiencing creatures or, in fact, perpetually dreaming: 'We fall back on the ultimate criterion every time that we wake up from a dream. ... we apply the one test, viz., whether our dream-beliefs consist with the rest of our beliefs: and we infer that we have been dreaming because they do not'. [14] For Mitchell, the truth of beliefs is gained from conditions of the world which are either satisfied or otherwise by the sensations that they engender. Were we dreaming, our anticipation of sensations would not be as predictable as they clearly seem to be. So we are having sensations, and are not dreaming, after all. To Mitchell, the argument about whether we are dreaming or not is easily settled. Furthermore, this "expectation of sensations" thesis allows for apparently coherent beliefs to be sometimes upset by the very conditions of the world which they aim to describe, thus ensuring the possibility of scientific theory change, and hence, some degree of scientific progress:

> Our system of beliefs about nature presents, as far as it can, the system of physical conditions on which we have sensation; and the system of physical conditions is nature. ... And we discover it to be an independent system, indifferent to our having sensation or other knowledge of it. [15]

This reference to an "independent system" clearly marks Mitchell as a realist. Nature's "indifference" to our sensations and knowledge is, in effect, a stipulation that theory is ultimately subservient to the way in which we interface with, and form connections about, the natural world we describe. His qualification, "as far as we can", signals that he thinks that sensations are imperfect sources of such data which constantly need to be revised and developed. An important point to note, is that while he is a realist with some conviction, Mitchell thinks that realism can be followed without compromising the very sensations which

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[13] SGM, p. 335.
[14] SGM, p. 334.
[15] SGM, p. 335.

allow us to access the real world he describes. That is, realism is not established by objective truth seeking alone; subjectivity is also part of his "realism" (we shall look at what role sensations play in more detail in **§5** below). He resorts to metaphor to explain this point:

> The connection between the grounds that we use, subjective and objective, empirical and rational, will be understood if we think of nature as a geometrical figure, where every part and change determines and is determined by the rest. It is the independent system of the conditions on which we have sensation, and so our sensations may be represented by points here and there on the figure. The problem for all our knowledge of nature is from the points to complete the figure. [16]

This is very much in line with Mitchell's dynamic systems account outlined previously. Organisms are situated or embedded in the world as experiencing creatures. The relationship between organism and world is a relationship built on the variety of ways in which organisms represent that world in experience which can be metaphorically plotted as points on a figure. How the world is, then, is a function of the interplay between sensing creatures and the conditions of the world which bring this about. Knowledge is similarly structured: it is particular representational formats which we claim to be "true" by means of what sensations they engender (i.e., whether they cohere with our other beliefs and whether they work).

This "independent system of the conditions of the world" constitutes the independent reality which is behind the sensations which we receive. And, like Kant, Mitchell claims that this reality is not something which we can directly know except by inference from the systematic connections we make through experience. Unlike Kant's *noumena,* however, Mitchell's position does not amount to a kind of closet idealism. He tells us the reason why we cannot know the world beyond our experience is not that it is essentially unknowable, but that the process of forming conceptual connections is by definition never-ending and incomplete:

> [T]he complete *ratio essendi* or *fiendi* of any total fact is an endless problem; for nothing less than the whole system of nature is involved in the complete determination of any event. [17]

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16 SGM, pp. 336-7.
17 SGM, p. 336.

This would seems to suggest a kind of epistemological hopelessness. However, Mitchell's entire philosophical agenda is to explain the "growth" as well as the structure of mind, and the mind's growth is not something which we have any influence over. Precisely why we continue to engage in the never-ending attempts to form ever-better connections with our sensory inputs, and thus build better understandings of the world we experience, is something which we return to in the chapters on the structure and growth of experience (Chapters 6-10).

Mitchell claims that this process of redefining the connections one makes in response to impinging sensory data is an endless redefining exercise. And this is so even in the case of what we describe as "laws" of nature. He explains this point with reference to the "problem" of induction:

> We know that crows are black, and green oranges sour, because they happen to have been so in our experience, and so far as we know; but we know nothing that would make exception to these laws impossible. Hence, the laws are said to be empirical, and to afford only an empirical ground for any beliefs that are based on them; and we change or qualify them without difficulty, when we meet the exceptions. ... We know with increasing certainty that the sun will rise tomorrow, not because every day is adding to the empirical proof, for every day adds hardly anything to the chance, but because we are becoming better able to detect any change in the conditions on which the rise of the sun is known to depend. [18]

The way in which we redefine our knowledge about the world depends on the kinds of connections we form in our experience by means of our incoming sensations. And these connections are predictive in nature, and draw on the responses we have and expect to have. With ever more regular experiences of a certain sort, we are compelled to regard the world in factual terms as being how we know it to be in experience. Although this procedure might seems circular, closer inspection reveals a realism which, far from being dogmatic, is actually responsive to the limitless potential changes in the variety of systematic connections we can form. He gives an example using the case of "laws" and "facts":

> [O]ur aim is to find the connections within the system, in order to make them the objective grounds of our belief. When they are fundamental we call them laws of nature, but so we may, however superficial they may be, provided, of course, they are the fact.

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[18] Loc. cit.

> For even to name a thing is to classify and so connect it; it is to place it under a set of natural laws, which are stated explicitly in the definition of the name. The difference between fact and law is really between particular and general fact. And laws are nothing in nature over and above the particular facts, which are metaphorically said to obey them. [19]

So "laws" and "facts", on Mitchell's view, are merely nominal designations for kinds of very predictable experiences (in the same sense as "faculties", as we shall see in Chapter 8, §7). However, we can't make any kind of predictable series of sensations into "laws". This is not a process easily followed in practice, for some sensations simply fail to conform to our expectations:

> A great part of our effort is wasted, for there is no way except by trial and hypothesis; but every success defines in some degree the direction of further effort, specifies the problems, puts some hypotheses out of court, and makes all of them less wild. [20]

"Wild" hypotheses are ruled out by noting the changes in conditions we expect, setting up conditions where we can have those expectations, and then eliminating those hypotheses if our expectations are continually thwarted. This process is similar to that undertaken by the sciences, where the testing and rejection of an hypothesis is raised to the level of an art form); but it is also the means by which daily experience is made rational and less unpredictable. Predicting the weather on the basis of previous experience, knowledge of local conditions, time and year, and so on, is a case in point. A "wild" hypothesis would be that it is going to snow in Adelaide in February. Clearly, such an hypothesis is implausible because of the conditions of our experience in the past and the kind of predictions we have made. To return to the metaphor, the expected points of the geometrical figure just can't be made to tally to the points on which our sensations actually lie.

Just as Mitchell is no traditional coherentist or pragmatist, he is not a traditional empiricist either. He doesn't think that laws are guiding objective principles "built up" from sensations which are grounded in, "mirror" or otherwise represent the propositions they denote (we have

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[19] SGM, p. 335.
[20] SGM, p. 337.

seen evidence for this claim in previous chapters). Moreover, Mitchell would have been no devotee of the kind of empiricism that was to eventually grow out of the Vienna Circle, in which sensations were regarded as brute facts. Sensations do no such thing. For Mitchell, the extent to which our experiences describe the world is, to some extent, a matter of the kind of connections one forms about the world; and this is a progressively developing exercise which deepens and becomes more accurate with greater engagement with the world. The "connections within the system" we currently have (for example, in the sciences) may be described at any particular time as "fundamental" or "objective", but that doesn't necessarily make them true. He is careful about this point. The connections, are instead, "grounds of our beliefs" which we *call* "laws of nature". And "facts" themselves describe particular forms of such connections, while laws have somewhat greater generality.

Mitchell's view is that facts and laws are mere plots on the geometrical figure—'the system of physical conditions [that] is nature'. [21] Laws are true in so far as they are predictively adequate for us, given the systematic character of our sensations. This doesn't make such "laws" true in all worlds forever (Mitchell's ontology is not objectivist and does not permit this); but nor does it mean that anywhere we plot points on the figure is as good as anywhere else (relativism). The whole system, not just individual beliefs, is always up for judgement at the "tribunal of sense":

> But, you may very well ask, have we not so far only subjective ground and criterion? We take and reject beliefs according as they are consistent with the system of beliefs that we happen to have formed, but what is the test of the system itself? How do we know that it is true to nature? The answer is not different from what we saw to be the warrant of perceptual belief, namely, it works. It is still a system of expectations, still expectation of sensations, and the test is whether the predictions can be made good. [22]

These points about facts and laws also apply to scientific and empirical investigations. While today we generally associate "empirical" with "scientific" means of inquiry, Mitchell distinguishes these as different enterprises (we saw this in the previous chapter—**§6.3**). Both, according to him, are merely different kinds of practical interests we have in describing the

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[21] SGM, p. 335.
[22] SGM, p. 334.

world, the empirical being the kind of practical interest in objects *qua* objects ('all matter exists as things, [which] have size, weight, can be moved, broken, and so forth' [23]); the scientific being the means of regarding the world as largely independent of our interests and needs. However, in terms of epistemic warrant, Mitchell makes the point that the difference between the two is really a matter of "the aim of knowledge" and nothing to do with one being more legitimate than the other:

> [I]f we brand some objective grounds of our knowledge as empirical, it is not because they need to be less valid than those we honour with the names of scientific and rational. Neither is it because they are not universal; for every law is universal with respect to the cases of which it holds, and none is anything beyond them. ... We call a law or a ground empirical with reference to the aim of knowledge. [24]

Mitchell allocates no special primacy of knowledge in the case of the "objective" sciences. In this sense, he anticipates themes in the later work of Feyerabend. According to Mitchell, the difference between science and other forms of investigation, is merely the difference in knowledge-seeking of various forms. Empirical inquiries, in his sense, are the kinds of inquiries in which something is experienced in a certain way in the past—what we now might call "inductive" knowledge derived from our senses. All such forms of such inquiries—scientific or empirical—are merely means by which we seek a *ratio cognoscendi.* So Mitchell thinks that the empirical is no less valid than the scientific; both are universal with respect to the domain of inquiry they attempt to explain; and both are equal as legitimate forms of knowledge-seeking.

How does this claim rest with his realism? It sounds from this that Mitchell is an anti-realist. However, unlike Feyerabend's radicalism in which any kind of endeavour at all—witchcraft, astrology, alchemy—is as legitimate as the practices of current day science, Mitchell is more circumspect about what he admits as "legitimate means of inquiry". Most of the enterprises which are admitted by the floodgate of Feyerabend's irrationalism, would simply be regarded by Mitchell as "wild" hypotheses and dismissed accordingly. The point is not that every kind

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[23] SGM, p. 335.
[24] SGM, p. ?

of activity or enterprise is on an equal footing with the objective claims of the sciences (which is clearly false); but that those enterprises for which "the expectations of sensations" continue to warrant empirical hypotheses are valid within the context of their own domain of inquiry. Inductive predictions about the sun rising, or middle-sized objects being coloured, for instance, are as *bona fide* as technical claims about molecular bonding in modern day chemistry. For those whose systems of beliefs permit it, astrology does useful work. It turns out, however, that for most of us, it doesn't.

In a similar vein, Nagel does not belittle the achievements of the sciences, regarding them as 'the only way to expand our knowledge of what is beyond the way [things] appear to us.' [25] However, he does suggest that this "view from nowhere" is not the only legitimate stance that can be made. In particular, he argues that the objective claims of the sciences, the tendency towards 'detaching oneself farther and farther from the human viewpoint' [26], is not sufficient grounds for regarding those claims as having a monopoly on truth: '[any] attempt to give a complete account of the world in objective terms detached from these perspectives inevitably leads to false reductions or to outright denial that certain patently real phenomena exist at all.'[27] The kinds of "real" phenomena Nagel has in mind, of course, is perspectival sensory experiences or *qualia.* These too, on Mitchell's argument, must be a legitimate means of knowledge-seeking. We shall return to this issue in **§6** below.

If Mitchell also anticipates Nagel in such matters, it would seem to suggest that Mitchell is, like Nagel, sympathetic to a dualism of content—a panpsychism in Nagel's case—and not a thoroughgoing materialism. However, while Mitchell is careful not to be drawn into scientism, he is just as careful to preserve his realism from the onslaught of various forms of idealism and dualisms:

> *Always there is an objective system independent of our ideas about it, to which they must be true.* This is so even when it is our own minds that we seek to know, and so it is when we inquire about other minds, ... Always we presume that the facts are fully

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25 Thomas Nagel, 'Subjective and Objective' in *Mortal Questions,* (1979) p. 26.
26 Thomas Nagel, *The View from Nowhere,* (1986) p. 14
27 Ibid., p. 7.

> determined apart from our opinions. Only on this presumption, indeed, can our ideas be true or false, or even probable or not. [28]

In summary then, Mitchell's realism is an unusual one. He is certainly a realist about the world; however, he is also a pragmatist about truth, a coherentist about justification, and an anti-objectivist about forms of knowledge-seeking.

3. Truth, Rationality and the World

We pass now from outlining Mitchell's general theory of truth, a kind of qualified coherentism with pragmatic overtones, to his account of what makes thoughts true and what makes minds rational; that is, his theories of intentionality and rationality. This debate has been discussed in the context of two historically important philosophical "challenges": i) Descartes' challenge and, ii) Brentano's challenge.[29] First, let's get clear about both problems. After this, we will turn to Mitchell's solution to each.

3.1 The Question of Rationality

The question of the rationality of thoughts was first posed as a challenge to philosophers by Descartes. He claimed as follows:

> [T]he rational soul ... could not be in any way extracted from the power of matter ... but must ... be expressedly created. [30]

Descartes posed a challenge about the nature of rationality by comparing human thoughts to that of a machine, and inquired as to whether such a machine could possibly possess rationality. (For a variety of reasons he thought it couldn't.) The question he then raised was: how *can* thoughts be rational? And, specifically, what brings about rationality in human minds? (Convinced by his own argument, of course, Descartes' answer was that the mind was *non-material.*) Few accept Descartes' solution now, yet his challenge, about *how rationality is*

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[28] SGM, p. 337. Italics mine.

[29] This characterisation is borrowed from Georges Rey, *Contemporary Philosophy of Mind: A Contentiously Classical Approach,* (1997).

[30] R. Descartes, in *The Philosophical Works of Descartes,* (1637/1970), p. 131-200

possible for minds, remains. Currently the issue is discussed in terms of how machines can exhibit "common sense", but the problem is essentially the same: viz., how can minds (machines) be rational?

3.2 The Question of Intentionality

The issue of the intentionality of our thoughts was originally raised by Brentano who, like Descartes, raised the issue as a challenge:

> [T]he reference to something as an object is a distinguishing characteristic of all mental phenomena. No physical phenomenon exhibits anything similar.[31]

Brentano's challenge was how a machine can possibly have true thoughts that *represent* the world. (What makes, for example, one's thought that it is raining accurately represent a state of affairs in the world in which it happens to be raining? What makes thoughts in the mind be *about* the state of affairs in the world they designate?) In contemporary philosophy of mind and cognitive science, both these issues—the *rationality* and the *intentionality* of our thoughts—are extremely important issues indeed.

Mitchell's answer to the question of representation consists of two parts: i) debunking the myth of mirroring; and, ii) presenting a positive account of intentionality which is consistent with his thesis about the structure and growth of the mind. His answer to Descartes' query about rationality emerges naturally from these points as we shall see later.

3.3 Intentionality, Rejecting the Myth of Mirroring

Mitchell attempts an answer to the problem of intentionality by dividing the issue into two related questions. The questions, he thinks, make assumptions which are flawed, but they bring to light his alternative account and the reasons for it. The questions are as follows:

> (a) By what means does the mind leap from a knowledge of sensations which are within it, to a knowledge of the quantities of things which are outside of it? And (b) assuming

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31 F. Brentano, *Psychology from an Empirical Standpoint,* (1874/1973).

> the leap to be made, so that a given sensation presents, or stands for, one quality of a thing, how does the same sensation stand for other attributes of the thing as well? [32]

The questions posed, he notes, are "in a form that is likely to suggest itself to you". Mitchell is, in other words, presenting the issue as it arises in common understanding of the problem, an understanding he argues to be in error. In response to (a), he notes: 'We do not discover a thing to be real in any mystical sense', he says, 'but in the same way that we judge it to possess any other property, or to come up to any other standard'. [33] His point is that truth claims about the nature of our experience are like any other kind of claim about the flux of incoming sensory data; they presuppose that there are sufficient grounds to assert them as having a particular property—in this case, the property of *being true.* There are no mystical leaps from the mind to the world, merely a kind of acknowledgment that such claims can be asserted with reasonable confidence. 'Every thought, even if only sensory, may have a real object; and, if the thought claims to be true, there are factors in the object as we think it that in our opinion warrant the claim'. [34]

What does this mean exactly? Is Mitchell arguing for a theory of intentionality in which *any* claim asserted to be true, is true? Doesn't this amount to a kind of alethic relativism? Or is Mitchell arguing for a position closer to that of Putnam's "internal realism" in which what is true is what is warrently assertable under epistemically idealised circumstances? We shall return to this only after a discussion of the account of truth which Mitchell explicitly rejects—the "copy theory", or what we would call now, the correspondence theory of truth.

4. Rejection of the "Copy" Theory

Mitchell clarifies his position by noting that both questions posed assume a "copy", "mirror" or "impression" theory of the mind, in which objects experienced leave traces on the mental processes. Question (a) assumes that there is a "gulf" for the mind to cross because it is steeped in the metaphor in which the mind is said to "copy or photograph things, or to reflect

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[32] SGM, p. 222.
[33] Loc. cit.
[34] SGM, p. 223.

them, or be impressed with their image". Question (b) does the same by assuming that the main attributes of a thing consist of the "vivid" copy of one quality, and that 'it excites more ghostly copies of the others'. [35] Both questions assume that the mind *mirrors* nature, and Mitchell was opposed to it. Long before philosophers, such as Rorty, railed against the same myth—the myth of the "Glassy Essence"[36]—Mitchell recognised that this account led philosophy into a situation in which *mirroring* was the only means by which claims about the world could be said to be true:

> The crude result of this way of thinking is the assumption that perceiving consists in forming an image or model of a material object out of a different kind of material, viz., experience. [37]

The procedure for debunking the force of such a view, Mitchell claims, is to first note that the metaphor of *sight* is inessential to the myth. *Visual* images are not crucial to the myth or mirroring, just as it is not crucial to reflections in water (strictly speaking, one doesn't have to *visually* represent an image for it to do the job of mirroring—reflection in water, for example, does the same job). Once one drops this, the myth simply becomes an assertion about how impressions or qualities in the mind match one another; in particular, the vivid impressions of the immediate object deriving from stimulation of external sense organs, in relation to "fainter" copies of those derived from memory. But this still leaves the gulf between the impressions and the object that they are allegedly impressions of: 'For there is now no connection left between thought and thing, whereby the thought may claim to be a thought of the real thing'. [38] Purged of the part of the metaphor where the impressions can be visually compared, we are left with the problem of when to tell if the sensations, that we feel in experience, can be correctly applied to the circumstances in the world which we claim to be true. But then the problem arises: *how* may these sensations be compared? Thus, '[a] gap is

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[35] Loc. cit.

[36] For a fascinating recent discussion of the origin of the myth, see Richard Rorty, *Philosophy and the Mirror of Nature*, (1980), especially Chapter 1.

[37] SGM, p. 223.

[38] SGM, p. 224.

left which the metaphor was meant to fill'. [39] (This objection demonstrates Mitchell's debt to Thomas Reid.)

While "sufficient for ordinary wants", this mythologised view is fairly clearly a confused account. It mystifies the connection between thoughts and things, but it also creates difficulties when we begin to ask questions about our belief in our "sense of reality" that lies beyond our thoughts. For if our minds only contain impressions and faint copies of them from memory, and the world consists of physical things, then from where do these beliefs about reality arise? The mirroring metaphor does not help in answering this question. For if the mind really forms mirror-like representations of the things in the world, then one might expect that our beliefs about reality come from our sensations drawn from the world through experience.

How is this possible on the terms of the "mirroring" account? A moment's reflection will show that the story is incoherent. Such beliefs about reality cannot arise from the world itself (for, as Descartes noted, there are many ways in which "reality" can be doubted, e.g., in dreams, by supposing that an evil demon is influencing one's perceptions, etc.); nor, however, can they arise from experience itself (for experience yields false beliefs which often cannot be resisted, for example, sticks seeming to be "bent" in water); nor can they arise from the "strength of association" among sensory impressions (for a belief in there being a real world is often gained by practices other than association of sensory impressions, e.g., simply "humming an air"). It seems that wherever our "sense of reality" comes from, it is not from such impressions:

> [Our sense of reality] is a belief that is present in our dreams, where it is always wrong, as well as in our waking life, when it is usually right. It is not due to the mere number of elements of the complex, nor to a feeling of their likeness to anything, nor even to the vividness of the strong ones. For the vividness may be resisted, even at the perceptual level of intelligence; an image in a mirror, for example, is as vivid as ever after we have learnt to discount it. Nor finally, does the belief lie in the strength of association among the sensations, whereby one inevitably brings the others to mind; for, in the first place, that happens when there is no belief, as in humming an air, or in repeating anything familiar, however nonsensical; and especially, in the second place, because our belief is not in the connection of our sensations with one another, but in their connection with reality. [40]

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[39] Loc. cit.

[40] SGM, pp. 224-5.

It is interesting to note here that Mitchell thought some sensory impressions (e.g., the image in the mirror) to be *cognitively impenetrable:* we cannot overrule some sensations even if we know them to be other than they seem to be in experience. J. A. Fodor is famous for raising this point in another context (we shall return to it in Chapter 8). These points suggest that Mitchell was sympathetic to something very much like a *modular* account of perception at certain levels.

What the passage also suggests is that, for a variety of reasons, Mitchell thought the myth of mirroring is flawed and it must be given up. He is clear about this:

> When we ask how our sensations can be true of things, it is natural to treat the question as if it were asking how a picture is like the thing it represents. And so reasonable does the question seem that, when we cannot answer it, we think it beyond the measure of our minds, instead of rejecting the assumption in it. [41]

Mitchell explains how this situation has arisen in terms of two lines: the *living* line and the *correlation* line. His claim is that the myth of mirroring is a function of confusing the living line and the correlation line. This confusion is associated with two views: the *artificial view* and the *superficial view.* On their own, both "views" give a misleading picture of the relationship between thought and reality; both, in his view, have been the cause of the separation between mind and reality (and hence, Brentano's problem).

4.1 The Living Line and The Correlation Line

The lines designate two things: 1. the epistemic proximity of minds to the world within the geometrical figure; and 2. the explanatory physical conditions which give rise to this relationship. They are clearly not the same thing. To adopt an analogy, Eddington's "two tables" are explanatory in one sense: the "common sense" table is just the "scientific table" at a different level of physical detail. Each part of the physics of the table can be described and correlated with higher levels, atoms to molecules, to arrangements of those molecules, and so on, right up to the table we know in common sense as a solid object. However, in terms of

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[41] SGM, p. 225.

epistemic access the two tables are extremely far apart. They may be ontologically identical, but epistemically distinct. After all, we have access only to the table we experience, not a table of atoms in the void. Reducing this difference to zero is the aim of science, although this move seems to be continually resisted by common sense. In Mitchellian terminology, one table lies on the living line; the other lies on the correlation line.

The living line, Mitchell claims, is 'not within the brain, but between seeing and light, hearing and music, counting and number, plotting and the plot'. [42] On the one side of the line is the feeling, the mental state. On the other, there is no feeling but physical conditions. It is, in other words, a line between feelings and the physical conditions under which feelings occur. According to Mitchell, we live on the "surface" of this line: lives which consist of felt mental states supported by unfelt physical conditions. Like Spinoza, Mitchell claims that these are "aspects" of the living line of our lives. We can't correlate the two sides of the line; they are simply lived differently.

The correlation line *is* within the brain and it is also two-sided: 'between seeing the light and the brain events'. [43] The "seeing the light" is not a mental feeling but the activity of a physical achieving. The other side of the line is the explanation of that achieving in terms of brain events. Unlike the "living line", on the correlation line events can be perfectly correlated as physical descriptions of other segments of the line lower down. Thus, we can explain an achieving such as "seeing the light" in wholly physical terms:

> The green of the grass out there can be correlated perfectly with the stimulus hence to my eye; also, though imperfectly, with the effects that it produces on my eye; finally, and quite imperfectly, with the brain effects. Between the events in the four—green grass, stimulus, retina, brain—there is no likeness, though they correspond completely; in particular, it is only the grass that is green. The grass is not green in the dark, because the stimulus is absent, nor green to the colour-blind, because a retinal structure is absent.[44]

However, the "mistake" comes, according to Mitchell, when we 'convert ... the correlation line

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[42] NF, p. 23.
[43] Loc. cit.
[44] NF, pp. 23-4.

into the living one'. [45] This results in us simply adding to the correlation list, the surface of the living line; i.e., the *feeling* of colour in us when we see the grass. This is natural and easy to do because we mistake the achieving (the seeing of the grass) with the *feeling* of seeing the grass; but they are, in fact, on different explanatory vectors. This makes it seem as though the *feeling* of seeing the colour is last on the list, preceded by the green, i.e., the colour of the grass. And, this to Mitchell, is absurd:

> At first we add the seeing to the series as a fifth event, but that will not work. For the seeing does not come after the green; there is never one before the other; ... you cannot have the seeing in one place, and the colour in another. The difference between the two lines is as obvious as that. [46]

It is not as obvious as Mitchell claims, but I think the point is clear enough. What is especially interesting is that Mitchell claims that this confusion is a result of reasoning which has guided empirical disciplines, such as physics, into directions which are not their natural province. Mitchell suggests that physics has extended beyond the boundaries of its enquiries into nature ("lived nature") and turned to a discovery of fundamental *causes.* This has meant that physics: 'though sworn to the surface where the living line is, went into heads instead, took the line that is never felt, and puzzled about the crossing'. [47] What has recently emerged, much to the surprise of physics, is that causes cannot be pursued independent of the living line (i.e., felt experience). Space-Time and problems in quantum mechanics were the "discoveries" which led to this rethink. [48]

However, it wasn't just physics which was made to pause. It was clear that the conflation of the living line and the correlation line was unsatisfactory for philosophical explanations as well. This resulted in various methods of rationalising their dissonance in explanatory space. These methods are called the "artificial view" and the "superficial view".

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[45] Ibid., p. 24.

[46] Loc. cit.

[47] Loc. cit.

[48] Another function of the confusion has been our habit of "putting feelings outside the body". Hence, 'it is my hand that feels cold some feet away from my brain, it can be the sun that feels hot at no matter the distance'. PMW, p. 61.

4.2 The Artificial View

The artificial view is also known as the *radical* view in Mitchell's analysis. Given that there is a difference between the living line and the correlation line, it adopts a reconciliation by assuming nature to be like the surface of the living line and 'presum[ing] an observer for everything' [49] This has radical consequences for the relationship between mind and world, and guarantees idealism. By making the mistake of thinking that the depths of nature are like the surface, it 'carr[ies] the blunder down'. [50] For reasons mentioned in earlier chapters, Mitchell has no time for this kind of analysis.

4.3 The Superficial View

This view is also known as the *conservative* view in Mitchell's analysis. This view accepts the distinction between the living and correlation lines. It also assumes that while sensations are in the mind, objects are also external to us in the world: 'Reason ... puts all things ... in our mind ... life puts them outside our heads'. [51] This solution from the perspective of the superficial view is to regard life as "illogical".

This is clearly equivalent to the hybridised idealist account resulting from Hume's famous critique of representationalism. Hume argued that "ideas in the mind" could not do the job of explaining the facts and events in the world, but neither could the assumption of mind-independent events (for there was no guarantee, on inductive grounds, that objective events would be predictable as we take them to be). For Hume, it was the regularities imposed by *reason* (and not causal connections) which accounted for the apparent law-likeness in the regularities of everyday experiences, such as the sun rising and setting every day. The sceptical gulf opened for Hume on the twin grounds of idealism and inductive certainty.

The problem with this superficial view, however, is that it forever prevents any rapprochement between mind and the world. The mind and its contents become isolated from the world and its things, thus leading to the necessity for the myth of mirroring discussed

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[49] PMW, p. 60.
[50] PMW, p. 61.
[51] Loc. cit.

earlier. For, on this assumption, thoughts have then to be *about* something else; namely, things in the world, and a mechanism is obviously needed to bridge the gulf (if one assumes a conflation between the living and the correlation lines).

It should be noted that consciousness too, becomes a fatality in this process of superficialising the relationship between thoughts and the world. Being axiomatically "mental", conscious events also become separated from their contents as surely as real things become separated from their representations "in the mind" (thus, we tend to think of consciousness as a "searchlight" illuminating its field of contents). The same mechanism which drove Hume to anti-representationalism thus opened a twofold chasm: 1. how the mind can be conscious of its own contents; and, 2. how the mind can be "known" as a representing agency:

> We separate consciousness from its "contents" as if it were something by itself, or in addition to them. We speak as if it were a light thrown outwards on things and inward on ourselves; and again as a platform on which ideas and other contents appear, combine, contend, and from which they disappear; and we are even apt to personify it, making it a spectator of its contents, or otherwise busy among them. But we might as well separate experience from what we experience. [52]

However, as we have seen, Mitchell rejects the reasons behind such accounts and the assumptions which drove philosophers toward them. The point of this section has just been to outline Mitchell's diagnosis of how the problem occurred.

With the assumption of the myth of mirroring rejected, what are we left with? Is the world really independent of thought? How do we know that the world is like how we represent it in experience? Finally, how can minds be rational? The following sections spell out Mitchell's answers. The key to it is to recognise that epistemology is subject to developmental considerations.

5. Mitchell's Realism

Mitchell's realism follows from this debunking of the assumptions behind the myth of

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[52] SGM, pp. 10-11.

mirroring. What is left is an account which draws upon his theory of the structure and growth of experience.

Mitchell regards the first stages of experience to be the sensing of qualities of various kinds, and then externalising by means of extensity and learning the local qualities of sensations as retinal, auditory or cutaneous impingings on sensory surfaces (see Chapters 8-10). Frequent and repetitive association of input and surface stimulation, and localisation of such sensation to various parts of the body, brings about a generalisation; a 'warrant, meaning or expectation that other sensations may be had of other qualities'. [53]

This primitive process justifies a primitive epistemological realism, according to Mitchell. For just as in our earliest forms of sensory intelligence, we form a primordial "sense of reality", so in our more developed experiences, we extend and deepen this sense to include past and future sensations as well. We assume from the *stability* of the incoming inputs and the sensations received, that there is a real world to which we have access, an assumption which we share with other higher organisms: 'All intelligence, from the poorest to the best, is a handling of one and the same task, and results in various kinds or degrees of truth *about one and the same world*'. [54] And again: all intelligence is exercised about a 'common real object'. [55] There is no doubt from such comments that Mitchell is an epistemological realist—an "industrial strength" realist in Dennett's terms. He labours this realism at several points, making his position quite unambiguous:

> There is no difficulty in seeing that from infancy to speculative age we are dealing with the same system of things, that in its own kind and degree the meanest creature knows the same world as we, since we all inhabit the same, and that no living being can know more than the conditions on which it finds its experience to depend. [56]

The phrases: "in its own kind", and "conditions on which it finds its experience to depend" are crucial. For clearly, the real world to an echolocating bat is experienced rather differently to

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53 SGM, p. 226.

54 Loc. cit. Italics mine.

55 SGM, p. 228.

56 Loc. cit. Elsewhere: 'There is true knowledge of the one real world at every level of thought'. SGM, p. 228.

that of a dog, or a *Homo Sapien.* This point does not require there to be an interspecies relativism—multiply incommensurable "real" worlds, for example—only that the real world is represented in sense differently for organisms with different means of representation (i.e., different sensory modalities). In the context of contemporary cognitive science, with its appreciation of the importance of different representational formats, this should be an uncontentious, and hardly surprising, claim.

Mitchell notes, however, that our sense of realism, and our intentional knowledge of the world in which we live, is not just a function of how we represent things, but also a function of the *growth* of the mind. And, the growth of mind is brought about essentially by the "thwarting of expectations", firstly at the sensory level, then at progressively higher levels. Mitchell advances an analysis of drawing knowledge from sensations in the face of this "thwarting" in the same way as Popper argued that scientific knowledge was a product of a continual process of conjectures and refutations. [57]

Instead of retreating from a thwarted (read: "refuted") sensation and embracing antirealisms or idealisms of various kinds, we recalibrate our expectations about sensations and seek further confirmation of what our proper bodily responses should be. This leads to revised anticipatory responses and sets up a dynamic to the system. In response to external promptings, we form new and revised patterns of sensory inputs, and these are "tested" in response to the world, recalibrated again, and so on. This process does two things: it amounts to a "conjectures and refutations" model of sensory development; and it also amounts to the genesis of a developmental *realism:*

> The sense of reality may be said to begin when expectations begin to be thwarted; for we should have no feeling of being in the right if we never had the chance of feeling in the wrong. But, finding ourselves wrong, *we are not thrown back from a knowledge of what is real to a knowledge of what is only in our heads;* on the contrary, we have a better knowledge of what is real. As our knowledge of the world progresses we have constantly to correct our views of it, but always because it is the same world, and we know more about it. [58]

Elaborating on this model, it is clear that Mitchell's theory of realism and truth (and hence, his

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[57] See Popper, *Conjectures and Refutations,* (1969) and *Objective Knowledge* (1972).
[58] SGM, p. 226. Italics mine.

theory of intentionality) assumes two things: 1) that our beliefs about the world are under constant revision in response to the incoming sensations; and, 2) that our patterns of responses give rise to expectations, meanings, models or representational formats about sensations ("beliefs") which are considered to be "true" the more inputs received are *consistent* with those beliefs we hold.

This does not mean, of course, that sensations confirm beliefs or inductively support them in some sense. There is no "problem" of induction, as we saw earlier. What it does mean is that, for Mitchell, the growth of experience in response to incoming sensations is crucial to the development of a sense of reality and an adequate understanding of how thoughts can be *about* the world. Intentionality, for Mitchell, is thus to be understood as a product of growing minds. For it is only by means of growing minds that thoughts form, and a "sense of reality" is thereby attained.

Importantly, on such an account, there is no need to regard sensory inputs as offering *confirmatory* evidence for beliefs. But neither is there the need to return to the myth of mirroring; for the myth occurs only when we already assume that the mind *copies* things by forming impressions of them in thought. But Mitchell's attitude here is clear: to turn to thought, as the locus of representations, is already to subscribe to the powerful attraction of the myth, and in effect, to *separate* the epistemic realms of thought and reality. (Again, this was also Thomas Reid's point much earlier). By making such a separation, the question naturally becomes how one 'copies or photographs things, or reflects them or be impressed with their image'. [59] If one does not assume this, however, then the question of how things are known becomes a question, not of how the mind can cross the chasm of thought and reality, but *how experiences express the world that they are perceptual products of.* That is, the issue of intentionality becomes subordinated to the issue of how intentional systems evolve and grow.

Mitchell is notoriously obscure when he attempts to describe what he sees as the relation between mind and the world. He uses the metaphor of "grasping" instead of "mirroring". The grasping metaphor captures the idea that nature suits our "grasp" in much the same way as

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[59] SGM, p. 223.

other products of evolutionary growth suit the purpose for which they evolved. Whereas mirroring suggests a passive relation between mind and the world, grasping suggests a dynamic and active relation.

Konrad Lorenz, the ethologist, has a similar story to tell in his naturalised interpretation of Kantian epistemology. Lorenz uses the metaphor of "fitting": 'our forms of intuition and categories are embodied in our evolved capacity to "fit" to that which really exists in the manner in which our feet fit the floor or the fins of a fish fit the water.' [60]

Mitchell prefers the idea of "grasping" in the case of intentional systems. This captures more than that our physical bodies and our concepts are mere *products* of nature, it also suggests that the relationship we have with nature is *dynamic* and changing, and dependent on the kind of creature we are (i.e., animals such as bats "grasp" the world rather differently than we do). It also captures the idea that our thoughts and beliefs are true of a real world which is *more* than us: i.e., which transcends us. His discussion on this point is almost unintelligible and verges on mysticism:

> Nature includes all if they make themselves good, both the endless variety of sensible worlds which it requires different creatures to know, and all that we grasp correctly on the surface and in the depths. ... It forbids the notion that real nature is broken to our organs of sense, to reason, or to any make of mind. *The object is always other than our grasp of it; there is no duplication, nor likeness between them; and we fit our grasp to it, not it to our grasp.* [61]

This is a quite different way of putting Brentano's "problem". Instead of stressing the gap which the mind must transverse, the stress is placed on the point that experiences (and hence, minds) are a dynamic product of the natural world. We fit the world to our grasp in rather the same way as we corral quicksilver or attempt to harness the wind. We grasp "correctly" if we anticipate sensations and put them to use. The world is not made an "object" of sense; it is simply harnessed by the variety of ways in which organisms live in the world as dynamically

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60 K. Lorenz, 'Kant's Doctrine of the *a priori* in the light of Contemporary Biology,' *General Systems Yearbook,* Vol. 7 (1962): p. 24. See also, *Behind the Mirror* (1977). See my (1996), Chapter 6 for a detailed account.

61 NF, 52-3. Italics mine. See also: 'Mental life extends to the objects that it knows, and with which it has active intercourse', ibid, p. 54.

engineered systems. (We shall return to this in §7 below.)

Unlike the mirror theory, this "grasping" theory makes no commitment to an epistemic dualism of thought and reality. Without the myth of mirroring, and the separation of thought and the world, the basis of Brentano's "problem" of intentionality (i.e., how thoughts can be *about* things in the world) simply evaporates. Instead, intentionality becomes a function of the growth of the mind, as it functions to represent the world by means of its own sensory, perceptual and cognitive development. However, the representational formats that minds attain is not a matter of learning to bridge a gulf, but instead a matter of minds learning to do the things they do (and *one* of those capacities is to represent the world in thought). Thus, the crucial questions to ask are not concerned with epistemic bridge-building, but with developmental psychology.

With the intentional gap closed, Mitchell has a ready response to the questions posed earlier: Is the world really independent of thought? How do we know that the world is like how we represent it in experience? Finally, how can minds be rational? Briefly, the answers are as follows:

- The way the question of independence is framed already assumes the gulf between thought and the world. There is no gap. The world is not independent of thought in so far as some of what we take to be in the world (colours, tastes, etc.) is on *our* side of the "living line". In another sense, of course, there is certainly a real world beyond our senses, but this is obvious and uninteresting. We too are in that world, and objects are more than things in the world—they are also things of *value:* 'The power of the object lies in its value. Felt or meant, particular or general, it becomes a new kind of cause in nature. Physical though it is, part of nature, nature can do nothing with [objects] but through minds'. [62] The question of the relation between mind and the world is then a function of where one stands on the living line and the correlation line.
- We know the world is like the way we represent it because those representations, by and

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[62] Ibid., p. 19.

large, work and function to aid us in predicting our sensations and acting on them.

- Finally, thoughts can be rational because thoughts are, in a sense, *made* true by the process of our grasping. Our representational system is not separate from reality, it is formed dynamically from it. Intentional systems have a unique relationship which ensures that the world is harnessed in thought. To ask if this is "rational" is to ask if a dolphin's fins are "rational" in their role. The question is absurd. How this occurs, on Mitchell's account, is discussed in a more specific way in the following chapters.

6. A "Valid" Notion of Mind, The Importance of Qualia

We have looked at the issue of realism and intentionality in this chapter. We have also briefly covered the issue of rationality. It remains, finally, to see how Mitchell regards the question of qualia in relation to minds and the world. On most materialist accounts of mind sensations, or *qualia,* are a threat in that they refuse to be captured by neat psycho-physical explanations.

Mitchell suggests that the alternative way of understanding of how beliefs about reality are arrived at is that, in an important sense, *seeing is believing.* [63] This is not meant to suggest the clearly false claim that anything seen should be believed; nor is it meant to imply subjective idealism (the doctrine that the only real things are either thoughts or products of thought). However, it does mean that Mitchell's realism presupposes that experiences (*looks* and *seeings*) are a crucial, ineliminable part of the world as we know it and believe it. There are no "looks" without perceptual agents, according to Mitchell; and there is no privileged access to such a world beyond the capacity to have experiences of various kinds. This attitude is made clear in several passages which have also resulted in (understandable) idealist interpretations of his work:

> We take [our perceptual world for more than it is] when we forget that it is the world as we perceive it, and suppose, for example, that a thing keeps its look when no one is looking. [64]

> [The thought of a thing] would be false only if we added the reflection that the thing has these [sensory] properties when it is not an object of perception. [65]

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[63] SGM, p. 225.
[64] SGM, p. 228.

While such comments clearly indicate an undeniable idealist ancestry; they do not, on their own, demonstrate an idealist attitude. To do this they require the additional premise that *there is no* real world beyond that of objects of perception; that somehow, the world is mind-constituted. And, there is no evidence for this in Mitchell's writings. As we have seen, Mitchell is staunchly realist about a one real, independent world for all organisms beyond their perceptions of it. How then do we make sense of his claims which seem to be sympathetic to idealism?

His point in the above passages seems to be, not that there is no physical world without sensory properties, but simply that there can be no understanding of the world, without including in it an understanding of qualia.[66] Getting our theoretical understanding right about mind and content and its relationship to the world, requires, among other things, that the importance of sensory properties is recognised. He seems, in other words, to be making an attack on views which aim at an understanding of the world *without such properties at all.* The attack is thus not directed at endorsing idealism, but rather, refuting a position which arises from unbridled *scientism.*

The position being criticised is one which Nagel called: "The View from Nowhere", i.e., a complete account of the entire physical world which is independent of personal experiential perspectives (Or, as Mitchell, puts it, the claim that the 'total system alone is real in the sense of being absolutely independent').[67] It is this position which is the target of Mitchell's idealist-sounding endorsement of our experience of sensory objects.

However, Mitchell is attacking these views not only because they fail to include the subjective character of experience, but also because they make claims about sensory properties to which they are not entitled. Views from nowhere, he maintains, are positions which are premised on *not* including sensory contents at the outset; they are positions which effectively *ignore* them: thus, they can hardly be considered independent grounds for rejecting them on the same basis:

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65 SGM, p. 153.

66 Note in the passages above that he doesn't say anything about the world *qua* physical world, he only mentions the *perceptual* world, and objects *of perception.*

67 SGM, p. 228.

> [T]here is the ambition of some to form a notion of the universe as a whole. ... All who seriously attempt a notion of the of the total system, which alone is real in the sense of being absolutely independent, proceed on the same principle, and even with the same purpose, as those who have succeeded in the revelation of nature. As these infer nothing about nature that is not directly or indirectly required to account for our experience of sensory objects, so those others profess no right to make an inference about anything that is not required to complete the accounting of our whole experience. [68]

Note that stress is placed here on how we *access* the world, not the kind of things of which the world is comprised. How we access the world is, according to Mitchell, via experience; and experience is, according to him, non-reducible and non-eliminable. Experiencing consists in having various sensational properties, even though the world itself is independent of our experience. The argument advanced is that, despite its empirical success, unbridled scientism will not do the job if it aims to ignore experience. The "view from nowhere" on which scientism is premised, cannot reliably make the inference that the world can be understood without including the subjective character of experience. A mistake is made, in other words, in inferring beyond the available data and taking for granted precisely what is in dispute.

Like Nagel, Mitchell is optimistic, however, about the prospects for a more inclusive account of mind. This account of mind would include a characterisation of experience *within* a robust physical account, though it would not assume reduction and/or elimination of subjective experience. In fact, he describes his hope for an account which includes an understanding of the "conditions of experience" within a "fuller" theory of the physical. A "valid" notion of the mind—as opposed, presumably, to "invalid" reductionist/eliminativist/scientistic views—would involve more inclusive terms in the debate: sensory qualia and brain states would be seen on such an account to coexist as aspects of the living line. That this is his attitude, is confirmation again that Mitchell was no dualist, but that, instead, his views exhibit very early non-doctrinaire materialist themes (themes which, as we shall see in Chapter 5, have only recently arisen in cognitive science):

> In all valid notions about the mind, about the values of things, about the worlds within worlds, about even the universe itself, there can only be a fuller handling of the

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[68] SGM, pp. 227-8. Compare Nagel's remark which remains neutral on the issue: '[W]ithout some idea of what the subjective character of experience is, we cannot know what is required of physicalist theories—any reductionist program has to be based on an analysis of what it is to be reduced'. op. cit., p. 167.

> conditions of experience, and a placing and defining of the physical, and the other conditions in relation to one another. It is in this further expanding and defining that the revolution is carried on. [69]

This attitude is similar to Nagel's *speculative integrationism.* This is an optimistic hope in the future for an explanation of mind and its contents which neither compromises the physical, causal antecedents of mental states, nor the subjectivity of contentful mental states either. Nagel, of course, puts it in terms of an "expanded conception of objectivity" which includes *perspectival appearances* (i.e., which will include subjective points of view).

Similarly, it seems, Mitchell thought that the "expanding and defining" of the terms of the debate would eventually see the physical and the conditions of experience placed in relation to one another. In such a circumstance, understanding minds would be seen as part of understanding the conditions of the physical exchanges between mind, brain and the world external to it (an account which managed to merge the "indirect" and "direct" approaches).

According to Mitchell, the conditions under which experience arises is crucial to an adequate theory of mind. Once again, however, while defending the idea that sensational properties are crucial, Mitchell clearly denies the additional claim that such properties are necessary and sufficient for having a "sense of reality" and for things being true. That is, he specifically denies the force of subjective idealism:

> [W]e take to metaphor when, turning from things, we examine our thought, and ask how it can be true of them. We are satisfied to think that it must copy them, and we take it for literal that things impress themselves on the mind, that our eyes are the windows of our soul, and such like. It is a view, as Hume said, that will not stand a moment's consideration. But it is not left in a moment, partly because it works well in everyday matters, and feels as if bred in the bone, but also because it is not seen how else things can be real, and thoughts can be true. There is even a notion that, but for a useful fiction, we should say that we can know only our ideas, and that not things are hard, sweet, forty feet high, but ideas, or the soul when it feels them. And such an alternative would be the fire and not the frying pan in the dilemma, for neither truth nor reality would any longer be in sight. [70]

Mitchell rejects idealism and asserts realism in several other passages, so there can be little

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[69] SGM, p. 227.
[70] SGM, p. 229.

doubt as to his position on the matter:

> If we *cannot* say of nature that it is a product of the means of knowing it, we cannot say it of the sensible world, which consists of phenomena, nor therefore of any phenomenon in it. Though a phenomenon has no existence except it is felt, *its existence is determined by physical conditions, as completely as if it were unfelt.* That holds for the whole phenomenon, except its being felt. Nature expels the being felt, not to some other place, but to be subject. [71]

There is plenty of obscurity here, but the meaning seems to be this: while the existence of objects is determined by physical conditions independent of minds, it is also true that, for subjects, there is only the world of experience which can be known about. (Hence, the cryptic phrase that "nature expels [feelings] ... to be subject"—in other words, nature knows no feelings or phenomena, but that is all subjects *can* know).

In view of all this, Mitchell's position is best characterised as an *ontological realism* (there is a real world beyond our minds) yet an *epistemic subjectivism* (we know that world only through subjective experience). Yet he does not subscribe to the problems that traditionally confront epistemic idealism (e.g., Kantianism). He does not think, for example, that the mind "copies" reality in thought, because he does not think that there is a genuine division between thought and real things in the world. The divide between thought and things is not a problem of ontological access, but a problem of theoretical access. It is a "gulf" of thought, not deed. He presents the case of less sophisticated creatures as an example:

> In the perceptual beliefs of children and animals, who can have no theory about them, there is nothing more mysterious to be found than certain expectations. If the expectations are disappointed, the beliefs are thought to have been false; if they are realised, the beliefs are found to be true; if they are not tested, they may be either; and if they are held in suspense, there is doubt. If there is no expectation there is no belief, no sense or knowledge of reality at all. [72]

For Mitchell, the problem we usually confront is how, in theory, we can bridge the theoretical presupposition that mind and the world belong to two very different realms. For

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[71] PMW, p. 65. Italics mine.
[72] SGM, p. 229.

unsophisticated animals this is no problem at all. Why then do human beings find this so difficult? We do so because we are quickly fooled by the "myth of mirroring".

His position, therefore, is not the implausible idealist one whereby there is no world *without* minds. His position is somewhat closer to the recent views of some cognitive scientists about the crucial importance of representational formats for computational machines. Machines can't access the world without forming representations of it, without having internalised computational routines. Nonetheless, there is, without doubt, a physical world of external (distal) causes. How then can one explain this process of representation without invoking Brentano's problem?

Mitchell's solution is to understand the organism as a cybernetic machine in which inputs and outputs are homeostatically regulated. He puts his answer to this in terms of a principle: the principle that 'minds in living prove themselves, and that knowing is living'. [73] This might be termed *the principle of the living mind.*

7. The Living Mind, Knowledge Makes Prophecy

The principle of the living mind is the idea that minds and nature are epistemically "pretuned" to each other. The organism is, for Mitchell, a cybernetic system which regulates itself in response to environmental inputs. This process includes regulation of how it represents the would cognitively. On the cybernetic view, of course, there is no representational gap for knowing agents to cross. Cybernetic systems, of course, presuppose naturalism. The knowing relationship is defined instead by means of a systematic natural connection, a necessary unity, between minds and nature. [74]

Consider an example of a cybernetic system, such as a thermometer: the thermometer "represents" the temperature by means of mercury in a glass vessel. However, there is no problem of bridging a gulf between the internal representation in the thermometer and the external ambient temperature. The process is simply a function of the chemical exchange that occurs between mercury and temperature. In a similar way, the nature of representation occurs

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[73] PMW, p. 6.

[74] See Gregory Bateson, *Mind and Nature: A Necessary Unity*, (1979), *passim.*

when mind makes prophecy; i.e., when they function to accurately anticipate the physical world by means of incoming sensations. It is in the unity of subject and object (or mercury and ambient temperature) that representation occurs and knowledge is acquired. The nature of truth is similarly defined when in this unity certain propositions are taken by the organism to be accurate states of affairs (in the same sense as the mercury gauges the temperature accurately).

What "knows" or "true" means, on this account, is nothing other than the organism functioning to anticipate and expect various sensory cues. And, as we have seen in the case of lower animals, if the organism does this accurately, it *knows* something, or has found something to be; if it doesn't, then expectations are found to be false; if sensations remain untested, the experience is neither true nor false; and if held in suspense there is doubt. But there must be some cognitive expectation for there to be any relationship between knower and known at all; and this sense of expectation presupposes that there is a unity between minds and the world as it is. Having a sense of expectation, and being able to predict and fulfil these expectations, is what is meant by the mind *representing* that world.

Mitchell calls this sense of expectation a "prophecy": 'The prophecy is always about this or that within a system of things that is at once independent of the prophecy, and the criterion of its truth'.[75] Note that here the anticipated event is "independent" of the anticipation, yet a condition of the truth of it. This suggests, once again, that Mitchell's account endorses a robust realism, though one premised on the importance of sensory access to the real world. What is at issue here is not the independence of the world being represented, but the nature of representation.

It might be asked again, how does the representational facility occur if not by bridging the gulf between mind and nature? This is the traditional problem of intentionality, and Mitchell has a simple answer to it. Once again, the problem is resolved in how the terms of the debate are assumed. Assuming there is an epistemic divide for representational capacities to conquer makes the problem of access seem insurmountable (Mitchell thinks this assumption is simply

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[75] SGM, p. 229.

wrong-headed). Assuming there is no gap, and that knowledge makes prophecy, turns the "problem" into a practical one; namely, in what way does the mind know if it has represented the world? (If there *is* no gap then there is no *how* question to answer, only a *what* question.) And the answer to this question is simple. Practical anticipatory success is justification enough that this process occurs; doubts about it occurring need only be brought into question when there is systematic error. The important thing is that knowledge and representation depend on the minds' facility in interpreting incoming sensation from distal causes; and this is determined by practical success rather than what one believes. In Mitchell's terms, 'the ultimate criteria of your beliefs ... are not to be found in the strength of your convictions, but in the actual fulfilment of your prophecies'.[76]

Understanding how this practical success occurs means much more than an abstract theory of intentionality which takes for granted that there is an epistemic *problem* to be solved. On Mitchell's view, there is no mysterious relation to bridge; the only relation is one of anticipatory success in negotiating the world, and the guide to this is, of course, practical success. Hence, we see that while Mitchell is an epistemic realist in his ontology, and a subjectivist in his views about cognitive access, he is a *pragmatist* in his theory of justification. How we gain access to the real world beyond our senses is via sensory experience; however, we know that our cognitive representations are true because they work.

Because of this cybernetic account, it is unnecessary to justify the existence of the world for minds, or minds as aspects of the world, according to Mitchell. Both are essential in epistemic acts. For epistemic acts there need to be cognitive agents and vice-versa. Knowledge acquisition is a function of minds interacting with nature and representing it in cognitive form. This process occurs normally without difficulty (as in the case of unsophisticated animals) and also in cases of normal human exchanges. This information is *taken for granted* (see Chapter 4.)

> Your knowledge of the pen in your hand is a volume of prophecy about its qualities of which you have present sensation, about its powers of which you make present use, and about its past, and all you can do or become. ... The simplest belief that the pen will

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[76] SGM, p. 230.

> continue to write, that the shaft is of wood or mental, that it is larger than another, that you are not dreaming about it, and any still simpler beliefs, are all so many prophecies of what will happen on certain conditions, which you do not mention, but would at once introduce for the test if you had any doubt. Before I spoke of the pen, you were perceiving and using it without thinking anything about it. The little prophecy involved in your perceiving was enough to direct your use of it; your success was the fulfilment of the prophecy, and you had no need for further knowledge; as the ink failed you took a little more notice; and an accident would have brought the prophecy to judgement.[77]

However, occasionally the seamless nature of this exchange is interrupted or broken. When this occurs, there is a move from knowing the world by means of the network of beliefs that one holds about it, and having to reconfigure those beliefs in the light of new sensory information. This process requires the knowing agent to attempt new prophesies about its current sensations.

8. Varieties of Internalism and Externalism

To complete this account of Mitchell's realism, I shall briefly contrast it with two recent epistemological accounts; in particular, those of Hilary Putnam and Joseph Margolis. As we shall see, Mitchell's account curiously anticipates aspects of these current views.

8.1 Putnam's Account

Hilary Putnam has proposed that many of the philosophical problems of recent times dealing with problems of meaning, truth, reference and so on, 'naturally give rise to two philosophical perspectives' or 'temperaments' [78] which he calls "internalism" and "externalism." Strictly speaking, these are attitudes rather than philosophical positions. The former is the outlook which takes it that *'what objects does the world consist of?* is a question that only makes sense to ask within a theory or description'. [79] The other outlook, externalism, is supposed to be roughly equivalent to the doctrine of what he calls *metaphysical realism,* the thesis that there is "one true and complete description of the way the world is."[80] Putnam takes these

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[77] Loc. cit.
[78] Hilary Putnam, *Reason, Truth and History,* (1981), p. 49
[79] Loc. cit.
[80] Loc. cit.

perspectives to be a diametrically opposed, and after a discussion detailing a fairly standard set of objections against foundationalism, correspondence theories, relativism, as well as his own "Brain-in-a-Vat" paradox, sides with a form of internalism. Let us consider Putnam's attempt to 'break the stranglehold' [81] of a conception of truth, by considering and rejecting traditional conceptions and by developing an alternative.

As Putnam shows, the traditional conception of truth as "correspondence" is an externalist realism, a view which depends heavily on the idea of the world being, in principle, completely available to our knowledge, somehow independent of our inquiries. The other major option here, an "internalist" conception, is often mistakenly taken as a flat denial that an externalist conception is possible; a view that truth is somehow "relative to scheme", the world being inaccessible to our inquiries, using the conceptual schemes we subjectively adopt. Putnam is inclined to term this latter view, subjectivism or relativism (of the Protagorean variety) and not internalism. In fact, in his view, it is relativism that gives internalism proper a bad name.

Putnam's internalism might be more correctly called "non-realism" or "internal realism" [82] to distinguish it from relativism and metaphysical realism. It is a view which assumes an objective notion of, not truth, but (what he calls) "*idealised* rational acceptability." [83] I shall present this view after a very brief survey of the alternatives.

8.2 Externalism

Putnam takes the externalist view to be the typical position of those who think that they can assume a "God's Eye" point of view of the world and truth. The difficulties that this view raises have been widely acknowledged in dealing with the varieties of correspondence theories. The thrust of this view is simply that true propositions *match* true and "real" states of affairs in the world. (It true that "snow is white" if it *is in fact the case that* snow is white.) Part of the burden of this sort of thesis is that there is some sort of isomorphism between true expressions or representations and what makes such expressions true, i.e. the world.

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[81] Ibid., p. ix

[82] He has recently suggested it should have been called *pragmatic* realism. See his *Representation and Reality,* (1988), p. 114.

[83] Ibid., p.55

The main questions that this view posed were: how exactly does one get any sort of correspondence of words and meanings with things? What is being matched when we say that words match the real world and how do we *know* it does? Moreover, how does one account for true indexical, counterfactual, and modal expressions on this view? Putnam shows, however, that the absurd "Brain-in-a-Vat" hypothesis is a problem for the externalist too, for the relation of correspondence on which truth and reference depend are not logically available for the externalist, if he *does happen to be* a Brain-in-a-Vat. [84] So if he was (truly) a brain-in-a-vat, then he couldn't *think* or *know* that he was because the externalist Brain-in-a-Vat doesn't have the appropriate referential link of thought and words with his own rather impoverished world, and so he couldn't ever be able to ascertain the truth of his condition.

8.3 Internalism

The difficulty with the internalist position, contrariwise, is not simply the Wittgensteinian point that *one could never know that one had a conception of truth* if truth, was "relative to scheme" (because one could not make a distinction between x *being* true and *thinking* that x was true) but that the relativist position *itself* can't be true because it is inconsistent: if all truths *were* "relative to scheme", then so must *relativism* be relative to scheme. And, as Putnam notes, if the purpose of relativism is to 'deny the existence of any intelligible notion of objective "fit"', then one can't make sense of objective justification conditions, independent of schemes modelled to serve them which must be "subjective" (and one can't, thereby, make any sense of the progress of the sciences.)

8.4 Internal Realism

There is a way out of all this, Putnam thinks, and this is to have the best of both worlds: to embrace objective truths, but to "relativise" them to the conceptual schemes of rational beings. In other words, to make truth an *idealisation of rational acceptability:*

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[84] Ibid., p. 50

> We speak as if there were such things as epistemically ideal conditions, and we call a statement "true" if it would be justified under such conditions. "Epistemically ideal conditions", of course, are like "frictionless planes": we cannot really attain epistemically ideal conditions, or even be absolutely certain that we have come sufficiently close to them. But frictionless planes cannot really be attained either, and yet talk of frictionless planes has a "cash value" because we can approximate them to a very high degree of approximation. [85]

What he means here, it seems, is that truth is an asymptotic tendency of rational claims, something like how concepts in physics can be extended beyond their range of practical application to things like frictionless planes, phase spaces and ideal gases. On this view, truth is not a matter of isomorphic "mappings" of expressions to the world. But nor is it something that is "relative to scheme" either. It is "idealised" to the extent that our expressions and claims about the world *approach* certain truth conditions, which are themselves cashed in terms of what it is considered (rationally) by us to be true. These are not simply conditions of rational acceptability *tout court;* they are, most importantly, *idealised* conditions of rational acceptability, so that what was (say) considered rationally acceptable 3000 years ago, can not be considered "true" but instead, "warrantly assertable" under certain historical circumstances. (Thus, he notes, the proposition "the earth is flat", although rationally acceptable *then,* would have to have undergone a change of shape to be considered "true" now).

It is by this attempt to conjoin an externalist notion of constraining (idealised) objective truth conditions in the world, with the relativists' notion of conceptual schemes which are rationally acceptable to different societies and cultures, that Putnam tries to advance an *internal* realism (that which is tensed and relative to persons but "objective" as well). This, he believes, will constitute a rapprochement to perspectives on truth.

In his version of realism, Putnam stresses the *interdependence* of the notion of truth and rational acceptability. [86] A claim about the world, he suggests, is true just in case it is warrantly assertable under certain idealised circumstances, so that a sufficiently well-placed speaker would be rationally justified in making such a claim. This is described as: 'a perspectival position which allows that claims—scientific claims among them—are true from

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[85] Ibid., p. 55.
[86] Putnam, (1988), op. cit.

perspectival position which allows that claims—scientific claims among them—are true from various perspectives. However, this position denies that science tells us the whole story; and, perhaps, there is no story to tell. There may be other versions of the truth—different stories of the world—each of which is proper to believe'. [87]

Truth, to Putnam, amounts to "ultimate goodness of fit" and this fitting is an *internal* matter with "experiential inputs" themselves shaped by our concepts [88] which make such truth claims have 'an *objectivity for us*'". [89] But these inputs are not objective in the sense that they are metaphysically "real"; they are real to the extent that they are objective *for us*. And this ultimately depends on the conditions of the world which we experience.

Putnam's account is similar to Mitchell's in the following sense: truth, reality and objectivity are notions which are tensed and relative to the organism. Truth and reality are interdependent notions, and we approach truth by means of the conceptions we form about the world from the conditions of the world which sanction their deployment. However, we never reach "Truth"; we only have more or less truth-valued conceptions.

8.5 Margolis' Account

Joseph Margolis has pointed out that the distinction between internalism and externalism, as Putnam describes them, is "compounded of a series of independent claims"[90], of which there are a number of possible combinations. He notes, particularly, that one can be an "externalist" type realist or representationalist and hold that the world consists in a "fixed totality of mind-independent objects" and that there is an exact and true and complete description of the "way the world is", while *at the same time* being an "internalist" in the sense that the question: "what objects does the world consist of?" can only be asked *within* a theory or description. Kant is the obvious contender here, as for him, being a fairly strong internalist, it only makes sense to speak of things within the conceptual strictures of the categories, even though it is a postulate of reason that there is at least *some* mind-independent reality as well. So it appears

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87 Wilson, R. A., and F. C. Keil (eds), *The MIT Encyclopedia of the Cognitive Sciences,* (1999), p. 708.
88 Ibid., p.54.
89 Ibid., p.55.
90 J. Margolis, *Pragmatism Without Foundations: Reconciling Realism and Relativism.* (1986).

that one can be some sort of externalist without being a metaphysical realist.

It is easy to point out other shades in this distinction between internalism and externalism: For instance, it is entirely consistent that one can be an "internalist" and yet not be a *realist* in any sense at all (Goodman's nominalist "irrealism" is an example of this view.) To spell out the possibilities, Margolis has suggested the following useful set of matching triads:

> (a) *externalismo* (ontic externalism) *strong:* the view that the world consists of some fixed totality of mind-independent objects (Popper/Pierce)*weak:* the view that there is *some* mind-independent reality. (Kant)
> (b) *externalisma* (alethic externalism) *strong:* that there is exactly one true and complete description of 'the way the world is'. (metaphysical realism, positivism)*weak:* that truth involves a correspondence relation between thought signs and external things. (correspondence theorists, Russell)
> (c) *externalisme* (epistemic externalism) *strong:* external objects are "self identifying" (foundationalism/inegalitarianism-early Wittgenstein) *weak:* we are cognitively capable of knowing the objects which are external to us in some sense. (Davidson)
> (a') *internalismo* (ontic internalism) *strong:* objects are as much made as discovered—products of conceptual invention (Kant, Putnam, Goodman) *weak:* objects only make sense within a theory or description; relative to conceptual scheme. (Kuhn, Rorty,)
> (b') *internalisma* (alethic internalism) *strong:* truth is of a asymptotic sort (idealised rational acceptability) coherence with beliefs as they feature in belief system. (Davidson, Putnam, Quine) *weak:* an idealisation of rational acceptability, such as would not preclude "more than one true theory". (Feyerabend? Rorty?)
> (c') *internalisme* (epistemic internalism) *strong:* objects are internally "self identifying" in one's theory or schemes of description. (Kuhn, Feyerabend, Kant.) *weak:* we are capable of only knowing what is "objective for us" (Putnam) [91]

Putnam's position features in schemas: internalism $_{o,a,e,}$ and Kant's in externalism$_{o,}$ internalism$_{o}$ and internalism$_{e.}$ It is this difference in combination and emphasis which marks a separation between the two thinkers: Kant seems to offer a strong internalism, along with a weak externalism, though he does insist that this external aspect is, in principle, unknowable; and Kant's position is a static thesis which relies on the *a priori* categories for the possibility of experience to sustain his externalist trend. Putnam, by contrast, seems more inclined to make experience, truth and reference more of a Goodmanian notion, i.e., ultimate *goodness of fit,* or "objectivity *for us* " which seems to suggest a more internalist emphasis.

Returning again to Mitchell's account, we can see now that he features on the schema in precisely the same way Putnam does—i.e., an "internal" realist in all three areas. A realist

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[91] Margolis, op. cit., pp 284-286. I have taken great liberties in paraphrasing the schema.

about the world (ontic internalism); a pragmatist about truth (alethic internalism); a coherentist about justification, and an anti-objectivist (epistemic internalism) about forms of knowledge-seeking. All this is supported by a *methodological idealism* that does not deny the existence of mind-independent matter.

This kind of position is now gaining currency again, long after Mitchell originally proposed it. Very recently in the cognitive science literature there have been attempts to develop a form of idealism which 'affirms the existence of the external world in a fundamental way', and in which the world is understood to be an experiential reality understood by 'working with what is know, with experience'; ... in particular, with 'the cognitive and affective aspects of external experience'. In these accounts, 'further characterisation of the experiential universe in needed'. [92] In Chapter 5 we shall see just how popular this general position is on a number of fronts. Mitchell would not buy into the panpsychist directions that some—such as Nagel, Sprigge, Chalmers and Marshall—take this, however. As we have seen, he is "realist" through and through. But he would certainly endorse the idealist methodology. [93]

9. Conclusion

This chapter has reviewed Mitchell's account of realism, his theory of truth and his account of justification. I have discussed the connections between rationality, intentionality and the role that sensation plays in the construction of knowledge claims. As we have seen, Mitchell's epistemology is surprisingly sophisticated and seems to parallel some recent accounts in the literature.

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[92] See, Paul Marshall, 'Transforming the World into Experience', *Journal of Consciousness Studies,* 8, No. 1 (2001): pp. 59-76.

[93] Other empirically-minded philosophers endorse the methodological emphasis on experience as essential for understanding consciousness as the 'only way to tackle the "hard problem"', though they remain tactfully neutral on the ontological issue. See Morten Overgaard, 'The Role of Phenomenological Reports in Experiments on Consciousness', *Psycholoquy,* 12, No. 029 (2001).

III: Mind and Content

Chapter 4, 'Taking for Granted'

> [T]he power of solving a problem depends on the ability to take many things for granted; this again depends on our having had to learn them and so having them now at command, though we do not have to re-think them.
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> SGM, p. 41.

1. Introduction

The central feature which might be said to bring together the themes in Mitchell's philosophy is the doctrine of "taking for granted". Accordingly, we turn to this before attempting to understand his views on the nature of mind and content. Taking for granted might be described as a psychological principle of sorts, a means by which we organise the flux of our daily experience. Mitchell has a formal, though unhelpful, definition of the notion:

> A fact, whether a particular fact or a law, is taken for granted if, having previously formed an explicit thought of it, we now use the knowledge that we gained without having to form the thought again.[1]

It is not clear in this formulation if Mitchell has in mind a conscious capacity (in the sense that one thought logically implies the conscious pre-possession of another—for example, "bachelor" implies "male"); or an unconscious capacity (i.e., something like Polanyi's concept of *tacit knowledge*).[2] He makes reference to the application to facts here, which suggests that the notion is related to evidence. Perhaps Mitchell is here identifying the commonly-made point that the discovery of scientific facts are as much the "craft" of the scientist as a product

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1 SGM, p. 270.

2 Michael Polanyi, *Personal Knowledge*, (1958), passim. See also *The Tacit Dimension*, (1967).

of impartial empirical inquiry. [3] However, the notion of tacit knowledge presupposes no evidence at all. We shall sort out such confusions in this chapter, and later see how the doctrine of taking for granted enriches Mitchell's account of the structure and growth of the mind.

2. Implicit and Explicit Thought and Epistemic Warrant

To understand the doctrine of taking for granted, it is necessary to first understand Mitchell's use of the terms "implicit" and "explicit". These terms pertain to kinds of thoughts developed in the process of acquiring perceptual knowledge. But what is a thought? According to Mitchell: 'The thought is a belief when it claims to be true'.[4] This is saying something quite different from the epistemological definition of knowledge as true, justified belief. For Mitchell, thoughts are a quite different epistemological category from knowledge, though they are connected in the progress of the growth of experience. (We have already seen a defence of this claim in Chapter 3.)

Pointing out that thoughts *claim* to be true adds an element of action to the definition. This is what is missing from current epistemological perspectives. According to Mitchell, true beliefs are useless unless given an account in terms of how minds *grow*. And a growing mind is not to be considered in abstraction from the things the organism does, and this includes actions. What is the relationship between thoughts and the actions to which they give rise? "Thought" is used by Mitchell in at least two senses:

- In the *narrow sense* it refers to high-level cognitive states which need not give rise to action (for example, the appreciation of the elegance of a mathematical formula).
- In the *wide sense* it refers to all and every kind of experience: feelings and cognitive states (representational, intentional, phenomenological, etc.) This term covers all mental states *simpliciter* and may be a spur to action.

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[3] See J. R. Ravetz, *Scientific Knowledge and its Social Problems*, (1971), especially Chapter 3, 'Science as Craftsman's Work'.

[4] SGM, p. 247.

Thoughts in the narrow sense might be true beliefs which enter into our cognitive economy and which do not require action (the development of theories or abstract ideas are other examples). Thoughts in the wider sense cover many different kinds of content which can lead to action. The thought that there is a chair in the room leads me to sit on it, for example. What is going on in such situations?

According to Mitchell, there are four key capacities which are involved in such a simple case of action: meaning, warrant, and implicit and explicit thought. Later we shall look at a fifth: taking for granted. As we shall see, taking for granted is a particular case of implicit thought (see **§2.5** below).

2.1 Meaning and Warrant

Aside from its normal usage as the semantic content of expressions, Mitchell uses the term "meaning" to include the *power to anticipate* features of sensations (for example, modality). 'We ... act on sensation with a meaning. The meaning consists in some anticipation of sensations to come, though it may be as vague as in the most indefinite fear'. [5]

In cases of "mere perception"—a perception which has little explicit meaning but where nonetheless we have expectations about it—they 'enter arm in arm ... or clad in [meaning]' according to Mitchell. [6] An example of mere perception is the ability to "see" that someone is unhappy, or to recognise a face in a crowd. Another higher order example is when we, unthinkingly, "know" that an object is solid and that we can use it (for example, we can sit on a chair).

For most other kinds of perception, meaning is either implicit or explicit or taken for granted. Mitchell is quite explicit that meaning is not *added* to our perceptual experience. It may be understood as an element of experience as part of a *post hoc* analysis—reflecting on the nature of our experiences—but this is not how it enters the perceptual or cognitive stage. Rather, it comes with perceptual content in single experiential amalgams:

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[5] SGM, p. 219. Compare this with N. R. Hanson, *Patterns of Discovery: An Enquiry into the Conceptual Foundations of Science.* (1975).

[6] SGM, p. 246.

> Sensation and meaning are not felt to enter in procession; they become definite together, and are not thought apart. The object that we think in perceiving is a thing with its attributes, and in explaining how we form this thought, we analyse the object in it into sensation and meaning; but there is no such analysis in the thought itself. ... [S]ensation is made definite by having a meaning. [7]

In the case of seeing a chair in a room, the meaning is clear. We don't perceptually collect a series of attributes about the chair and then infer various uses for it. Rather, sensations lead us to directly anticipate what we can generally expect to find out about the chair: that it is three dimensional, solid, stable and useful to sit on or stand on. We "see" all this in an instant. Of course, we may not be immediately conscious of such meanings: for example, we may not be concentrating, or may be tired, but these are cases of *constraints* on perception, not failures of experience to register meaning. The issue of attention makes a difference as to whether the thought is explicit or implicit. But separate from this is the issue of the kind of content that sensation brings, and that content is meaning. Sensations which have meaning amount to *grounds* for our expectations and actions.

2.2 Explicit Thought

When we perceive things we have grounds or "warrants" for our expectations about things. Some of these are implicit, some are taken for granted, others are explicit. When we take those grounds and turn them into reasons for our perceptual beliefs, then the grounds are called "explicit". Explicit thought is the process by which sensations becomes objects of attention. For example, I may spot a chair in the corner of the room. However, unless I make the chair the focus of my attention, the experience goes unnoticed and unvalued, but nonetheless registered. (I may not claim to have seen a chair, but I may be able to recall the colour of the

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[7] SGM, p. 247.

chair when later asked, when the chair is forced upon me as a subject of attention.) We might say that the chair is initially implicitly thought and only later made explicit with prompting. [8]

However, if I attend to the experience the meaning gives rise to explicit inferences which I can later use. Chairs can be sat on because they are solid, this thing is a chair, therefore I can sit on it. Explicit thoughts thereby are closely connected with warrant for our beliefs, in so far as when warrants are examined or made the object of attention they become explicit inferences: 'the warrant is examined and turned into a reason. Then the implicit ground is made explicit, and the belief that is based on it is called an inference'. [9] To put it in concrete terms: my unnoticed seeing of a chair in the corner of the room has all kinds of potential inferences (explicit thoughts) which are unrealised until I make the warrant (justification) of my claims about the chair the subject of conscious attention. These thoughts then become inferences and the basis for our actions.

2.3 Inferences

I have explained the connection between explicit thoughts and their grounds, but I have not explained Mitchell's notion of inference. In contemporary philosophy it is understood as referring to the 'upgrading or adjustment of belief in the light of the play of new information upon current beliefs'. [10] Three kinds of inference are recognised: inductive, deductive and abductive (or "inference to the best explanation").

Mitchell agrees with this classification, but offers a compelling point which has not been considered in current accounts of inference. [11] This is that inferencing is a function of *developmental sophistication*. The term is more likely used to refer to beliefs where the ground is explicit, rather than implicit, or to beliefs where 'the ground is not taken for granted'. This

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[8] Recently Frank Jackson has made much of this distinction, though it is expressed in different terms. See his Perception: A Representative Theory (1977), pp. 25-26.

[9] SGM, p. 248.

[10] T. Honderlich, (ed), *The Oxford Companion to Philosophy,* (1995), p. 407.

[11] Though see Johnson-Laird's account of syllogistic reasoning: P. N. Johnson-Laird, *Mental Models* (1983).

amounts to the interesting claim that inference is, properly speaking, only a high-level conceptual device, not something which applies to lower-order reasoning:

> We hardly ever use it of sensory intelligence, viz., in identifying sensory merely sensory objects or their aspects; we use it a little more frequently of perceiving things and their qualities; much more frequently of perceiving the relations among things; but mostly it is used when, in order to identify, we have to manipulate our thoughts in the manner ... of conceiving. And because this is still so comprehensive a field, it is usual to confine the word to beliefs whose ground is expressed, or at least explicitly thought. ... [T]he word inference is used only for a process of thought whose aim is to discover grounds. [12]

In other words, there are limits to what the notion of an inference applies. It clearly applies to logic which involves 'mere naming or classifying, and also the making of judgements or statements, because their ground is taken for granted ... and the process of thought whose aim is to discover grounds'.[13] This means that, for Mitchell, inference-making, and the sciences predicated on it—mathematics, logic—are subordinate to psychology. (We have already seen Mitchell's taxonomy of the sciences in Chapter 2—this now provides a reason for it.) Strictly speaking, inferences are properties of propositions which classify things; an assumption which already presupposes that the things in question—whether abstract or real—are subjects of our attention and our explicit thoughts.

At the same time, however, he notes that there is no principled difficulty in using the word inference for lower-level processing as long as it recognised 'that there is a series'. He goes on to claim that, with this recognition, 'there can be no confusion in speaking also of sensory inference and perceptual inference'.[14] It is a pity that some contemporary philosophers have failed to note this point, and have arrived at arguments which suggest that animals, for example, lack consciousness because they fail to engage in high-level inference-making.[15]

Toward a Cognitive Science of Language, Inference and Consciousness, (1983).

[12] SGM, p. 250.

[13] Ibid., p. 250.

[14] Loc. cit.

[15] See, for example, Peter Carruthers' *Language, Thought and Consciousness* (1996), pp 220-221. See also his 'Animal Subjectivity', *Psyche,* 4 (3) (1998). Carruthers argues that if animals are conscious they should be able to reason about one's own experiences; to have higher order thoughts about one's experiences. Since they don't, they aren't conscious according to Carruthers. There has been much literature attacking this thesis; for example, Eric Saidel, 'Consciousness without Awareness', *Psyche,* 5 (16), July (1999). Others have taken

Mitchell instead takes the plausible view that there are no grounds for making a principled distinction between inferential and non-inferential content (or conceptual and non-conceptual content). In other words, there might be a continuum of content between these extremes. Recently, the present author has argued something similar. [16]

We shall adopt Mitchell's terminological usage of "inference" here. It applies mainly to high-level cognitive capacities; and, in an attenuated sense, to lower-level capacities, such as sensing and perceiving, as well. Later, the importance of this account for the developmental process of the structure and growth of experience will be made clear (see Chapters 8-10).

3. Implicit Thought

In contrast to explicit thought and inferencing, implicit thoughts are examples of perceptual content which are only partially processed, or processed independently of higher cognitive levels. Mitchell refers to implicit thought as a 'performance of a task, the task of knowing'.[17] This is in contrast with understandings of "implicit" which he criticises, which are analysable in terms of causal and analytical truths (see **§3.2** below). He describes implicit thought as follows:

> The thought of an object is implicit in so far as the object is not distinguished and made an object on its own account, but is merely a factor in the total object as it is thought. Various aspects of the sensory object, are thought implicitly before we learn to think them explicitly, or, as we say, to think about them. After having so learnt, we may still, and we usually do, think them without making them objects of their own account; we think them, but do not think about them, and so again we think them implicitly.[18]

He gives several examples of implicit thought:

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a similar line, for example, Davidson, Stich, Geach. See my *Experience and Content: Consequences of a Continuum Theory* (1996).

16 W. M. Davies, ibid., (1996). I look at other examples of what I call "inferentialism"—the mistake of taking high-level inference as the defining characteristic of content, (see especially Chapter 1). The central confusion though, seems to arise from ignoring Mitchell's distinction between varieties of inferencing, and the psychological series that occurs between levels.

17 SGM, p. 251.

18 Loc. cit.

> A child in trundling his hoop has an explicit or an implicit thought of it at will; and the explicit thought includes implicit thoughts of the circle, of velocity, and acceleration; but it is with difficulty that the child is gradually brought to an explicit thought of these.[19]

From this example it is clear that Mitchell's notion of implicit thought anticipates what Polanyi much later meant by *tacit knowledge.* [20] It seems Mitchell developed this idea some 60 years earlier.

Polanyi describes his account of tacit knowledge as 'the fact that *we can know more than we can tell'.* [21] An example is face recognition. We know a person's face and can recognise it from among millions of others, yet the precise details of how we do this is unavailable to us. Recent work on face recognition suggests that primates (also cats, dogs and sheep, etc.) have in-built detectors—face-selective neurons—for picking out stimulus features. [22] This suggests support for some kind of domain-specific modularity of processing. But regardless of the neuro-scientific explanation, the point here is that there is information which the perceiver uses which is not cognitively explicit, but nonetheless vital to making objects of our attention explicit. (We couldn't make a face the subject of our explicit interest, were it not for the features that we detect implicitly.) Other examples Polanyi gives are distinguishing moods and diagnosing illnesses (for example, a mother "knowing" intuitively when a child is unwell). [23]

Other examples are not cases of hard-wired, domain-specific processing, or intuitive processing, but practical abilities: e.g., performing artistic, athletic or technical skills. These

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[19] Ibid., 252.

[20] Michael Polanyi, op. cit., (1967); see also his (1958). Polanyi's views are described in J. R. Ravetz,(1973), especially Chapter 3, 'Science as Craftsman's Work'.

[21] Polanyi, (1967), p. 4. As Polanyi notes, identikit police photos rely upon this kind of implicit storage of perceptual detail. See also Chris Mortensen 'Mental Images: Should Cognitive Science Learn from Neurophysiology?' in *Computers, Brains and Minds,* Peter Sleazak and W. R. Albury (eds) (1989) and C. Mortensen and G. Nerlich, *Aspects of Metaphysics,* Unpublished Manuscript (1986). These authors use the term "non-verbal knowledge" rather than "tacit knowledge", non-verbal knowledge being either tacit or explicit.

[22] Rodman, et al., 'Development of brain substrates for pattern recognition in primates', in de Boysson-Bardies, et al., *Developmental Neurocognition: Speech and Face Processing in the First Year of Life* (1993): pp. 63-75.

[23] Very recently this issue has arisen in the current cognitive science literature as demanding closer attention. Bruce Mangan, for example, has argued the case for "rightness", a form of non-conceptual content, which represents degrees of contextual "fit" between conscious and non-conscious processing. See B. Mangan, 'Sensation's Ghost: The Non-Sensory "Fringe" of Consciousness', *Psyche,* 7, October, (2001).

examples cut across Ryle's "knowing that" and "knowing how". A swimmer keeps his buoyancy by regulating his respiration (i.e., not completely deflating their lungs when breathing out). [24] Of course, these skills need to be learnt to some degree, but the point is that any rules which are required to develop the skills are underdetermined by the knowledge that the individual acquires. Mostly, such skills require "instinct" and "feeling" rather than rule-governed observance. Indeed, for most skills, rules are learnt more by imitation, and then flagrantly ignored in their execution (for example, scales are practiced then ignored in improvising with a musical instrument; technique is abandoned when aiming for fluidity with a golf swing). Paradoxically, expertise in such endeavours requires not *explicit* knowledge of principles, but *implicit* knowledge of their execution. In fact, the latter is necessary for the former. To be able to make such skills the subject of our explicit thoughts requires that we have internalised the implicit abilities themselves. This, in turn, values practice over description. And, this means that, for Mitchell, in an educational context good teaching is premised on a solid understanding of the implicit requirements of the art. We shall return to this point at the end of the following section.

3.1 Implicit Thought in the Sciences

Noting this kind of cognitive processing is not a matter of idle distinction-making in epistemology; it has real implications. The importance of tacit knowledge or implicit thought has been noted in the context of science. The examples commonly raised are the assessment of data and the use of tools.

In any list of the methods used in scientific inquiry rarely is the implicit use of tools ever mentioned. However, this capacity is clearly vital for science. Scientific experiments can fall foul of pitfalls at any stage: damage to the tool and the user; hidden errors of interpretation of the products of the operation; hazards of manipulating and interpreting data. Yet there is no way of explicitly instructing scientists in the procedures of tool using. Ravetz gives an example from chemistry:

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[24] Polanyi (1967), pp. 6-7; Polanyi (1958), p. 49.

> The beginning student has no basis for knowing that concentrated sulphuric acid evolves heat on mixture with water, could not understand the explanation if it were given to him, and should not have to learn the phenomenon by "trial and error". Hence, he will simply receive a precept to drop the acid gradually into the water, rather than mix all the masses or to drop the water into the acid; and the 'explanation' of the precept is restricted to an assertion of the danger of other courses. [25]

Given that there is no effective instruction, how is expertise in tool use developed? Clearly not from more detailed instruction, for this falls foul of an underdetermination of instruction over tool use:

> For a full mastery of the use of tools, explicit precepts are insufficient. Any extension of the uses of a tool involves new hazards or pitfalls; and the unknown cannot be described by formulas. Hence the full craft of knowledge of any particular tool, for a particular range of functions, will involve a large measure of personal experience. To the extent that the personal knowledge of a tool is deep and subtle, any set of explicit precepts will fall short of conveying it. In any real situation there are too many subtle cues, and too many partly relevant precedents, for the knowledge of how to cope with novelty to be reduced to tables of experiences and inferences. This aspect of tool-using involves the solution of 'diagnostic' problems, as those faced by a physician. [26]

The way in which scientists achieve such diagnostic skills is a function of *tacit knowledge* of tools: 'which have become nearly continuous extensions of the sensory, motor, and intellectual equipment within his body'. [27] (Recall also Mitchell's example of the child with the hoop.) A similar case arises in the assessment of data: how does the scientist identify what is relevant; exclude what is irrelevant; formulate problems and adopt strategies for dealing with them appropriately? How does he assess data of value? Clearly it is not by means of text books or detailed instruction. Science is not merely an activity of reasoning from rules and inferring from plausible premises; it is very largely a "craft activity" depending on informal and partly tacit knowledge. Science involves a peculiar human capacity: the capacity of what Mitchell calls "implicit thought".

Note importantly that implicit thought or tacit knowledge can only be recalled with considerable difficulty. We have seen the case of the child with the hoop: it is hard to bring to

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[25] Ravetz, op. cit., p. 102.
[26] Loc. cit.
[27] Ibid., p. 103.

attention our understanding of the velocity and acceleration of the hoop (it is virtually impossible to describe it). [28] Similarly, tacit knowledge in science is described as 'completely tacit', and 'learned entirely by imitation and experience ... often without awareness that something is being learned rather than "common sense" being applied'. [29]

Mitchell is clear that implicit thought is tacit in just this sense. He claims at several points that implicit thought is, like mere perception, indistinguishable from the meaning that is given in the experiential act. An experience is implicitly thought when the capacity to anticipate cannot be divorced from the experience, except when analysing the experience after the fact. In implicit thought: 'sensation and its meaning are not felt to enter in procession; they become definite together, and they are not thought apart'. [30] Just as the child has no difficulty anticipating the progress of the hoop being trundled, and the swimmer has no difficulty regulating their breathing, so the scientist "knows" when the data is relevant to the experiment. It is this tacit dimension to knowing that ensures that we have grounds for our beliefs and adequate warrant to carry them out. It is just as well this is so, for science would consist of a great deal of time-wasting, pursuing false leads and theories. It is very well that it is so in ordinary life too, for we could not leave home without some tacit knowledge.

It is interesting to compare the work of continental philosophers and their views of "lived experience" and the "lived body" here, of which there has been a wealth of published material recently. It is also interesting to observe the implications for education. Mitchell was well known as an influential educator. A point worthy of note is how the teacher makes use of implicit knowledge to make explicit various kinds of principles. The role of the teacher is to ensure that the development of implicit thought parallels the development of 'different and opposite real objects'. [31] This needs explanation.

The key to this is to acknowledge that the difference between implicit and explicit thought is the difference between inattention and attention. Bringing inattention to attention—making

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[28] In one softback edition of *The Sound and the Fury* a Russian dancer is quoted as saying: "If I could describe what I meant by a certain dance do you think I would take the trouble to dance it?".
[29] Loc. cit.
[30] SGM, p. 247.
[31] SGM, p. 252.

explicit the implicit—is the work of the teacher. In doing a good job, the teacher 'makes attention coincident with interest'; and this, in turn, leads to understanding. Importantly, these are not separate processes. In discussion on this phenomenon, Mitchell highlights a crucial feature of epistemology: the relationship between *attention, understanding* and *knowing.* He uses the metaphor of a police investigation to make the point clear:

> The police work is ... the calling to attention, and the rest of the action is the response to the call. The rest of the action continues to be a handling of the object; we set it in various lights, we look at it from different points of view, we investigate it, we turn it over in our minds. ... Understanding does not begin where attending ends, like a judge following up the work of a policeman. They name two aspects of the same act of thought, and of the same function of the act, viz. knowing. They distinguish the thought, the one as an act, the other as an actual knowing, the one as the function realising, the other as the function that is being realised. We hold and manipulate an object by the very thinking about it, not merely in order to think about it. And the same dealing with the object, or thinking about it, we call understanding it, when we ignore the act as a dealing, an attending, and regard it as an achieving. It is true that the child can only attend to the aspects of the hoop so far as he can grasp or understand them; but it is also true that he can only grasp or understand them so far as he can attend to them. [32]

This is an ingenious—if not altogether clear—analysis, for it points out the *seamlessness* of attending, knowing and understanding at various processing levels. Knowledge is not to be understood as a form of discrete processing guided by reason, but as a seamless web of interconnected abilities, some reinforced and brought to the fore by others.

The passage also anticipates and provides support for Wittgenstein's view that understanding is merely "going on in the same way". Passmore points out that Mitchell makes intelligible Wittgenstein's and James' claim about our conviction that we 'know how to finish a poem or a sentence or to complete a mathematic series'. [33] We can do this because there are no abrupt points of difference between the forms of knowing required: understanding just is being able to attend to the series and have it result in an achieving. Understanding, attending and achieving are seamlessly connected. (Hence the claim: "the child can only attend to the aspects of the hoop so far as he can grasp or understand them; but it is also true that he can only grasp or understand them so far as he can attend to them".)

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[32] SGM, p. 253.

[33] J. A. Passmore, 'Philosophy' in A. L. McLeod, *The Pattern of Australian Culture,* (1963), p. 147.

This has implications for education. The job of the teacher, in Mitchell's view, is to facilitate the process of understanding by situating students in this seamless fabric of knowing. Mitchell's views on education are, in fact, quite radical. He claims that the current fragmentation of knowledge by reason into a variety of "isms" is part of the problem. It has resulted in schools and universities trying to cover too much ground at the expense of considerations of practice and interest. The aim should be to remove the emphasis on dispassionate reason and returning to considerations of *value:* 'Reason is no substitute for [living value] any more than physiology is a substitute for breathing and digesting'.[34]

This points to the need for an education system which values implicit thought and provides opportunities for such tacit knowledge to be explicitly modelled (a justification for tutorials at the expense of "on-line learning"). The teacher models more than explicit rules: he or she also models attending and implicit thought. This provides an argument for the importance of practical education which fosters the intrinsic merit of interest and application, and which does not devalue practice in place of explicit learning via examinations. [35] True understanding requires interest and attention to be generated; time to reflect and ponder; opportunity for explicit modelling of desired routines; and a forum for practising what one thinks implicitly. [36]

3.2 What Implicit Thought is Not

Mitchell goes to great length to describe notions of "implicit" with which he is *not* concerned. A brief digression into these areas will shed further light on what he means by implicit thought. The misconceptions are inherent in its logical use and in its factual use.

One sense of "implicit" is when they say that propositions are entail one another: for example, *all things are coloured* implicitly presupposes there *are some coloured things,* etc.

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[34] UL, p. 7.

[35] For Mitchell's attack on examinations, see his RE (1895).

[36] '[T]he measure of value of ... education is not the quantity of knowledge which it conveys, but that character and permanence of the interest it creates', RE, p. 15. Elsewhere Mitchell outlines his "model" university: 'There would be no examinations, no essays, nor even any prescribed readings; and there would be no fee. But I should make attendance compulsory for the greater part of one year in about a student's third year, and voluntary thereafter. The route would, I believe, soon reach a stage where lectures would give place to discussion; and, from the start, the professor in charge would be more the director of a clinic than a lecturer. We might call him a professor without portfolio, because he is for all students. He would be familiar with philosophy, but he would have a province of his own, and no chair in the university would have its province better defined'. UL, p. 3.

Mitchell remarks that logic deals with truth and falsity in statements and deals with propositions by making articulate the assertions they involve. Logical implications are 'conditions on which a thought is true; they are not conditions or causes which make it the actual thought that it is'. [37] Simplified, Mitchell's argument is that logical implications are artificially divorced from the mechanisms under which perceptual content arises, and therefore it makes no difference in terms of their validity if they are "felt" or not. His interest, instead, is in the conditions under which feelings and perceivings arise, not the abstract issue of non-perceived implications. Thus, the logician's use of the term "implicit" is irrelevant. To assume otherwise is to play the role of a judge and not a claimant, according to Mitchell. In the former case, it 'makes no difference to the validity of its claim whether they happen to be felt, any more than claims in a law court are decided by an examination of the claimants on their knowledge of the law. The logician speaks from the judge's mind... ; we are speaking from the claimants'. [38]

Another understanding of the term "implicit" is in relation to facts, where one fact more or less presupposes another as a cause. For example, a light being turned on presupposes—and, hence, implies—a causal agent; or, at least, would presuppose such an agent under certain condition peculiar to the situation (i.e., that the light works; that it is not a faulty connection; that the person meant to turn on the light; and so on). [39] Causal connections between facts and objects assume a *texture of vagueness* under which these conditions of implication occur.

Mitchell rejects this use of the term too. The reason for the rejection here is because this use of implicit is premised on concepts of objects and events in the world which do not apply to the case of implicit thoughts. In the case of the light example, there are two objects and one event. We compare the two and assume that, all things being equal, the one object (the agent) causes the event (the turning on of the light) which results in another object (a glowing light). Thus we say that *implicit* in the going on of the light is a causal agent who initiated the event. (Allowing for a number of vagueness constraints being satisfied.)

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[37] SGM, p. 258.
[38] Loc. cit.
[39] Compare Mackie's account of causality as INUS conditions. See *The Cement of the Universe,* (1984).

According to Mitchell, the assumption rests on thoughts 'existing in the same form' [40], i.e., being like objects. But this is not true on his account. Experiences are not like our vague texture understanding of ordinary objects and facts. Thoughts derived from experience are there in all their definite explicitness or implicitness. We are not vague about *them* at all. They are not indefinite like our understanding of things in the world, and facts. We are most certain about our thoughts. To make the analogy work, we'd need to suppose that thoughts were like our vague understanding of "facts". In ordinary life, an unintended action, or a light which is neither on nor off (flickering) makes perfect sense. However, an *unfelt feeling* or an *unconscious comparison* are absurdities. Therefore, the use of the term "implicit"—as used in the vague world of ordinary discourse about facts—does not work when translated to experiential content.

But there is a second problem. We cannot compare thoughts as we can facts. In words which clearly anticipate Wittgenstein's Private Language Argument, we cannot compare our thoughts in the same way as we compare things in the world. For in the case of thoughts, the notion of "comparison" makes no sense at all:

> The error is in supposing that, in order to have this implicit thought, there occur in unconscious form the same processes that produce explicit thoughts. We become aware of the ground, it is said, by an implicit act of comparison. Thus when I recognise the portrait of one I have met, I am said to have compared it with my memories of him, just as I might compare it with him in his presence. ... [However] the so-called implicit or unconscious comparison would have to presuppose the result which it is thought to produce. ... How do I at once recognise the portrait? By unconsciously recalling on the instant, it is said, an image of the original, and comparing the two. But how can the original be suggested to me? ... No doubt by reason of its similarity with the portrait which I see. But not by my feeling of the similarity, for this can only follow after the suggestion has already been made. [41]

On Mitchell's account, the term "implicit" has its own special connotation, as we have seen.

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[40] SGM, p. 260.

[41] SGM, pp. 261-262. Compare Wittgenstein's analogy of comparing memories being like purchasing two copies of the same newspaper. The second in order to be sure that what the first said was true. *Philosophical Investigations,* (1953).

4. Taking for Granted

We are now in a position to understand Mitchell's doctrine of taking for granted. Consistent with his claim that experience is a series from lesser to greater cognitive capacities, the phenomenon of taking for granted occurs mid-way between implicit and explicit thought. Where explicit thought is the basis for our higher-order inferential capacities, and implicit thought is the foundation of our tacit knowledge, taking for granted constitutes the bulk of our knowledge which, while once explicit, now lies behind the way in which we complete our perceptual judgements. It functions as the *initial conditions* for the possibility of making the kind of perceptual judgements we do and acting on them.

The crucial feature of taking for granted is that it is vital for and present in all perception, yet not inaccessible to us as implicit thought is. He gives the following example:

> When we speak of more or less taking something for granted, we mean that we have formed some thought of it, but not to the explicit extent that we have done before. And when we speak of taking it entirely for granted, we mean that we do not take thought of it at all. In lifting a piece of chalk in order to write on the board behind me, I should probably take what I know of the board more or less for granted; but if much absorbed in the thing to be illustrated, I should take it entirely for granted, possibly with some feeling of it as behind me, but possibly with none at all. Finally, I do not take all of my knowledge of it for granted, but that part of my knowledge which I can use.[42]

Note the differences here between implicit thought and taking for granted. Firstly, there are degrees of taking for granted, whereas something is either explicit or implicit (though, as we have seen, once explicit, degrees of inference may ensue). Whereas "implicit" and "explicit" constitute extreme points on an experiential continuum, taking for granted occupies the vague middle ground.[43]

Secondly, Mitchell notes at one point that there are 'degrees of dependence on our past experience' and gives the examples of how 'misprints catch your eye... and picture puzzles resolve themselves at a stroke'. [44] This is in contrast to cases where the meaning that an

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[42] SGM, pp. 270-1.

[43] This connects with the idea of development of sophisticated organisms, as we shall see. Some less sophisticated organisms can only have explicit thoughts, and take very little for granted.

[44] SGM, p. 265.

experience has takes a longer period to resolve itself, such as when 'the ancient mariner first [sees] something in the sky, a speck, a mist, till it took a certain shape, then the shape of a sail, and gradually revealed its horror'.[45] In the case of puzzle solving and seeing a misprint, we instantaneously bring the weight of our knowledge of the situation to resolve the perceptual incongruence; in the case of the mariner, we bring progressively greater degrees of knowledge as we await the object to resolve itself. In both cases, our previous explicit thoughts constitute essential conditions for making sense of the experience, solving perceptual problems, and acting on them. Hence, the quotation with which we began this chapter:

> [T]he power of solving a problem depends on the ability to take many things for granted, this again depends on our having had to learn them and so having them now at command, though we do not have to re-think them.[46]

Thirdly, as we have seen, implicit thought is necessary for the possibility of explicit thought (our tacit knowledge of acceleration and velocity is implicitly behind our explicit ability to trundle a hoop; our knowledge of scales is behind a fluid musical performance; appreciation of relevant data is behind good science). By contrast, taking for granted is not premised on our later taking the thought explicitly at all. Indeed, as the earlier example shows, we may be so absorbed in our activities that what we take for granted does not feature in our thoughts at all. But, despite this, we cannot function without taking for granted part of our previous knowledge and not having to re-think it.

Fourthly, while implicit and explicit thought are a function of attention—what is attended to is explicit; what is not is implicit—taking for granted is independent of our attention and the foundation for it. Hence, the claim: 'A thought is explicit or implicit according as its object is the object of attention or not; and in order to attend, much is taken for granted to which we do not attend'. [47]

In summary: taking for granted is partly explicit in how we process experiences, in the sense that we cannot attend to things without it. It is partly implicit in that it is presupposed by our

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[45] Ibid., p. 266
[46] SGM, p. 41.
[47] SGM, p. 270.

actions. But it constitutes a separate category from either because it provides the grounds or initial conditions for our perceptual judgements. Taking for granted is 'the general fact of economising in consciousness' (p. 254). Its function is to allow experience to guide our practices and activities without it being always available to our consciousness, though it is retrievable at will. Taking for granted also depends on the intellectual capacities of the organism: for example, unsophisticated organisms cannot always take for granted, for there may be nothing that they are thinking beyond the content of their present thought.

Taking for granted is a type of quasi-implicit thought which can be recalled without access to the cognitive processes which originally gave rise to it. As we have seen, taking for granted is neither "implicit" nor "explicit", properly speaking. It is sometimes called "implicit" because it is tacit in the thoughts that we have about objects (the cup we are holding is green, for example). However, it is also potentially explicit because it is accessible, can be recalled at will, and can be brought to bear on the situation. By contrast, a musician's knowledge of how to play a scale, or a child's knowledge of velocity and acceleration of a hoop is not explicitly available. Being partly implicit, the ability to take for granted is necessary for acting on the thought in question, even if we are not always aware of what we are taking for granted at the time.

But what kinds of thoughts does taking for granted apply to? Mitchell identifies three kinds of intelligence: sensory, perceptual and conceptual. Chapters 8, 9 and 10 will be devoted to discussing these kinds of intelligence in detail. For now, I present a summary of the connection between each kind of thought and the phenomenon of taking for granted.

4.1 Sensory Intelligence and Taking for Granted

Sensory intelligence is roughly equivalent to *instinct.* Mitchell defines instinct as 'a course of sensation necessary to directing the [instinctive] action' [48] This may seem odd, given that philosophers and scientists usually make a clear separation between instinct and a course of sensory experience; the former being an involuntary capacity, the latter suggesting a voluntary

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[48] SGM, p. 194.

capacity. Mitchell understands "instinct" as minimal *capacities to experience;* specifically, capacities which give rise to *interest.* As he defines it, the course of instinctive action is: 'the power of pursuing an infinite variety of course, directed throughout by present sensation'.[49] This definition does not, of course, rule out the voluntary/involuntary distinction, but it does place a rather different slant on it. (We shall return to this issue in Chapter 10.)

Taking for granted applies to sensory intelligence in the sense that even involuntary sensations depend on past experience. Mitchell discusses the capacity we have to 'finagle the looks' (as Fodor describes it) [50]; the ability to 'fix our eyes, ... fix our ears, sniff with our nose, roll a morsel on the tongue, and grasp things, all to get fuller sensations'. [51] Such abilities guide the application of our sensory attention. Hence, we spot the misprint at a glance and identify any incongruity in a picture puzzle. Our senses are enhanced by our finagling, to be sure, but this is so only because they take for granted what we have learnt in the past and apply it to the present situation, whether consciously or not. Spotting a misprint takes for granted that we can spell, for example, but the correct spelling might not be at the fore in our consciousness. We may just identify in an instant that a misprint has occurred without initially being clear as to why. Quite often we finagle our sensory processing *because* we spot a mistake, and the finagling directs us to the error.

4.2 Perceptual Intelligence and Taking for Granted

Perceptual intelligence is a developmentally higher form of experience which involves the power to anticipate from a "serial mass of sensations" (or, as we might call it now: "proximal data"). Perceptual intelligence presumes meaning and warrant, not merely the look of sensory aspects (in the sense that a misprint just "looks wrong"). Perceptual intelligence, by contrast, comes already with meaning:

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[49] Loc. cit.

[50] J. A. Fodor, 'A Reply to Churchland's "Perceptual Plasticity and Theoretical Neutrality"', *Philosophy of Science,* 55, (1988) pp. 190-191.

[51] SGM, p. 265.

> In perceiving we do not first fix on an aspect, then make it a ground, and so find its meaning. The meaning comes with the sensation, and is necessary to make it definite.[52]

For example, seeing a scene of objects is guided largely by sensations which already have meaning, and these are taken for granted (whether or not the body of knowledge taken for granted is true or accurate):

> "A man of a morning may look out of the window of a strange house, and for a full five minutes have, to his astonishment, before his eyes a vast chaos of stones stretching over a great plain to the very verge of the horizon, which incomprehensible knowledge-wonder will spring together at last into the very limited garden wall he recollects to have seen the day before". [53]

The example is instructive. Very few of us have not experienced the phenomenon of an instant "springing into meaning" of a perceptual scene, only later to recombine the perceptual information into new representational gestalts. Mangan has very recently illustrated this with a passage of writing which is unintelligible until prompted with a single word clue, upon which, the "rightness" of the disparate information is suddenly reinterpreted and made meaningful. [54] Christopher Peacocke gives the example of a person, experiencing a certain sound that is believed to be rain, who later judges that a stereo has been left on, and the "rain" sound comes to be heard as applause. Peacocke uses this to make a distinction between propositional attitudes (Mitchell's conceptual thought), perceptions and sensations. According to Peacocke, the propositional attitude representing the sound as rain has been influenced by the attitude that the stereo has been left on. Propositional attitudes or judgements, according to Peacocke, can fix the representational content of an experience by bringing to bear different kinds of high-level information to the perceptual situation. [55]

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[52] SGM, p. 265.

[53] SGM, pp. 265-6. Here Mitchell quotes from J. H. Stirling, *Textbook to Kant,* (1881), p. 55.

[54] Mangan, (2001), op. cit.

[55] Christopher Peacocke, *Sense and Content: Experience, Thought and its Relations*. (1983), p. 6. This need not happen. Sometimes the representational content of an experience is independent of the content of a judgement. 'A man may be familiar with a perfect *trompe l'oeil* violin painted on a door, and be sure from his past experience that it is a *trompe l'oeil:* nevertheless his experience may continue to represent a violin as hanging on the door in front of him.' loc. cit. Peacocke notes that: 'The possibility of this kind of independence is one of the marks of the content of experience as opposed to the content of judgement.' loc. cit.

The terminology is different but the point is the same. Perceptual intelligence comes with "meaning", a power to anticipate; and this leaves us with a "warrant" to construct inferences and actions on the basis of it. What we take for granted in perceptual intelligence is a function of our background knowledge which we bring to bear on the situation. The experienced scene may vacillate in meaning as what we take for granted shifts.

4.3 Conceptual Intelligence and Taking for Granted

Conceptual intelligence, of course, is the highest level of intelligence. As we shall see in Chapter 10, this level allows for new kinds of content unavailable at the lower levels. Briefly, taking for granted is relevant here in the sense that it allows us to substantially *drive* the kinds of experiences possible. Unlike the case of perceptual intelligence which takes for granted various kinds of knowledge and attempts to fix the experience with some kind of anticipatory meaning, conceptual intelligence distinguishes the "expert" from the "non-expert".

In conceptual intelligence, one's grasp of a scene is 'more comprehensive than in perceiving'.[56] One makes sense of a scene for two reasons: '[there is] either a merely empirical knowledge, a knowledge of detail, or there is a knowledge of mere law, rule or principle'.[57] This distinguishes perceptual from conceptual intelligence: the latter requires knowledge of rule and principle, whereas the former requires knowledge of mere empirical detail. One can fail to grasp the meaning of a scene for either or both reasons. Mitchell gives a clear example of how taking for granted aids in conceptual intelligence:

> When an astronomer happens to glance at a sky which to another is a mere wilderness of stars, when an engineer sees a new design, and in general, when an expert takes thought of anything in his province, he may bring pretty well the whole weight of his knowledge to bear on the single point in a single moment. ... [I]t gives you immediate grasp of a complex situation as if it were simple. [58]

In summary, higher order knowledge drives the scene when we take for granted in conceptual intelligence, whereas we take rather less for granted in cases of perceiving and sensing. This

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[56] SGM, p. 267.
[57] SGM, p. 268.
[58] Loc. cit.

concludes the discussion of taking for granted in the context of sensory, perceptual and conceptual intelligence.

Taking for granted is vital as a well-spring of our creative and intellectual endeavours. It distinguishes us as a species, as we take rather more for granted than other organisms. It also distinguishes peoples. The well-educated draw upon more of what is taken for granted than the less educated by virtue of learning rules and procedures. We may go through life with a variety of explicit and implicit thoughts, but only if we can take for granted much of what we know can we function effectively and find meaning and warrant in our experiential world. As I have noted, achieving this is not done by merely living and surviving, it is also a function of education:

> The child with his hoop has implicit thoughts of a variety of abstract objects, that he has afterwards to be brought to think explicitly; and a wise teacher ... will make the most of them. ... A great part of the work of a teacher is first to turn implicit into explicit thoughts, and then to turn these into a taking for granted. [59]

5. Conclusion

This chapter has outlined the importance of meaning, warrant, explicit and implicit thought and taking for granted. All of these feature vitally in Mitchell's epistemology, as we have seen. In later chapters we shall see the connections between these ideas and the structure and growth of the mind.

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[59] SGM, pp. 252-255.

Chapter 5, Mind and Content

> A mind and its experiences are realities that are presentable to sense as the brain and its actions. In that respect the mind and experience are not parallel with nature but part of it. And on the other hand, the facts of nature, including the brain, whenever they are phenomena, are not parallel with mental phenomena, but part of them.
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> SGM, p. 23.
>
> A Mind's own place [is] to feel, or be subject.
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> PMW, p. 3.

1. Introduction

This chapter outlines Mitchell's theory of mind and content. It is argued that Mitchell anticipates the focus of present-day cognitive science in some respects, while drawing on themes later elaborated by philosophers in the twentieth century. Mitchell's arguments against materialism are also presented here. I conclude that, while many of these arguments do not always establish the conclusion he wishes to draw, they do indicate that he was attempting to articulate a position which, for the time, was genuinely original.

2. Monism and Dualism

Mitchell begins his account of mind by pointing out the "confusion of common sense" lying behind the mind/body problem. The confusion he describes has its origins in the way in which we approach the idea of mind. We first note that the mind is, in some ways, similar to things in the physical world: 'Very often the words mind and brain mean the same thing; we speak indifferently of a man having his mind or his brain keen, dull, large, or small.' [1] Accordingly, we sometimes attribute to the notion of mind, a substantive reality consisting of 'animal spirits, subtle fluids, very complex and unstable compounds, [or] aether'—for

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1 SGM, p. 1.

this, we choose a kind of material reality consistent with the ontology of the time.

On the other hand, the mind is also noted for its difference from material reality: for instance, we sometimes take seriously the idea that the mind is the same thing as the soul which can "leave the body in dreams", and so on. The "contradiction" of which Mitchell speaks, of course, is our willingness to regard both hypotheses to be, in some way, consistent.

The usual response to this confusion is to adopt a form of ontological compatibilism. This he describes as: 'the greater vagueness which admits ... the view that mind and brain are the same thing, and the view that they are different things—with no sense of the contradiction" [2]

But they must, of course, be contradictory. The mind, unlike other material entities, occupies no space; it has no shape; it has neither size, nor mass. It is not visible. By contrast, material things have all these features. Mitchell implies that this compatibilist theory of mind is simply unworkable.

From this, the tendency is to turn from saying that monism and dualism are compatible propositions, to the somewhat more sensible view that the mind is a property of the brain, or 'the power of the brain to produce experience.'[3] It is this proposal, which today we identify as property dualism, that Mitchell next entertains as the best way of approaching the issue of mind and its relationship to the brain (later, however, we shall see that he repudiates this suggestion as well).

3. The Property Dualist Solution

Mitchell notes that the idea that the mind is 'not a thing but a property' is not a clear claim and 'may mean anything.' [4] However, in whatever form it takes, it does have the distinct advantage of preserving our intuitions that mental states are in some sense qualitatively different from the brain states which are their causal antecedents. On the most plausible account, experience is considered to be qualitatively non-identical to brain processes—even

2 Loc. cit.
3 SGM, p. 2.
4 Loc. cit.

though it is also admitted that there is nothing more to the notion of mind than physical processing. On the property dualist's account there is a dualism of content, but an ontological monism of substance.

Property dualism allows for a number of points which materialists would have no trouble accepting, and Mitchell agrees with each of them: 1) that there are specific brain changes for every difference in experience ('Very likely there is a specific brain-change for every difference of experience'); [5] 2) that these brain changes are fully explicable in physical terms ('every brain change ... has a full physical history and explanation'); [6] and, 3) that the mind is a function of, but not necessarily reducible to, these brain changes ('the mind is the power of the brain to produce experience.') [7] That is, he is clearly sympathetic to: i) the neural dependence of cognitive phenomena; ii) a neuro-historical account of cognition; and iii) some kind of material *causal* account of mind, but not necessarily a type-identity of mind and brain. Mitchell clearly endorses each of these propositions in outlining his account of mind:

> When you try to picture the structure and the action of the mind, remember that you are trying to picture the structure and action of the nervous system. In this way you will avoid the usual confusion of trying to picture a hybrid process consisting partly of visible movements and partly of invisible feelings. [8]

However, even with this clearly more acceptable account, Mitchell notes that there is a second "contradiction"—or at least the appearance of one. This is the tension which arises between the following claims: 1) there is a specific brain change for every mental change (call this *the supervenience thesis*); and 2) the second is that experience is of use; that is, experience plays an epistemic role in one's life, which is to say it isn't redundant or otherwise epiphenomenal (call this *the experiential thesis*).[9] Exactly why Mitchell considers there to be a contradiction here is not at this point clear, but we can surmise why

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5 Loc. cit.
6 SGM, p. 3.
7 SGM, p. 2.
8 SGM, p. 7.
9 LM, p. 9.

only after a discussion of Mitchell's rejection of materialism.

4. Mitchell's Rejection of Materialism

Mitchell disagrees strongly with materialism in whatever form it may take. He is against any strong form of materialism—calling the materialist program "naive". What does the strong form of materialism imply? In words anticipating Nagel's position much later, he claims that materialism misleads us into seeking "a common denominator" ('The ideal of explaining everything by reduction to terms of a common denominator is so striking, that we are apt to take it for the only way of explaining.') [10] His suggestion is that there is much more to understanding the mind than the materialist account allows. This unambiguous rejection of a thorough-going materialism, whilst endorsing the central claims of the materialist account, is one of the central paradoxes of Mitchell's philosophy, which I aim to clarify in this chapter.

Mitchell's account of materialism seems, on the surface at least, to be the same materialism as it is discussed in work by contemporary philosophers. He gives two rough formulations of "materialism":

1. That the mind is a material thing;
2. That the mind or experience is a product of the brain.[11]

Both claims are sufficiently general and vague to be consistent with a number of materialist accounts which are common in the late twentieth century. However, Mitchell's interpretation of these claims is not orthodox at all. He calls the kind of materialism he is opposed to "parallelism" or "scientific monism". He explains it thus:

> The doctrine is based on the model of a substance having two properties or aspects which do not produce effects in one another, and yet vary with one another, like the outer and inner curves of a hoop, or the colour and taste of an orange. Because the

10 SGM, p. 36. cf Thomas Nagel, who has a similar view in *The View from Nowhere,* (1986). Nagel refers to the 'bleached-out physical conception of objectivity [which] encounters difficulties if it is put forward as the method for seeking a *complete* understanding of reality.' p. 15.
11 LM, pp. 5-6.

> substance is single, the doctrine is called monism (i.e., one-ism), and because the aspects vary with one another without producing effects in one another, it is called parallelism. [12]

Mitchell attributes this version of materialism correctly to the work of Spinoza. Of course, materialism as a philosophical enterprise has moved on since the work of Spinoza and "parallelism" no longer identifies a kind of materialism, but instead a type of substance dualist account (for example, that of Malebranche). Did Mitchell confuse what seem to be two quite clearly different theoretical perspectives, or was his characterisation of materialism in these terms accurate in the context of the nineteenth century philosophy of mind? To see the answer we shall need to consider Mitchell's attack on parallelism.

5. The Parallelist Retreat

Those philosophers (parallelists) who individuate mental and physical properties as separate attributes of a single underlying reality face the objection of what the nature of the attribute relation could be. Failing any plausible account which explains how physical states can have aspects which are "mental", sympathisers usually resort to dualist intuitions—suggesting that those aspects are "non-physical" after all. It is, of course, intelligible that one could maintain a parallelist thesis and not the additional claim that mental properties are non-physical as others do—this, I take it, is Spinoza's version. However, this would amount to a substance monism, and, on this account, while mental states could be said to be identical with physical states—because there is only one substance—the reverse would also have to be true (and this seems implausible).

In contemporary terms, of course, this kind of "materialism" is not a fashionable item. "Scientific monism" can be maintained independently of any "parallelist" thesis, so the two positions are non-identical. One can, for example, be a central state materialist (Armstrong, Smart), eliminativist (Churchlands, Stich), functionalist (Putnam) or any number of other positions—none of which argue for a "parallelist" story. Thus, Mitchell's arguments against materialism could, in contemporary terms, be seen as an attack on a strawman. Few these

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12 LM, p. 7.

days take the obscure Spinozian suggestion seriously as a viable materialist theory, and few these days would be persuaded by his characterisation of materialism as "parallelism".

5.1 Complete Parallelism

In any case, Mitchell identifies two forms of materialism in this Spinozian sense: a "complete" and a "partial" form. The complete version—found in some of Spinoza's writings—argues that *every* physical fact has a corresponding mental fact. But Mitchell argues that this form is implausible for the principal reason that it leads to panpsychism: Mental properties, on this version, may as well be associated with *prima facie* irrelevant physical matter, or any kind of "matter" at all (Mitchell gives the odd example of 'the bowels of the earth' as having a corresponding attribute of "mind"—suggesting his utter contempt of the parallelist's claims.)

However, despite how odd it may sound on first hearing, this option has some justification: it has been mooted because 'it has been thought impossible to confine the parallel to the nervous system, and the experience going with it.'[13] It was once hard, he intimates, to attribute mental states solely to neural states alone (and not to the associated parts of the nervous system lower down—why should mental states be *neural* states in particular, and not non-neural parts of cells, molecules, and so on?) Given that there are no compelling reasons not to regard the mental as arising at other levels lower down, the "complete" parallelist story claims that there might be complete mental/physical parallelism throughout the physical world.

On this option, Mitchell has no direct counter argument. And he gives no examples of who actually argues for this doctrine. He merely asserts, somewhat unsatisfactorily, that the position is based on points which are 'due to an ignorance which will very likely be removed in the future',[14]—a reply which, once again, suggests his complete faith in the advancing sciences and in an eventual naturalist account of mind. It is interesting to note that in our present century, Mitchell's optimism for the advancing sciences has not been

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13 Loc. cit.
14 Loc. cit.

borne out with respect to this issue, and that there is still—almost a century later—considerable dispute on the nature and existence of consciousness at sub-neural levels—suggesting that the "complete" parallelism he describes is still an option in one form or another.[15]

5.2 Partial Parallelism

The "partial" parallelist account is an option Mitchell entertains with somewhat more seriousness. Especially so since the partial parallelist account localises mental states to *brain* states: 'This view assumes that for every difference of experience there is a difference of nervous state, but ... that experience can make no difference to our actual conduct.'[16] What Mitchell calls "partial parallelism" is a view which he adopted directly—metaphors and all—from Huxley's characterisation of epiphenomenalism.

> Those, however, who are entirely concerned about the physical explanation, are apt to assume that feelings are somehow thrown off from the brain like sheets from a printing-press, and that they are barely formed when they pass into nothingness, being too ephemeral to remain anything at all, or to make a difference to anything else. They are likened to words from our mouth, to the shadow and to the whistle of a passing train, and to whatever is incidental and easily disappears.[17]

On this account, the mental aspect of the parallelist moiety is not wholly part of the physical world, but only partially; they become epiphenomena—products of the brain, but otherwise causally and functionally idle.

Even though this account was 'the commonest view among men of science' in Mitchell's time (Huxley being the most famous), Mitchell cautions against it. The move from an account which notes the importance of "the physical" to any understanding of mind, to an account in which the mind—though qualitatively distinct from brain events—is subordinated to the role that physical explanations play, brings disrepute on both mind and

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15 More than one contemporary philosopher adheres to a form of panpsychism, for example, T. L. S. Sprigge. See his: *A Vindication of Absolute Idealism* (1983). See also D. Chalmers, *The Conscious Mind,* (1996). T. Nagel also argues for it without committing himself to it. See 'Panpsychism' in *Mortal Questions* (1979).
16 LM, p. 7.
17 SGM, p. 9.

evolutionary theory, according to Mitchell.

His argument against it is a familiar one, yet it is flawed on several counts. He claims that mental states which are partially parallel with physical states of the brain yet do no causal work are *useless*. Nevertheless, he argues the principal point of evolutionary theory is that evolutionary traits are perpetuated only if they are causally efficacious. The result, Mitchell claims, is an inconsistency:

> [I]t is impossible to reconcile the doctrine [of partial parallelism] with evolution, for (a) there is no meaning in progress except for a better experience, nothing else having value in itself, but all for it, (b) pain and pleasure are always given as factors in evolution, and (c) so are degrees of intelligence and determination.[18]

It has taken a century of philosophical hindsight and debate about the issues to see why this is a flawed argument. Firstly, evolutionary theory makes no claims about "progress"; least of all for "better experience" as Mitchell suggests, so his suggestion that nothing has value because there is no causal role for experience is simply wrong-headed. As S. J. Gould and others have made clear, no teleological implications at all follow from Darwinist principles.[19] If Mitchell is claiming that there are such implications (and he seems to be in the above quotation), he is seriously mistaken about the biological issues concerned.

Secondly, that pain, pleasure, intelligence and determination *could* be seen as selectively valuable features of mind doesn't necessarily make them candidates *for* selection: in certain unfavourable circumstances, such traits might be disadvantageous and remain unselected—establishing nothing to advance his counter argument.

Thirdly, Mitchell's argument that there is an inconsistency between the principles of Darwinism and the epiphenomenal idleness of mental properties is simply false. As Jackson has argued fairly recently, it is consistent to suppose that some traits which are epiphenomenally idle—or even disadvantageous—might be co-selected as concomitant features along with traits which have causal utility (Jackson's example is a polar bear's coat which, while warm—and hence, selectively useful—is also heavy—and hence

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18 LM, pp. 8.
19 S. J. Gould, *The Panda's Thumb,* (1980), passim.

disadvantageous.) Mitchell's argument against the epiphenomenalist view seems superficial and inadequate (however, this is by itself not an argument necessarily in support of that view).[20]

This attempted rejection of both "complete" and "partial" parallelism (unsuccessful in my opinion), brings us to Mitchell's second "contradiction"—or, at least, the appearance of one, which concerns him. This is the contradiction between "the supervenience thesis" and "the experientialist thesis" mentioned earlier. Mitchell seems to regard the claim that 'there is a specific brain change for every mental change' [21] as being in fundamental conflict with the idea that experience is causally important for living.

This is an odd concern: even if the parallelist story remains undamaged by Mitchell's attacks, why should the claim that mental states have corresponding physical concomitants be in conflict with the causal importance of mental content—that experience is useful? For even on Jackson's epiphenomenal account, experience might still be useful even if it plays no *direct* causal role (a polar bear's heavy coat might not be of direct causal use, but the indirect associated features of having such a coat—i.e., its warmth—clearly are). Mitchell's worry here is not obvious.

His concern is this: he notes that from the assumption of parallelism it is all too easy to be driven into a fully materialist account in which the mind is either considered to be the same thing as the brain, or an account whereby the mind is *inexplicable*—i.e., a result of underlying forces coordinating the parallel aspects. Mitchell's concern about the supervenience thesis is really with the implications of parallelism, as he defines it, not with the idea of supervenience *per se*—it is with what the thesis, innocent in its assertions, causes us to assume. It causes us to assume 'the error of coordinating the two factors and so having to suppose a "chasm intellectually impassable" between mind and brain.' [22]

Mitchell has made two errors here: 1) He has falsely associated "materialism" with parallelism (whereas, in contemporary terms the doctrines are quite distinct); and 2) he

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20 Frank Jackson, 'Epiphenomenal Qualia', in W. Lycan (ed), *Mind and Cognition: A Reader,* (1990). I have elsewhere argued that this is a faulty argument itself and that epiphenomenalism doesn't follow from it as readily as Jackson claims. (See my *Experience and Content,* 1996 Chapter 8).
21 LM, p. 9.
22 LM, p. 10.

assumes that the problems associated with parallelism raise difficulties with the supervenience thesis and the experiential thesis. Neither claim is true. However, it is on the basis of this that Mitchell begins his attack on materialism.

6. Arguments Against Materialism

In response, Mitchell offers a cluster of arguments (some rather weak) against the idea of a simple-minded materialism in which the mind and the brain are considered to be the same thing. I shall call these: 1) the conservation of energy argument; 2) the inference objection; 3) the dissimilarity (or non-independence) objection; 4) the argument from idealism; and, 5) the argument from the structure of experience. There are some other minor arguments, but they will be discussed under the general heads listed. I shall start with the weakest arguments and work toward the strongest.

6.1 The Conservation of Energy Argument

Energy is realisable in physical states of one sort or another. Brain changes cause changes in energy states which result in transformations in brain chemistry. The changes undergone occupy the total energy involved in such exchanges, according to Mitchell. Following the law of conservation of energy, there can be no "residual" energy—energy is conserved in physical exchanges. Thus, experience, were it identical to the brain, would either be identical with the energy involved, or one would have to admit that some energy is not converted in such exchanges. In other words, against the principle of the conservation of energy, energy must either be lost in order to "create" mental experience ('in order to produce or become experience, energy must disappear from the physical world');[23] or, experience must, in some sense, *be* that energy, which seems on the face of it to be implausible. He puts his argument to this conclusion clearly:

> None of the energy spent in producing changes in the brain is spent in producing experience; none disappears as physical energy to be turned into experience. Therefore, when experience is present, it is present as well; it is not an effect,

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23 SGM, p. 3.

> product, or property of the brain in the sense that everything else is an effect, product or property. It occurs *in addition* to the physical effects. [24]

The argument is clearly valid, whatever reservations one has about the premises:

> P1: For physical energy to produce experience it must disappear from the physical world;
> P2: Energy doesn't disappear from the physical world;
> C: Physical energy doesn't produce experience (and experience must occur *in addition* to it).

On the face of it, this seems to suggest that Mitchell is arguing for some kind of dualism of psychical energies; an account which would clearly place his overtures against dualism at some risk. However, I think this would be to place the wrong stress on the phrase "in addition". There is certainly textual evidence for claiming that a psychical account is sometimes Mitchell's main motivation (hence, the historical confusion about Mitchell's overall philosophical position). But given his clear sympathy with some materialist themes (e.g., supervenience), there are no grounds for claiming Mitchell was a dualist or idealist in fact (though see **§6.5** "The argument from idealism" below). The best interpretation of these inconsistencies is that Mitchell was concerned with salvaging experience as an ontological category from perceived threats and, naturally, he mustered all he could in its defence.

What then does the argument claim? As mentioned, the argument really relies not on psychical energies, but on an ambiguity in the materialist principle of the conservation of energy: if it is true that physical energy never dissipates (but is merely rearranged), then the mind can't be caused by the brain because this presupposes "leakage" of energy, which is *ipso facto* impossible on the terms of the principle itself. Hence, materialism is either inconsistent or false.

It is not obvious that Mitchell himself is entirely convinced by this "leakage" argument. Elsewhere in his discussion on mind, Mitchell takes the materialist option seriously and

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24 LM, p. 6

seems to suggest that mental states *can* be a result of energy states involved in physical exchanges. This admission suggests some confusion on this point:

> [If] the energy involved is not all occupied by the physical incidents, but that some of it is converted into experience and is perhaps reconvertible; then indeed, experience is a product or an effect of the brain in the sense that physical events are effects. [25]

On the other hand, Mitchell clearly argues against the materialist option on grounds which demonstrate that he was convinced by the leakage point. It also shows that his understanding of physical processes was clearly well-grounded in the physics of the nineteenth century:

> In order to produce experience, energy must disappear from the physical world. For if the effect were perceptible, however indirectly, in any sort of physical change, it is this change and not the experience that would require and occupy the energy in question.[26]

There are problems with this response and with this whole leakage argument. For one thing, it doesn't follow that experience requires energy to "disappear"; as he himself notes, a mere *transformation* of energy states would be sufficient to secure a robust materialism of mind and content. Secondly, Mitchell is assuming that the physical states of the brain have to *produce* experience; however, this is only plausible on non-materialist (e.g., dualist) assumptions. Thirdly, it is not obvious, for example, that experience can't simply *be* the energy that he discusses (and it is simply question begging on Mitchell's part to claim otherwise). His argument assumes, of course, that experience is not type-identical to the kinds of energy states of the brain, but there is considerable *prima facie* neurological evidence to the contrary. Moreover, the argument that mental states are *identical* to physical energy (specifically: brain states) is the very point made by Mitchell's successor's successor at Adelaide, J. J. C. Smart. [27] If Mitchell is to offer a genuine alternative to this account, his argument had better offer more than the simple counter-assertion that they are

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25 SGM, p.3.
26 Loc. cit.
27 J. J. C. Smart, 'Sensations and Brain Processes' *Philosophical Review,* 68 (1959): pp. 141-156. See also U. T. Place, 'Is Consciousness a Brain Process?', *British Journal of Psychology,* 47 (1956), pp. 44-50.

not identical to the physical states in question, because clearly there are other stories to tell here.

Finally, it is not obvious that the energy need be "perceptible" (even "indirectly") as Mitchell assumes it must. In post-Einsteinian physics and quantum mechanics, energy states can be realised in a variety of non-perceptible ways, and come in a variety of forms ("matter" itself being merely one of them). Mitchell can't, of course, be blamed for not being aware of such twentieth century developments in our understanding about physics; however, his argument can be accused of a rather obvious simple-mindedness.

None of the assumptions in the argument above are convincing. And, as mentioned, there is evidence that Mitchell himself doesn't take them seriously. However, since he raises the conservation of energy argument on several occasions, he must have thought it important.[28] Exactly what he was trying to claim here, however, is not easy to ascertain. Seemingly in contradiction to his earlier pronouncements, Mitchell notes that we are "not compelled" to hold the view that a different brain change occurs for every difference in experience (thus giving weight to the dualist interpretation of the argument above). And, in support of this he simply claims that 'the principle of the conservation of energy puts no limits to the potential forms which energy may take'.[29] This latter claim, of course, is a reasonable one: it may be that there are kinds of energy which are hitherto undiscovered (after all, electromagnetism remained undiscovered until relatively recently). And it may be that this undiscovered energy offers hope for a better account of mind and mental phenomena than we have at present. While clearly a different argument to the earlier leakage argument, it is more plausible. At some points, Mitchell seems to be advancing this claim, and not the other. [30] But clearly, this argument is no defence against physicalism, for even if there were

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28 The argument recurs in other guises throughout his philosophical work. In another passage, the argument turns on *constancy* of energy supply: 'there is no constant quantity of [energy] in any mind from moment to moment, let alone a constant quantity in any longer period. Perhaps every experience leaves its mark on the brain, and physically regarded this is a potential energy; but apparently, there is always decay or leakage of it, as well as in addition to it. ... If ... by mental energy we happen to mean the corresponding neural energy, it has, of course, no constant quantity'. SGM, p. 28. The reply I make to the general form of this argument applies also to this form of it.

29 SGM, p. 5.

30 'It is by no means impossible that in the nervous system forms of energy are concerned which do not exist outside the animal body, and which yet remain to be recognised'. SGM, p. 33.

"other forms of energy", then the energy would also be physical and amenable to a materialist account. If this was the aim of the conservation of energy argument, then it simply won't do. Mitchell requires a further argument to claim that the undiscovered energy is not explicable physically. (At one point, he desperately entertains the idea of "psychical energy" which presumably is meant to go some way in "explaining" the mind.[31] Clearly, while supporting some of the fundamentals behind materialist accounts, Mitchell has dualist sympathies).

6.2 The Inference Objection

To the extent that it can be understood clearly, Mitchell's second argument against materialism is an old and familiar one. It relies on the idea that the experience we have is not identical to the brain changes we undergo because we need to infer the existence of one but not the other:

> Every physical event, because it is physical, is perceptible by an actual or a possible organ of sense; but we can never have sensation of another's experience; we have to infer it. ... The brain change is a physical, a perceptible event; but of course it is not the experience that is coincident with it. Hence an experience does not happen to the brain in the sense that anything else happens to it, or to any material thing. [32]

There are a number of things going on in this argument. At the very least, its point is not precise. It is, in part, a reworking of the old "argument from introspection" attributed to Descartes. However, instead of trading on what can be introspected in terms of the clearness and distinctness of ideas, it trades on the notion of "perceptibility". Even in this form the argument obviously won't stand up to scrutiny. It is clear, for example, that just because one kind of reality is not "perceptible" and has to be inferred from experience, it does not follow that it is not physical. Analogously, just because the processes of oxidation chemistry are "perceptible" and can be measured, and the processes of "phlogiston" are not

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31 See his remarks: '... the principle of conservation of energy puts no limits to the potential forms which energy may take; and it would be undisturbed if there were psychical forms of energy convertible with physical'. SGM, p. 5.
32 SGM, pp. 2-3.

(phylogiston was said to have "negative energy"), doesn't mean that the one is not, in fact, the same thing as the other. Materialist accounts assume that experiences and the brain processes that give rise to them are identical—even though they may be "perceived" differently. Following Armstrong, however, experiences might simply be internalised physical realisations of the various states of one's body, for example. If this is the point behind Mitchell's argument, it simply won't do.

In part, the argument above also seems to be an early version of the "argument from subjectivity" or the "knowledge argument" which anticipates contemporary writing in the philosophy of mind.[33] The phrase: 'The brain change is a physical, a perceptible event; but of course it is not the experience that is coincident with it' seems to suggest this interpretation. Mitchell's implicit claim seems to be something similar to that of writers, such as Nagel and Jackson, for whom the "subjective" constitutes an ontological realm distinct from the "objective" descriptions that the physical sciences provide. Bodily sensations, or "qualia" are available only to subjective awareness; whereas, the brain sciences only provide descriptions of the physical goings-on in one's head. (Compare Nagel's "bat" and Jackson's case of Mary and her colourless room.) While it is sufficient to understand something of the nature of another person's brain by perceiving it, by having sensations, it is only by inference that one can understand the nature of another's experience—an understanding of experience requires that one have *first person* knowledge.

Whether this argument is what Mitchell intended is not clear. If it was, then he might have some contemporary support. However, he might be making a somewhat weaker claim. Another possible interpretation of his argument is given in **§3** below.

6.3 Subsidiary Inference Arguments

Before leaving the inference objection, there are a number of related arguments which Mitchell makes to roughly the same conclusion. One is what I shall call the *argument from grouping;* another, the *intensity argument.* A third argument might be called the *argument*

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33 The "knowledge argument" originally appeared in C. D. Broad's *The Mind and its Place in Nature,* (1925), p. 71. If I am right in my analysis here, Mitchell seemed to have anticipated it.

from compounds. These arguments are a species of the inference objection because they also assume, for a variety of reasons, that mental states cannot be inferred from physical states of the brain.

The *argument from grouping* goes as follows: 'The grouping [of experience] is everything, and there is nothing to account for it in terms of units or elements of experience ... their very definiteness is due to the grouping'.[34] His argument here is the alphabet analogy: just as we can't account for the limits of thought by relying on letters in the alphabet, so, we can't account for the limits of experience from the brain states which are their causal antecedents. (I will return to this.)

The *intensity argument* utilises a very contemporary strategy: it argues from the content of phenomenological experiences themselves to the implausibility of the point that experience can be derived from the terms of a materialist account of mind. The claim is that, while experiences can be measured in terms of their respective physical intensities, their phenomenological content cannot. Hence, one cannot be reliably inferred from the other:

> Of two sensations of heat, for example, we can say that one feels exactly like the other, or that one is hotter than the other, but we can never say that it is twice as hot. We cannot even if we use a physical measure. Though we know the temperature of one room to be twice that of another, it remains a matter of taste and temperament whether we say it feels twice or ten times as hot. [35]

Interestingly, the same kind of argument has been raised to an entirely different conclusion. D. C. Dennett, for example, has recently argued that, since interpersonal phenomenological features of content can't be reliably compared in any intelligible way (see his case of the professional coffee tasters, Mr Sandborne and Mr Chase), there is no good reason to admit such content exists. In Dennett's hands, instead of legitimising phenomenological experiences, the argument exhorts us to *quine* (i.e., get rid of) qualia instead.[36] P. M. Churchland has argued for the same conclusion, using the case of experiences of heat and

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[34] SGM, op. cit., p. 217.

[35] SGM, p. 29.

[36] D. C. Dennett, 'Quining Qualia' in *Consciousness in Contemporary Science,* (1988).

the famous "bucket" experiment.[37] If Mitchell is using the intensity argument as a demonstration that features of mind can't be inferred from a materialist account, then clearly it is indecisive.

The *argument from compounds* also relies on phenomenological introspection. It argues as follows: If experiences were material then, like chemicals, they must be able to be compounded. But there is nothing in experience which indicates that compounding is even remotely possible. If anything seems to be true about experience, it is that it is a diffuse, not a discrete, phenomenon; thus, it is impossible to mix, aggregate or store:

> [If] we look at the elements of experience and their compounding, we find no likeness to chemical elements and their compounding ... [I]f it is hard to regard experience as an energy, it is impossible to regard it as a mass, for it is, at any rate, all a happening or process. There is no greater source of confusion than to forget so simple a fact. Even the notion of unconscious ideas, and of the mind or memory as their storehouse, depends on the confusion, since no one would imagine a store of events or processes. [38]

Things have moved on since Mitchell wrote these words. Indeed, now it is hard to read them sympathetically; especially given the advances in computer science during the late twentieth century. It is now not only *imaginable* how phenomenologically diffuse cognitive processes might be stored and compounded, it is a fact that they can be—computers are contemporary examples of aggregated information storage. The possibility of understanding cognitive processes as computations over representations makes it seem very likely that this argument is wrong-headed.

6.4 The Dissimilarity Objection

Mitchell's conclusion in the above argument in **§6.1** is that 'experience does not happen to the brain in the sense that anything else happens to it'. This might indicate that he thinks that "subjective" knowledge is quite different from "objective" knowledge gained from the study of the brain, and that this has ontological implications regarding our knowledge of the

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[37] P. M. Churchland, *Scientific Realism and the Plasticity of Mind,* (1979).
[38] SGM, pp. 29-30.

mind—the "argument from subjectivity" mentioned earlier.

There is, however, another interpretation which deserves its own analysis, and which seems to indicate that Mitchell is not relying on the argument from subjectivity at all, but another argument which I will call "the dissimilarity objection." Curiously, Mitchell rejects the property dualist account as readily as he rejects materialism, indicating that he is not supporting his account of mind in the way that Nagel and Jackson later do—adding credence to the claim that he is arguing something quite different from the "knowledge argument" given earlier. He says, for instance, that it is 'nearly as meaningless to speak of the mind as a power or other property of the brain, as it is to take it for a thing with physical dimensions.'[39] And this is given as the conclusion to the claim that "experience does not happen to the brain in the sense that anything else happens to it". The argument thus seems to be that because certain things can be said of the brain that cannot be said of the mind, and vice-versa, but this justifies the claim of their essential dissimilarity. Talk about experiences can't be said to belong to brains; talk about action potentials and other such brain descriptions can't properly be said to belong to minds. Because materialism conflates the differences between mind and brain, and because the property dualist account says that one is a "power" or "property" of the other, both are in fundamental error. Both accounts confuse what can be said, and what can't be said, of the mind and brain. In one of his more memorable aphorisms, Mitchell notes the best way of pointing out the absurdity of the situation:

> To clear the ... confusion, it is enough to contrast the idea of a physical thing with the thing. Is the idea of a mile longer than the idea of an inch? [40]

In view of developments in materialist accounts in the twentieth century, this seems, on the face of it, a very weak argument indeed. Clearly, Mitchell's argument here can be challenged by appeal to Ryle's notion of "category mistakes": in which mental state talk can be seen as seriously misleading—committing us unnecessarily to entities which do not

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39 SGM, p. 3.
40 LM, p. 5.

exist. On this objection, nothing can be concluded about the mind from spurious mind "talk". An objection can also be made to "the mind" being taken seriously in any context at all—it might, instead, be seen as the eliminativists (such as the Churchland's) see it; namely, as a piece of outmoded theoretical shoptalk which has outlived its usefulness. [41] Finally, Mitchell's argument does not recognise the fundamental distinction between *contingent* versus *conceptual* identity—a point made clear by J. J. C. Smart, and others. Mitchell's argument from dissimilarity clearly won't work against the considerable arguments mustered by latter-day materialists.

However, there are stronger reasons which lie behind Mitchell's argument from dissimilarity. They concern his rejection of both monist and dualist accounts of mind. The argument from dissimilarity trades on the acceptability of these accounts and their *a priori* assumptions about the notion of a "thing" which Mitchell aims to reject.

Mitchell questions the assumptions behind both monism and dualism. The first account, he says, assumes that experiences and brain processes belong to the same thing; the latter assumes that they belong to different things. [42] Mitchell claims that both positions are essentially versions of the same doctrine and can be rejected together. More particularly, both give an account of mind in terms of what they assume to be true of what "things" are. Monists generally assume that "things" are all material and exhibit characteristics which are, 'like the convexity and concavity of a curve', different aspects of one and the same reality—for example, the brain.[43] Dualists, contrariwise, assume that the action of the mind cannot be reduced to the capacities of a material mechanism—their concept of a "thing" allows for no such identification. As dualists, Mitchell notes, we do not 'contract [the mind's] capacity to what we take to be possible for a material mechanism'.[44] For Mitchell,

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41 Paul and Patricia Churchland are famous for presenting the theory of 'Eliminative Materialism'. See, for example, Paul Churchland, *Scientific Realism and the Plasticity of Mind,* (1979), passim. A useful summary of Patricia Churchland's views can be found in 'Consciousness: The Transmutation of a Concept', *Pacific Philosophical Quarterly,* 64, (1983): pp. 80-95; see also her, *Neurophilosophy,* (1989).
42 SGM, p. 4.
43 This doesn't, of course, cover the case of monists who are idealists for whom the only reality is a spiritual reality (e.g., Hegel). Mitchell doesn't discuss such cases, presumably because of his commitment to the central materialist principles mentioned earlier: i.e., that the brain has, at least, something to do with the mind; that each mental state has a concomitant brain state, and so on.
44 SGM, p. 5.

the central difference in two otherwise alike positions is that, in outlining their account, materialists assume that "the brain [is] somehow like the mind", whereas dualists, by contrast, place no restrictions on the terms of the identification. They assume in starting out, for example, that 'there is no likeness between the sensation red and its correlate'.[45] Both positions assume, however, that there are two realities: "mental" and "physical"; they disagree only on the extent to which they are causally related. Other than this difference, Mitchell argues, the two positions are identical. [46]

Strictly speaking, of course, Mitchell is wrong here. Modern-day monism comes in a number of guises: one of which is an ontological *reductive* materialism. This monism does admit the "reality" of the mental but only in so far as mental state descriptions are a part of day-to-day life—but, according to this view, these descriptions have no ontological import at all. (Eliminative Materialism, of course, rejects the need for these descriptions entirely.) The type-identity theory espoused by Place, Smart, Armstrong and others, claims that mental states are causally reducible to the physical states—specifically, states of the brain. This kind of monism is very different from the kind of monism which Mitchell directs his arguments against. Mitchell's arguments, by contrast, seem to be directed at a version of monism which is closer to that developed by Spinoza, where the mental and physical are considered to be two aspects of the same underlying reality (hence, his remarks earlier about the convexity and concavity of a curve). Clearly this kind of monism is not the same as the monism of Smart and others, for whom there is one, and only one, "reality"; namely, material reality.

With this point clarified, however, Mitchell's argument from dissimilarity finds somewhat stronger voice. His argument that the mind and brain are dissimilar can be understood clearly in the context of the issue just mentioned. His point seems to be that the initial acceptability of both monist and dualist accounts rests on assumptions which need

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45 Loc. cit.

46 SGM, p. 5. 'There is really nothing more in the theory [of monism] but its name, which protests against the view that brain and mind interact. Were it not for this, monism might equally well be called dualism; for it splits the whole world that we know into two, into a physical and a mental world. If dualism, which makes brain and mind two different things, admitted the assumption of monism there would be nothing to divide the two theories but the meaning of the word thing.' SGM, p. 8.

not be accepted—namely, their respective assumptions of what a "thing" is. Mitchell's point is that, as these assumptions pre-empt the very positions they outline, they cannot legitimately be said to argue successfully for either position. For this reason, there is no need to regard either account of mind as adequate on these grounds alone. The notion of mind is thus, in Mitchell's view, essentially dissimilar in the requirements outlined by both monist and dualist accounts.

However, in ruling out both materialist and property dualist accounts on grounds of dissimilarity, what is Mitchell left with? The key, I think, to his account of mind is found in the following passage:

> We do not contract [the minds'] capacity to what we take to be possible for a material mechanism. The temptation is, no doubt, to put such a limit, though that is really to invert the actual fact; it is as if we tried to gauge the limits of our thought by the number of letters in the alphabet and their possible combinations.
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> For the capacity of the brain has to be inferred from the capacity to experience. It is only after the meaning of the physical changes has been found, as we find the meaning of a language, that we can reverse the process and say, by examining the physical conditions, what sort of experience its owner may possess. We have first to read the brain as a correlate of the mind, and only then can we read the mind as a correlate of the brain. Whatever is possible to the mind is possible to the brain; that is the assumption. It is very different from one that would limit the power of the mind by what we can somehow assume to be the capacity of the brain.[47]

What can be made of this? Mitchell's claim seems to be that the capacity of minds *cannot* (not just shouldn't) be inferred from the capacity of brains. *Prima facie* this claim seems to indicate that Mitchell was no materialist, or at least no *simple-minded* materialist, despite the fact that he seems to accept many points that materialists would agree on. The best interpretation of the overall argument being made here is surprisingly contemporary.

The sticking point that he has with materialism is the same as that of the "new mysterians" (Nagel, Chalmers, McGinn, Searle). These theorists do not deny that brain science is crucial for understanding mind; they just think that materialism ignores the importance of *subjective experience.* This interpretation of Mitchell's overall concerns would make sense of his preoccupation with "experience", his feeble attacks on

47 SGM, pp. 5-6.

materialism, and his endorsement of some of the key elements of materialism, such as supervenience and neural dependence. This makes what we have seen so far consistent elements of an overall argument. So far, so good.

But Mitchell adds an interesting new dimension to the debate (which I shall discuss in detail in **§8.1** below). In this passage we can see that Mitchell thinks the explanatory *emphasis* of materialism is incorrect: taking the mind as the correlate of the brain is, so to speak, to put the cart before the horse. Mitchell's claim is that the only way in which the problem of mind can be tackled is by *reversing* the order of investigation—by not limiting the investigation at the outset by what is assumed to be true of the brain. To limit the investigation is like falsely assuming that what can be thought is limited by the alphabet and its possible combinations. False assumptions at the outset of any inquiry into mind and brain should, of course, be avoided.

This reverse strategy he adopts, of course, does not preclude the possibility that the mind has physical antecedents—indeed, that there might be specific physical causes for mental events, as Mitchell himself admits.[48] But admitting this is clearly not the same thing as saying at the outset that the mind is the same thing as the brain; a conclusion which Mitchell clearly thinks gets us nowhere on practical grounds alone:

> The ideal of the physical explanation of the mind is unsatisfied as long as pain, or purpose, or any other experience, is included in the cause of our movements. The ideal [of materialism] being so attractive as well as so distant ... it is easy to forget that, even if it were realised, we should only have completed the physical account. Because we had rid it of mental factors they would not, of course, be explained away; there would be everything to help, and nothing to prevent, a mental explanation as well. [49]

This kind of claim raises several points of historical interest, as well as helping us to understand Mitchell's account of mind. It is clear from this passage, for instance, that Mitchell repudiates the possibility that mental states, such as *qualia* and propositional

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48 'As there is nothing to limit the deepest thought in supposing that it can be spoken, so there is nothing derogatory to the mind in assuming that, for every difference in experience and in the power of producing experience there is a physical difference.' SGM, p. 6.
49 SGM, pp. 8-9.

attitudes, might be replaced by physicalist descriptions *even in the long term.* As early as the beginning of the twentieth century, it seems, Mitchell anticipated an eliminativist theory of mind and cautioned against it. Secondly, Mitchell notes that mental states can be *causal* states, and, in turn, are themselves caused. He thus outlined and supported the fundamentals of a causal theory of mind, even though he may have resisted the ultimate reductive analysis developed much later by Armstrong and others.[50] Thirdly, his remarks about mental explanations "not being prevented" even in the event of elimination of mental states, seems to suggest that Mitchell was aware of the logical possibility of a position which was consistent with a materialist ontology, yet which allowed mental events to be *bona fide* explanatory states. This possibility is suggestive of more recent sophisticated accounts. As Wilfred Sellars and, much later, Donald Davidson were to recognise, the importance of mental states *qua* mental descriptions or "manifest image", is not necessarily ruled out by a thorough-going materialism. It is possible to hold to a position whereby mental descriptions retain a crucial place within a full explanatory theory of mind, even if they do not play a part in the physical causes of bodily actions. Davidson's theory of *anomalous monism,* for example, allows for non-lawlike mental states as causes, but not causes in the character of physical stimuli—thereby leading to an account which is both an ontological monism, yet an explanatory dualism. In a similar way, Sellars' account admits a manifest image of persons being distinct, yet argues for the supremacy of the scientific image "when the chips are all down". [51] From this perspective it begins to seem as though Mitchell could be seen as being a thinker of some contemporary relevance.

However, another point he makes refutes this interpretation. This is Mitchell's claim that the capacity of minds cannot be inferred from the capacity of brains. This is where the alphabet argument is employed: Inferring the capacity of minds from the capacity of brains

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50 The evidence for this is clear: 'Every sensation is preceded by a physical stimulus; we are mentally languid when physically done; and a young mind is incapable of any great thinking, for no reason but that the brain is not grown enough. Must we say then that experience depends on physical causes? ... Yes in the sense that left depends on right, up on down, in the sense, namely, that one is not found without the other. Our assumption is that the physical cause becomes a continuous physical effect which is broken at no point to become or receive a mental influence'. SGM, p. 6.

51 For Davidson's view see: *Essays on Actions and Events,* (1980). For Sellars' views see: *Science, Perception and Reality,* (1963).

is like trying to gauge the kinds of thoughts which can be represented by the combination of letters in the alphabet.

This is an unfortunate analogy. Recently, cognitive scientists and philosophers have used the same analogy *in support* of the idea that the capacity of mind can be gained from the evident capacity of brains. This argument turns on the point that mental states are *representational* states over which computations are performed. In contemporary GOFAI accounts of mind,[52] for example, the representational states are understood as series of "pulses" and "non-pulses" (approximating that of the electronic binary units in modern computers) which are distributed throughout the cerebral cortex. On any conservative estimate, the cortex consists of 10^{11} neurons (each with connections to around 3,000 other neurons) giving rise to approximately 10^{14} possible synaptic connections in the brain. Allowing for a number of different "weights" for each neuron at any given time, the number of possible neural configurations is anything up to $10^{100,000,000,000,000.}$ [53] Given this, it is argued that there is no problem getting enough potential pulses over which computations can be performed:

> If you harbour any doubts about the representational capacity of variously sequenced strings of pulses and nonpulses in a 250,000-word vocabulary each made up of 32 bits, consider the representational capacity of the 26 letters of the alphabet! [54]

Clearly, Mitchell's "alphabet analogy" establishes little to support his case without further argument. But even if the argument does not work, there might be enough to support my claim that Mitchell was in the tradition of cautious materialists, or the "new mysterians".

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52 GOFAI is an acronym used by John Haugeland to stand for 'Good old fashioned Artificial Intelligence' . This is an account of mind in which symbol manipulation is stressed as the primary mode of computational process. This is opposed to PDPAI or 'Parallel Distributed Processing Artificial Intelligence' ("connectionist") models in which symbol manipulation is confined to certain kinds of cognitive processing and not others. For a clear explanation of these accounts, see: Owen Flanagan, *The Science of the Mind,* (1995), Chapter 6.

53 P. M. Churchland, *A Neurocomputational Perspective: The Nature of Mind and the Structure of Science,* (1989), p. 132.

54 Owen Flanagan, (1995), op. cit., pp. 229-230.

6.5 The Argument from Idealism

The next clearly identifiable argument which Mitchell raises against the materialist accounts of mind is a more predictable one, given Mitchell's intellectual ancestry. As I have argued, Mitchell's intellectual work spanned the work of the common-sense Scottish idealists descending from Reid, William Hamilton and others and the later realists dating from Anderson. However, while predictable, the argument seriously complicates the understanding of his general position just outlined. For when it begins to seem clear that Mitchell has clear materialist sympathies, his position changes course. The argument concerned is what I call *the argument from idealism.* I quote it at length:

> This view [materialism] is surrendered when it is seen that any view of a mind, soul, or spirit, must be inferred from the nature of experience, and that it is mere confusion to identify experience with anything (1) that occupies space, or (2) that is perceptible by any organ of sense, actual or possible, or (3) that can be transferred from one person to another. ... [M]atter, and with it the whole material universe, has no independent existence. This is the doctrine that Bishop Berkeley expounded in defence of the faith against the "minute philosophers" or materialists. [55]

In the same breath, Mitchell cites approvingly of Huxley: 'I really have no claim to rank myself among the materialists, for I am utterly incapable of conceiving the existence of matter, if there is no mind in which to picture that existence.' [56] Curious and curiouser. It begins to seem that Mitchell is not a materialist but an uncompromising idealist after all. But this leaves his earlier remarks in flagrant tension with what has just been presented in support of the supervenience thesis. One clearly can't support both theses—or can one? Before moving on to the final argument against materialism, let us assess this argument and establish the extent to which Mitchell was committed to it.

7. Mitchell and Idealism

The evidence which Mitchell adduces in support of such an outlandish, but then popular, idealist argument is as follows. His central claim is that *any view of a mind, soul, or spirit,*

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55 LM, pp. 5-6.
56 T. H. Huxley, *Animal Automatism,* see also: 'Of the hypothesis that Animals are Automata, and its history', Rpt in T. H. Huxley, *Method and Results. Collected Essays,* Vol. 1, (1874/1901).

must be inferred from the nature of experience. This is supported by the claim that it can't be inferred from anything else: i) not from spatial entities ('Is the idea of a mile longer than the idea of an inch?'); ii) not from sense organs ('we cannot perceive another's experience, but only physical signs from which we infer it'); [57] iii) and not from what can be supposedly transferred directly from one to another—i.e., like that claimed for telepathy ('it is never a thought that is transferred ... but a duplicate that is made. And how is it known to be like another's?').[58] Following from this is a conclusion that, according to Mitchell, turns on an inference to the best explanation: that the nature of mind must be inferred from the having of experience itself—thus, idealism.

Mitchell makes the point in order 'to distinguish between mental and physical facts'. [59] But the very claim that mental facts are distinguishable from physical facts is question-begging; a thorough-going materialist would claim that there are only physical facts properly so-called—specifically, *facts about brain events.* It may, of course, be admitted that there is some sort of conceptual difference between brain events and mental states (as even physicalists, like Smart and Armstrong, admit), but this difference need not constitute a difference in *fact* (where it does constitute a difference in fact, it may be argued that this is a reducible fact—type-identical to its material causal antecedents). Thus, Mitchell's claim that there is a need to distinguish physical and mental facts is far from intuitively obvious as a support for idealism.

Each of the claims he makes in support of the idealist premises can, of course, be easily criticised; especially given the hindsight of arguments for materialism developed much later. The claim that mind cannot be inferred from spatial properties, for example, is clearly flawed: the alleged unintelligibility of measuring 'the ideas of an inch and a mile' is clearly premised on the assumption that mental states are not able to be compared. But this, of course, begs the very issue in dispute. Were mental states identifiable with brain states of certain types then demonstrably there might be grounds for comparison (obscure though that comparison might be).

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57 LM, p. 5.
58 LM, p. 6.
59 Loc. cit.

The argument that mental states require inference is fair enough but even on the most generous interpretation of this point, it need not imply idealist conclusions: mental states might be accessible by inference for perfectly legitimate physical reasons (involving the organisms' access to certain bodily states for example—internal scanning mechanisms, as Armstrong might have it); none of this need imply that the only access to the mind is through experience itself as Mitchell claims.

His point about mind not being accessible via direct person-to-person contact (like mechanisms of telepathy) seems, on the face of it, to be implausible: demonstrably direct accessibility to one's own mental states by means of another seems to occur—not by telepathic means, of course, nor by those of "copying" thoughts—but by means of *simulation;* i.e., running one's own belief states "off-line". Indeed, there is considerable empirical and philosophical work currently being done demonstrating precisely this capacity. [60]

The argument thus seems to hinge on three points: that the mind is unable to be inferred from physical events; that it is unable to be inferred from the senses; and that it is unable to be understood "directly" by some kind of simulation. However, each point in the argument can be seriously questioned. Mitchell's argument from idealism, I submit, fails in its present form.

However, there is another motivation for Mitchell's argument which is not brought out in the above discussion: it is the motivation simply to avoid a facile form of materialism. This is, I think, the key to his overall argument and concerns, and this at least can be staunchly maintained even if his arguments to this conclusion fail. The motivation is this: the supervenience thesis may well be true (Mitchell admits as much, as we have seen), but even if every mental state—every "experience"—has a corresponding brain state, this need not mean that one must accept the slide from this to an account which permits only brain states as one's only legitimate ontological category. Idealism's failure, in other words, is not necessarily materialism's success. Further arguments need to be advanced for us to accept identity theory, token or type materialisms, functionalist or eliminativist accounts, as being

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60 See Martin Davies and T. Stone (eds) *Mental Simulation,* (1995).

the only legitimate accounts of mind. This remains true today.

Having presumed to have rejected materialist accounts, Mitchell sets out to present his own account, which he says combines the assumption of materialism with the conclusion of dualism.[61] This gives us an insight as to his overall interest: to reposition experience as the most important ontological category. And, curiously, as we shall see, this has much in common with contemporary approaches in cognitive science.

His strategy is as follows: he aims to admit the supervenience thesis, and combine this with the view that the mind is, as he puts it, 'over and above the physical process'.[62] The strategy has two elements: firstly, denying that materialism is the only possible solution to the problem (even though it may be the solution 'to which common sense is so easily lead'); [63] and, secondly, showing that there is 'nothing derogatory in assuming that, for every difference in experience ... there is a physical difference.' [64] We have just seen how he attempts a rejection of materialism. What about the second element to his positive account?

For Mitchell, there is "nothing derogatory" in admitting the supervenience thesis because supervenience itself can neither be proved nor disproved, and 'cannot cease to be the ground for the investigation of the brain.' [65] It cannot be proved nor disproved without assuming materialism (which he rejects). It cannot cease to be a ground for investigation of the brain because we are physical creatures, and our brains do consist of physical events which can be independently studied—a point he is more than happy to accept.[66] From the claim that materialism is not an option, therefore, it follows (Mitchell argues) that nothing can be inferred from the supervenience claim which can influence one's understanding of experience.

His argument seems to trade on the possibility that an alternative account which is not

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61 SGM, p. 8.
62 SGM, p. 7.
63 SGM, p. 3.
64 SGM, p. 6.
65 SGM, p. 7.
66 Indeed, he exhorts us to take the supervenience claim literally: 'The more frankly you take it the better, and especially if your studies are at an early stage, when brain and mind have a vague meaning to you. When you try to picture the structure and the action of the mind, remember that you are trying to picture the structure and action of the nervous system.' Loc. cit.

strongly materialist—yet which allows for supervenience of mental events on brain events—is the position which will best account for experience. In our present century others, such as Nagel, have also taken the line of admitting supervenience whilst arguing against strong materialism.[67] But do his arguments rule out other kinds of materialism? Weaker materialist accounts, "Type 2 physicalisms" as Chalmers calls them—for example, those of Davidson, Sellars, etc.,—also admit that mental events require a special kind of explanatory autonomy, yet they are certainly materialist in spirit. Mitchell's argument so far does not rule out other materialist alternatives.

Mitchell's argument, however, is that the supervenience thesis can be admitted with no implication that materialism is true. Moreover, because materialism has been rejected, it is reasonable to assume that the mind *qua* experience does play a crucial role in one's daily life (i.e., it is not epiphenomenal). Thus, the experiential thesis can also be admitted. The crux of his analysis is that the supervenience thesis does not contradict the importance of the claim that experience is the central ontological category (*the experiential thesis*). Let us now consider Mitchell's positive account.

8. Mitchell's Philosophy of Mind, The Positive Account

The way Mitchell argues that we look at the problem is by *reversing* the order of the inquiry. Instead of asking what brain states are responsible for which mental states (which already begs the question in favour of materialism in his view); he takes the unusual strategy of asking that we do the reverse—asking specifically what the conditions are *in experience* which bring about given specific neurological phenomena. For Mitchell, in other words, 'the capacity of the brain has to be inferred from the capacity to experience. ... whatever is possible to the mind is possible to the brain; that is the assumption.' [68] Mitchell means that we take this "assumption" quite literally: we should undertake to understand the mind first by a "direct" appeal to experience, and only then apply this understanding to

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67 Nagel clearly accepts supervenience: '[M]ental properties would be at least supervenient on the physical—a particular type of physical process being a sufficient but not inevitably a necessary condition of a particular type of mental process.' Nagel (1986), p. 48.
68 SGM, p. 5.

what capacities are possible for the brain (the "indirect" account).

It is an odd assumption from the perspective of contemporary materialism; and, also no doubt, from that of neurology. It is especially odd from the perspective of eliminativism, which regards "the capacity to experience" as being a completely misleading and vacuous notion—in fact, no capacity at all! But, any criticism along eliminativist lines would be to compare two very unlike theories from different centuries; a surely unfair contest—granting eliminativism for the moment to be a worthwhile theory of mind. (Mitchell would almost certainly have considered eliminativism as the most foolhardy of ontological attitudes; but this is idle speculation and not relevant here.) Instead of criticising his claim from a vantage point of contemporary accounts, a more productive strategy would be to take his argument where it leads and evaluate the outcome from the perspective of Mitchell's own theory of mind in terms of consistency and plausibility. As we shall see, there are surprising gains to be made from Mitchell's approach which put arguments from contemporary accounts into some sort of perspective.

8.1 The Argument from The Structure of Experience

It is at this point that Mitchell advances a most curious argument. I shall call it *the argument from the structure of experience.* It rests on the following assumption: accepting the point that mind is neither adequately explained by a monist, nor a dualist attitude, Mitchell advances an amalgam of the two which combines 'the assumption of the one with the conclusion of the other' (i.e., the "supervenience" claim from monism and the "separateness of mind" claim from dualism). The resulting account is what we might now describe as an argument for a form of non-epiphenomenal (i.e., causally interactive) property dualism. It is an account which rests well with the current views of the new mysterians.

The argument, as far as I can understand it, is this: take any mental state (say "pain"). The supervenience thesis simply says that for every mental state there is a physical state. However, the arguments against materialism deny that a materialist account is sufficient for an explanation of experience, even if it is also admitted that the supervenience thesis should be taken seriously. Even taking supervenience seriously, however, experiences like "pain"

are 'merely on sufferance in the physical explanation of itself'; [69] they are not—as we might put it these days—"fully captured by" the explanation in terms of supervenient physical states. Even so, experiences like pain have an intrinsic structure—they seem to have discernible characteristics; they change in intensity, frequency, and so on.

This brings us to Mitchell's central point: given that mental states are "merely on sufferance" as physical explanations; and, given that they also have an intrinsic "structure", they must, Mitchell concludes, be given 'a being of their own' (his words); that is, the means to understanding the experience is in terms of its own intrinsic structure. He argues as follows: '... and if an explanation is possible in mental terms, there is nothing outside to prevent it. From this, the given fact, we infer the structure of the mind, viz., its powers or faculties.' [70]

This is the upshot of his "reversal" strategy in understanding the mind. We assume nothing until we are in a position to understand the processes and subtleties of mental occurrences as they actually occur to us in experience. Mitchell is clear that, by taking this strategy, we will best begin to understand mentality for what it is: namely, a means of functioning of *persons,* not merely material objects. His argument here, in other words, is another expression of his *inference objection* given earlier, but with added emphasis:

> The only piece of the real world that we know directly is our experience. From it we have to infer the rest of reality by discovering the conditions on which our experience depends. A great part of the task is to read the conditions in physical terms, i.e., to know nature. Hence, in explaining a particular part of nature—the nervous system—it is the aim to eliminate mental factors which at present occupy the greater part of the explanation. But, of course, it is only because we have a direct account of experience that we are able to give meaning to whatever nervous, or other physical, process may be discovered to be the correlate of experience. The order of inference is never from what the brain can do to what the mind can do, but always it is: given what the mind can do, e.g., feel free, responsible, have any sort of experience, to find the coincident happenings in the brain. ... The order of inference is from the structure of experience to the structure which has it. The mind as a person.[71]

So, on his view, materialism of any variety begs the question because it relies on direct

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69 SGM, p. 9.
70 Loc. cit.
71 LM, pp. 10-11.

experience in order to give meaning to the physical processes which are supposedly their correlates. On his view, *phenomenal experience already picks out what correlates are valuable.*

The suggested reversal strategy seems strangely circular in its approach: the order of explanation is from understanding what is "directly" available to us in experience; from there we can "give meaning" to the antecedent neurological correlates which give rise to these experiences; and these, in turn, give rise to understanding how experiences *qua* experiences can be the product of the workings of a "person's" mind. Many would dispute this self-justifying and somewhat question-begging approach. In the context of Mitchell's time, the strategy may have been acceptable as a psychological strategy; but it seems inadequate as a formative philosophical method today.

8.2 The Natural Method

However, just recently what I have called the reversal strategy has received defenders from the most unexpected quarters: cognitive science. Contemporary theorists at the interface between neurology, artificial intelligence and philosophy of mind working on that most intractable of all problems—consciousness—have begun to see the wisdom in something very like Mitchell's approach. In a recent book, Owen Flanagan describes what he calls "the natural method":

> Tactically, what I have in mind is this. Start by treating three different lines of analysis with equal respect. Give phenomenology its due. Listen carefully to what individuals say about how things seem. Also let the psychologists and cognitive scientists have their say. Listen carefully to their descriptions about how mental life works and what jobs consciousness has, if any, in its overall economy. Finally, listen carefully to what the neuroscientists say about how conscious mental events of different sorts are realised, and examine the fit between their stories and the phenomenological and psychological stories.
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> The object of the natural method is to see whether and to what extent the three stories can be rendered coherent, meshed, and brought into reflective equilibrium. The only rule is to treat all three—the phenomenology, the psychological, and the neuroscience—with respect. Any *a priori* decision about which line of analysis "gets things right" or "has the last word" prejudges the question of whether different analyses might be compatible with each other, or at least capable of a peaceful

> coexistence. As the theory develops, analyses at each level are subject to refinement, revision, or rejection. [72]

Now it is hard to disagree with this method. It makes sense not to prejudge the analysis of mind too soon; especially since the problem of consciousness is so difficult. It also seems sensible to solicit the insights from different areas of inquiry, such as phenomenology. By this strategy, triangulation of one's experimental, philosophical and psychological inquiries can be attempted, ensuring experimental accuracy. (If evidence from one's phenomenological experience can be rendered compatible with a plausible story from neuroscience, then it has to be better than a story at one level which is inconceivable from the perspective of another). However, it is one thing to treat phenomenological experience "with respect" (with possible refinement, revision, or rejection); it is quite another to claim, as Mitchell does, that the order of inference is always from what the mind does to what the brain can do; that is, to reverse the order of inquiry.

However, while clearly sympathetic to an account of mind which is broadly materialist, Flanagan goes further than simply endorsing the natural method as a useful *modus operandi;* he also suggests that we take the phenomenology side of the method as describing actual *features* of mind which *inform other modes of explanation.* He, for instance, specifically endorses qualia as *sui generis* real and capable of enlightening the neurological dimension. Rejecting Dennett's famous exhortation to "quine" (i.e., get rid of) qualia, he notes:

> [Quining] qualia is a bad idea. Qualia are for real. Dennett himself says what they are before he starts quining. Sanely he writes, "'Qualia' is an unfamiliar term for something that could not be more familiar to us: the ways things seem to us" (Dennett, 1988, p. 43). Surely things do seem in certain ways to us. Furthermore, characterising the multifarious ways in which things seem is an important component of the natural method. It pins down the phenomenological features of mind so that we can check for relations among the phenomenological, psychological, and the neurological levels.[73]

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[72] Owen Flanagan, (1992), op. cit., p. 11.
[73] Ibid., p. 61.

So the natural method does more than simply provide a tactically useful strategy, it actually provides guidance at other levels. Both the fine and rough-grained descriptions from phenomenology enable a richer psychology or neurology to be possible. This claim is further supported by another contemporary philosopher, Robert Van Gulick:

> The more that we can articulate structure within the phenomenal realm, the greater the chances for physical explanation; without structure we have no place to attach our explanatory "hooks". There is indeed a residue that resists explanation, but the more that we can explain relationally about the phenomenal realm, the more the residue shrinks towards zero. Though I admit that we are as yet a long way from that. [74]

There may be a long way to go—but that is neither here nor there; Mitchell would certainly agree with the task being difficult. The point is, however, that there is some value in the reverse method that Mitchell describes. It enables us to recognise places on to which our other explanations can "hook". Structure in the phenomenological realm is not something to be "quined", but fostered. For it is the structure of the mind's operations which allow detailed accounts at other levels to develop. Mitchell too invites us to consider the structure of experience as a means by which we can find 'coincident happenings in the brain'. At some points he seems to be claiming that while much is yet to emerge from the physical explanation of consciousness, the material from the phenomenological level is "all before us" (and hence, we must take advantage of this):

> [I]n order to specify the physical process, many things have still to be discovered—how, for instance, an impulse is conducted in a nerve-fibre—whereas it is otherwise in specifying the general description of an experience. Here the material is all before us, though skill in observing, not to say in experimenting, is required in order to distinguish and name the factors that are felt in it. [75]

For another example of this kind of approach in the contemporary literature consider Gerald Edelman's neurophysiological account of consciousness given in *The Remembered*

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74 Robert Van Gulick, 'Understanding the Phenomenal Mind: Are we all just Armadillos?', in *Consciousness: Psychological and Philosophical Essays,* M. Davies and G. W. Humphreys (eds), (1993), p. 145.

75 SGM, p. 35.

Present (1989) and other papers. Edelman takes seriously that qualia might be genuinely descriptive of contents which may later be capable of non-reductive neurological analysis. He makes a number of points which render him sympathetic to a "natural" method of the kind Mitchell had in mind, and also an account of qualia as real (i.e., *sui generis*) properties which are crucial in developing an adequate account of mind. In addition, however, he also argues that acknowledging qualia in individuals *other than ourselves* (i.e., other phenomenological existents) is important for developing a "scientific" approach to mind. Contemporary accounts of mind, apparently, have moved on from the hollow perspectives of 1960's identity theory or 1970's eliminativism. The motto for contemporary accounts in cognitive science might be: don't quine qualia—*not even in other minds:*

> As a basis for a theory of consciousness, it is sensible to assume that, just as in ourselves, qualia exist in other conscious beings, whether they are considered as scientific observers or as subjects. ... We can then take human beings to be the best canonical referent for the study of consciousness. This is justified by the fact that human subjective reports (including those about qualia), actions and brain structures *can all be correlated.* After building a theory based on the assumption that qualia exist in human beings, we can then look anew at some of the properties of qualia based on these correlations. It is our ability to report and correlate while individually experiencing qualia that opens up the possibility of a scientific investigation of consciousness. [76]

So not only do qualia exist (not just "seem" to exist), they are also central to doing science of the mind. Of course, it is not difficult to see how this kind of strategy would receive sympathy from the new mysterians, for they have been arguing for the importance of qualia all along! It is interesting that increasingly more cognitive scientists and philosophers seem to be taking Mitchell's strategy seriously.

Mitchell's strategy, like Flanagan's, Edelman's and Van Gulick's, is a "natural method" which aims to map phenomenological and empirical descriptions onto each other. Indeed, it was perhaps the first philosophical attempt in this direction. Like the others, Mitchell makes no *a priori* assumptions about the veracity of each perspective. His aim is to study both the "direct" and "indirect" explanation of experience and see what insights each

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[76] Gerald Edelman, *Bright Air, Brilliant Fire,* (1992), p. 115. Quoted in David Chalmers, *The Conscious Mind,* (1996), p. 117.

yields. The "direct" method, it will be recalled, is an explanation in mental terms; the "indirect" method is an explanation in physical terms—the correlates of experience.[77] Moreover, for Mitchell, the distinction in method brings about a fact/inference distinction, and a distinction between introspection and inference. '[T]here is a direct and indirect way of securing the facts, the one introspection, which is confined to our individual experience, whereas, the indirect method includes all other facts, ... which are inferred from physical data'.[78]

It is interesting to again compare this attitude, once again, with modern-day materialists, like Sellars. Sellars was similarly concerned with formulating an account which also allowed for a "manifest image" of *persons,* enmeshed in a world of rights and duties, and eschewing the predominance of the "scientific image" of whirling, colourless particles. Both explanations were considered by Sellars to be crucial. However, Sellars took the opposite strategy to that of Mitchell and argued for the preeminence of the scientific image over the former 'when the chips are all down'.[79] Is Mitchell's position made any stronger because it takes the same approach, yet claims his argument supports another—totally different—conclusion? I doubt it. It seems to be a matter of what strategy is preferred. Yet, the emphasis of present-day theorising about the mind, shows that Mitchell's circular approach which reverses the order of inference, has some sympathy from contemporary theorists.

The clear point from all this is that if an indirect study of the mind can be advanced by means of a direct study of sensory *qualia,* there is no compelling reason to accept reductionism of mind. All that we are compelled to infer is that our conscious life is complex and that we shouldn't be compelled to adopt simple solutions. Mitchell accepted this point readily, and in this sense he was an anti-materialist:

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77 SGM, pp. 423-4. There is no doubt that Mitchell presents rather more in the way of the "direct" method than the "indirect" method (only one chapter on the latter). Contemporary philosophical work in cognitive science can be seen as evening up this oversight by presenting rather more of the "indirect" method.

78 SGM, p. 424.

79 Wilfred Sellars, 'Philosophy and the Scientific Image of Man', *Science, Perception and Reality,* (1963).

> We are not bound to assume that there is a common denominator for everything in nature, still less one we can use, but only that everything is in systematic connection, and that we grasp the connections better, the better we can reduce things to quantities and arrangements in common terms. [80]

Elsewhere, Mitchell claims that it is the "growth", as well as the "structure", of experience which provide sufficient reason to infer a mind as the seat of experience. The fact that experience grows and has a discernible structure, Mitchell thinks, is reason enough for avoiding any view of mind as a series of disconnected, discrete, "heterophenomenological" events:

> The facts must be found in the nature of experience. If we say that the mind grows, it is because there a growth in experience; and if we say there is a mind at all, it is because the nature of experience demands it. There would be no demand if we took the course of experience to be a series of events that had no internal organisation nor mutual dependence. [81]

One Mitchell interpreter, H. J. Allen puts the point of this passage, on behalf of Mitchell, in terms of how we learn from experience. Because we can do so presuppose that experience has a structure, and because it does, we can legitimately infer a mind:

> By inference we arrive at the concept of mind, for mind is an inference. We do not experience mind. It is a postulate to explain the facts of experience. The particular experience that calls for the inference of mind, is the fact that we learn from experience. [82]

A contemporary materialist would hardly be convinced from these "facts" (and earlier: "given fact") of the structure and growth of experience. Dennett, for one, would simply appeal to alternative "intuitions". In such a dispute, Mitchell would have no more to offer than his own self-justifying assertions over that of others. This would amount to little more than philosophical gain-saying.

But again, this would be to unfairly evaluate the argument from a rather different vantage

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[80] SGM, p. 27.
[81] SGM, p. 8.
[82] H. J. Allen, *Mitchell's Concept of Human Freedom.* (1984), p. 7.

point. Even so, Mitchell's argument will scarcely work on this basis: for one thing, it simply doesn't follow from the apparent structure of experience that it needs "a being of its own". An account in which, for example, *token* supervenience is admitted might, for instance, allow for neurologically distinct mental states of sorts which are structured and mutually dependent—all the characteristics of experiences, as Mitchell defines them—and yet which do not have associated discernible type-identities. This would preserve the concerns that Mitchell identifies about experiences, yet avoid the associated worry about supervenience committing us to a facile form of materialism. It's clear that Mitchell's conclusions about materialism, and his sympathy with the idea that experiences are *sui generis* states, just don't follow from his premises. Other explanations are possible, and so his argument here is hardly convincing as it stands. Despite this, Mitchell's reversal strategy is a valuable observation; it is remarkable that it was developed more than a century ago.

One charitable way of understanding Mitchell's theory of mind, which includes all the above considerations is this: Mitchell argued for a position best described as *methodological idealism.* He was clearly a materialist, but a materialist with idealist tendencies. His project—a surely sound one—was to give a conceptual anatomy and dynamics of the structures of consciousness from a first person perspective, and the physical structures that underlie them; a psychology that is, at the same time, an introduction to philosophy. One might describe the project as outlining the general conditions for the growth and development of the sensory, cognitive, natural epistemic system on experiential grounds. We shall shortly see how Mitchell does this. In general terms, it should be noted that while comparisons can be made between Mitchell's approach and contemporary views, the position of methodological idealism is a distinctive one, and should be recognised as such in the philosophical literature.

With an understanding of Mitchell's philosophy of mind, we begin to move toward an understanding of Mitchell's psychological work on mental states. Now that the arguments for mind have been outlined, Mitchell turns to outlining the scope and breadth of experience from the "direct" perspective: i.e, outlining the structure and growth of experiential states as they *seem* to us, and from the perspective of the role they play in our

everyday lives. Accordingly, it is to a discussion of direct experiences to which we now turn. As we shall see, this is the richest and most rewarding part of Mitchell's philosophy.

9. Conclusion

What can be concluded from this brief examination of the work of William Mitchell? Firstly, we might be reminded of the point—familiar to philosophers—that "the more things change the more things stay the same". Some of the early Australian philosophers, it seems, were well aware of subtle issues concerning the question of mind and content—issues still very much discussed today. Secondly, we might note that some of the early philosophers knew about the importance of the brain sciences for any adequate account of cognition; contrary to popular belief, they were not all vapid idealists.[83] This point seems to support my claim that Mitchell stands mid-way between the concerns of the idealists and the later rise of the Australian materialists.

Thirdly, it seems that a compelling case could be made that Mitchell preempted the position of the "new mysterians" and presented an interesting case for why no simplistic materialist theory of the mind could possibly be true—without, at least, *taking consciousness seriously.* It could even be argued that he presented a very early case for the importance of the "direct" study of the mind—the study of sensory qualia as a means of understanding the nature of mind—to the later emergence of what we now call cognitive science. Finally, it seems likely that, some weak arguments notwithstanding, a reassessment of the value of some of the early Australian philosophers might need to be made. It is often said that philosophy in Australia began with John Anderson in 1927. It is also said that 'an unconventionality keeps showing up in Australian work from Anderson's arrival onwards'.[84] When the work of William Mitchell is taken into consideration, it seems that neither of these claims is quite right. There *was* philosophy being done in Australia prior to Anderson, and it seemed to be *very* unconventional.

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[83] Another Australian philosopher, Samuel Alexander, apparently claimed in *Space, Time and Deity* (1920) that every mental process is a neurological process.

[84] Ted Honderlich, *The Oxford Companion to Philosophy,* (1995), p. 67.

IV: The Direct Explanation

Chapter 6, The Structure of Experience

> The Mind grows by its own working, and its way of working reveals its organisation.
>
> SGM, p. 107

1. Introduction

In this and subsequent chapters, we turn to a detailed examination of Mitchell's elaboration on the structure, course and growth of experience. It is the careful elaboration of these facets of experience which constitutes the main part of his book. The discussion of this will, by necessity, take us further into Mitchell's epistemology. As we have already seen, Mitchell's strategy has been to begin by reversing the order of inquiry—assuming that what is true of the mind can be true of the brain. He also assumes that an adequate account of mind must begin by granting that mind has a structure which can be studied using his "direct" method. I have outlined both of these assumptions in previous chapters.

2. Terminological Distinctions: The Functions And Forms Of Experience

Mitchell begins his analysis of the structure of experience by developing the principal aspects which he thinks are relevant to a direct account of the mind: namely, features of *experience, feeling* and *consciousness.* Any theory of mind must endeavour to account for

these features, as they all presuppose that such terms are meaningful, in some sense. However, these terms are all imprecise as they stand. [1]

Mitchell prefers to use a different characterisation which captures the same basic insights expressed in these terms, but which has greater precision. The characterisation he gives of the three features is, however, confusing in its exegesis, not least being that he describes them in different ways: sometimes as *feeling, interest* and *thought;* sometimes as *feeling, interest* and *action;* but also as *attitudes, interests* and *actions.* Elsewhere, he refers to them simply as 'the three functions and forms of experience'. [2]

Some of the confusion can be clarified by adopting Mitchell's unorthodox terminological distinctions: for instance, a "thought", for Mitchell, can be used in a generic sense to apply to all kinds of conscious experience—moods, feelings, representational experiences or propositional attitudes (beliefs, desires, etc.). In another sense, "thought" might be reserved only for experiences with a highly cognitive content which are spurs to action (i.e., believing that one should catch the bus is usually tantamount to eventually doing so). In this usage, the term refers to what philosophers now call a "propositional attitude". This explains the rough and ready conflation of "thought" and "actions" in the two wordings; for Mitchell, some thoughts are spurs to action.

"Interests" can be dealt with similarly. "Interest" is a concept with an equally wide application as "thought": as a generic notion it applies to all "thoughts", "feelings" and "actions". An interest in catching the bus is also a thought about doing so; and feeling that one wants to; and perhaps even the action of doing so. (When the latter, Mitchell elsewhere describes it as a *practical interest.*)[3] But it might merely be an interest in bus-catching *per se,* i.e., not any buses in particular, thus being more akin to a "thought" in the second

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[1] His discussion of these terms occurs in SGM, pp. 10-11.

[2] SGM, p. 65.

[3] See the discussion in SGM, p. 95.

sense. (This, Mitchell describes as a *cognitive interest.*) [4] Alternatively, the interest in buses might bring great happiness, quite independently of whether or not it gives rise to practical and cognitive interests. In this sense, the interest gives rise to *feelings.* (For example, the warm glow of satisfaction that a bus enthusiast feels when he sees one.) In this case, the interest might be taken as synonymous with the feeling—as, for example, an interest in one's pain is tantamount to relief from feeling it. The notion of "feeling" is understood as a kind of experience for which there is 'nothing more instinctive in our mental action'; i.e., a primary kind of experience, uncluttered by high-level concepts and knowledge. This shows Mitchell's debt to Bradley and James. (Mitchell describes "feeling" an *intrinsic interest.*) [5]

The term "feeling" can likewise be used as a generic term to cover "interests" in certain circumstances (as explained above as "intrinsic interest"). However, another use of "feeling" applies to an interest which is not directed at anything, but merely involves the use of one's sensory organs—the experience that results from simply seeing, hearing, touching and tasting—the so-called "special sensations", as Mitchell calls them. [6] All this can be summarised by grouping the terms under the heads of *intrinsic, practical* and *cognitive interests,* and using the terminology "wide sense" and "narrow sense".

2.1 Intrinsic Interests

Intrinsic interests include all feelings (both wide and narrow senses). Summarised:

• *Feeling (wide sense):* phenomenological states which arise from the exercise of one's interests in relation to certain objects (for example, seeing buses; falling in love).

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[4] Ibid., p. 95.

[5] SGM, p. 96.

[6] The "special sensations" are discussed in SGM, p. 85-6. Included among them are 'sight, sound, movement, heat, cold, smell, taste'.

• *Feeling (narrow sense):* phenomenological states which arise from the exercise of one's sensory organs *simpliciter* (heat, cold, smell, taste, sight, sound, movement). [The "special sensations"].

2.2 Practical Interests

Practical interests include interests in the wide sense. Summarised as:

• *Interest (wide sense):* each and every kind of experience: thoughts, feelings and cognitive states (representational, intentional, phenomenological, etc.) This term covers all mental states *simpliciter* and may be a spur to action.

2.3 Cognitive Interests

Cognitive interests include both interests in the narrow sense and thoughts in the wide and narrow senses. Summarised as:

• *Interest (narrow sense):* The cognitive state of being interested in something which may give rise to action (e.g., a *belief* that one's house is on fire).

• *Thought (narrow sense):* high-level cognitive states which need not give rise to action but may do (for example, appreciation of the elegance of a mathematical formula or a propositional attitude).

• *Thought (wide sense):* all and every kind of experience: thoughts, feelings and cognitive states (representational, intentional, phenomenological, etc.) This term covers all mental states *simpliciter* and may be a spur to action.

However described, each of the features plays a role in the overall experiential economy of humans and, to some degree, animals too. They can, on Mitchell's accounts be isolated as distinct features of experience, but only by abstracting from the process of experiencing itself. Most often, the features occur together and are not normally sensibly distinguished. (This is true with the "generic" senses: for instance, *feeling* in the wide sense blurs with *interest* in the wide sense; *thought* in the wide sense and *interest* in the wide sense are indistinguishable). For this reason, the term "thought" can be profitably substituted with the term "action", as it is the spur to action which distinguishes some thoughts and interests from others. The three features are thus best described as *feeling, interest* and *action.* (along with the substitutable terms *intrinsic interests, practical interests* and

cognitive interests). However, as we shall see later, another crucial distinguishing feature in Mitchell's characterisation is the presence or absence of *attention.*

Together these features occupy the stream of conscious experience available to a variety of organisms, ourselves included. Together, they constitute the broad conceptual framework for outlining his structural taxonomy of mental phenomena. We shall now discuss them in detail.

3. Experience, Feeling, Interest, Thought, Consciousness: Further Distinctions

Since "action" needs no explaining, I return to the general term *experience* and follow with a discussion of the terms *feeling, interest, thought* and *consciousness* which constitute exemplifications of "experience" at different levels of sophistication.

3.1 Experience

"Experience", Mitchell notes, is a convenient word which may 'be used indifferently as a noun taking adjectives, and a verb taking objects'. [7] We use it, for example, when we have a "conscious experience" of something—say a pain or a tree (noun taking adjectives); or when we experience a sunset or a winter indoors with the 'flu (verb taking objects). Both senses have meaning in our everyday use of the word "experience". But what does "experience" in these senses, signify?

3.2 Feeling and Interests

These terms signify, respectively, our attention to our 'organic sensations', [8] and our attention to the object or objects of our interests. When used as a noun taking adjectives, we mean the former; when used as a verb taking objects we mean the latter. Mitchell calls the former *feeling;* he calls the latter *interest in.* This explains some of the confusion about his tripartite distinction between the "forms and functions of experience". When an

7 SGM, p. 10.
8 SGM, p. 12.

experience consists of only organic sensations it is properly classed as "feeling" (sometimes "instinctive sensations"); when an experience has object content, it is properly classed as "interest in".

Both "feeling" and "interest in" are examples of "experience" for Mitchell, but have different epistemological functions. However, both are usually present in every experience. When, for example, we experience a visual scene of some kind (say a mountain) or experience something subjective (like a headache), we have both organic sensations and an interest in some feature of the experience (e.g., climbing the mountain or getting rid of the headache).

To a first approximation, experience, for Mitchell, consists primarily of two things: "feeling" and what he calls "interest in". Strictly speaking, for Mitchell, these two things are actually species of the same thing: 'Our interest in an object is also called our feeling towards it ... it comprises pleasure, pain, and all emotions, including satisfactions and dissatisfactions, likes and dislikes of every kind, towards any kind of object'. [9] The two aspects of experiences can only be distinguished as responses to different kinds of objects. They could be thus defined in contemporary terms as "response-dependent" concepts. [10] Where "feeling", for example, is a more appropriate response in the case of experiencing a headache; "interest in" is a more appropriate response in the case of seeing the mountain. But strictly speaking, in Mitchell's epistemology, both are equally relevant responses to any experience at all (for example, in the case of the headache we also have an interest in getting rid of it; in the case of the mountain we also have feelings of grandeur and excitement). The distinction is necessary for fine-grained experiential discriminations,

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[9] SGM, p. 64.

[10] See 'Response-Dependent Concepts', Peter Menzies (ed), in *Working Papers in Philosophy,* No. 1 (1991).

though not normally needed for practical life. It is the finer discriminations that we shall be interested in.

Adopting some contemporary philosophical usage, let's call these broad aspects of experience respectively *qualia* and *representational* experiences.[11] The first we use, he says, 'to distinguish certain parts of experience from others, viz., touch from other sensations, pleasure and pain from everything else, subject-experience from object-experience and emotions from knowledge and resolution'.[12] The latter we use to characterise the objective content of the experience as things arrayed in space (e.g., the mountain against the setting sun, etc.). To include both kinds of responses as instances of "experience" may seem to be a conceptual broad church, but Mitchell maintains that 'there is never the least ambiguity' in how we use the notion of "experience" and give it general meaning. [13]

It is not clear that Mitchell is right here. We might have local difficulties in telling, for example, if we "feel cold" under conditions of hypothermia, or if our hand now plunged into tepid water (after immersion in cold water) really feels hot or not—there does seem to be considerable ambiguity about the identification of qualia; a point which many contemporary philosophers—who deny the existence of qualia—have exploited.[14] There is also widespread disagreement about the representational sense of experience. But there are less unusual cases in which the feeling we are having is not ambiguous, and these are the ones Mitchell obviously has in mind. He also notes that our understanding of experience is

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11 There is considerable disagreement as to the value of this distinction. Some contemporary philosophers prefer to subsume what Mitchell calls "feeling" entirely under representational content (Tye, 1995); others do the reverse (Sprigge, 1983); as we shall see later, others prefer to adopt a characterisation very similar to that of Mitchell (Nagel, 1986, Peacocke, 1983, Millar, 1991) I remain neutral on this issue for the present discussion.

12 SGM, p. 10.

13 Loc. cit.

14 See Daniel Dennett's examples in his paper 'Quining Qualia', in A. Marcel and E. Bisiach (eds) *Consciousness in Contemporary Science,* (1988); see also P. M. Churchland's *Scientific Realism and the Plasticity of Mind* (1979).

clear from our everyday questioning about the contents of our minds, and the contrast we implicitly make between experience and the absence of it: 'whether the point of a joke has been felt or whether a plant ever feels'.[15] The intelligibility of such practices Mitchell regards as sufficient reason for the widespread non-ambiguity of the importance of experiences.

3.3 Thoughts and Propositional Attitudes

When we experience in the representational sense we attend to objects, and we do this usually by having *thoughts.* This is the third part of Mitchell's tripartite distinction. Thoughts are usually understood as being *beliefs* or being belief-like. Attending to a sunset is tantamount to thinking/believing something about the sunset we are experiencing. In contemporary language, this point could be made by saying that some experiences involve *propositional attitudes.* Mitchell notes that we have "thoughts" to various degrees: we might 'rejoice in an object like a piece of news', and this constitutes thinking about the news in some detail.[16] But we don't always have thoughts about objects, even though we are attending to them. Having a "thought", he notes, seems to be a deeper, or more sophisticated, ontological and epistemological category than simply the representational experience of objects. We shall return to thoughts later. We will also look at how committed he is to some kind of propositionalism. I shall be arguing that a propositional account can be coherently read into Mitchell's epistemology at some levels but not at others.

3.4 Consciousness

What is partly at issue here is the extent to which the various functions and forms of experience are *conscious.* For Mitchell, feeling is conscious almost by definition but not

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[15] SGM, p. 10.
[16] SGM, p. 11.

always available to introspection. Interests, by contrast, are sometimes conscious and sometimes not. Thoughts *qua* thoughts are not conscious at all, though their contents might be.

By "consciousness", Mitchell has in mind two separate things: i) as a notion synonymous with "experience" in its concrete manifestation—as in, for example, when we say we are conscious of having a pain in the leg; and, ii) as an abstract notion which separates, in effect, our experience of being conscious from the "contents" of our consciousness—i.e., "self-consciousness" vis-á-vis the object(s) of consciousness. He brings this second conception out in the following passage:

> We separate consciousness from its "contents" as if it were something by itself or in addition to them. We speak as it were a light thrown outward on things and inward on ourselves; and again as a platform on which ideas and other contents appear, combine, contend, and from which they disappear; and we are even apt to personify it, making it a spectator of its contents, or otherwise busy among them. [17]

Mitchell has no time for the second sense of consciousness. He regards this as a kind of conceptual confusion: 'we might as well separate experience from what we experience. There is no experience that is an experience of nothing'. In the same sense, he tells us 'when I am conscious I am always conscious of definite something or other; and this is called the content of my experience or consciousness'.[18]

The difficulty he has with this conception of consciousness is that it seems redundant: "I am conscious of" simply means, "I know" or "I think". There is no further thing which would count as the "content" of the thinking or the knowing.

What, then, is the role of consciousness? If, in one sense, consciousness is synonymous with feeling, and in another sense it is redundant (in that it falsely abstracts the content of our consciousness from the experience of it), what possible role could the notion serve?

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[17] SGM, pp. 10.
[18] SGM, p. 11.

Mitchell's answer to this is as follows: 'The advantage of consciousness to an animal is the advantage of learning'.[19] Consciousness should not be understood as a metaphorical "light" that discloses the contents of one's inner states; in this sense, Mitchell would be a supporter of contemporary accounts which eschew this model of consciousness in place of "multiple drafts" theories. [20] It is a mistake to take consciousness to be a "thing", he thinks. Instead, consciousness should be understood instead in terms of a capacity; namely, *the capacity to learn.* This definition assists in making distinctions between kinds of animals deserving of special moral considerability: 'so far from animals being conscious automata, we only know for certain that they are conscious, because we know that they are not automata, but can learn'. [21]

Mitchell is first to acknowledge that the notion of learning here is somewhat vague. [22] In a metaphorical sense, of course, learning can be said to occur even to bodily functions: 'our muscles and our skin learn strength in the using and our blood or our nervous tissue can be taught by gradual experience to defy poisons'. It might also be argued—with some plausibility—that ants and bees learn to carry out complicated manoeuvres in response to changing environmental circumstances. [23] Clearly, however, any notion of learning which encompasses such cases stretches the notion of learning beyond breaking point. At one point, Mitchell suggests that learning can be best described as including both a conscious and an unconscious 'power of adaptation'. [24]

Mitchell is not making the point here that consciousness is *necessary* for learning. Indeed, he repudiates this suggestion. Rather, the point is that the power to learn has both

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19 SGM, pp. 47-8.

20 See, for example, Daniel Dennett, *Consciousness Explained* (1991) passim.

21 SGM, p. 48.

22 The discussion occurs in SGM, p. 48-9.

23 Mitchell cites the case of ants demonstrating "a degree of plasticity" in finding new ways in response to their path being blocked.

24 SGM, p. 48.

conscious and unconscious aspects. Both kinds of adaptation are, he notes, "species of the same". But there are also crucial differences. The difference is in the "degree of plasticity" which ensues: 'Where feeling is present, there is obviously, in the first place, a greater degree of plasticity both in point of variety and of the rapidity with which a new habit is acquired'. [25] A more sophisticated organism will also "anticipate a consequence" when learning something new. The difference between learning by means of conscious feeling and learning by means of unconscious adaptation is that the former, but not the latter, implies anticipation and a greater degree of plasticity. We shall return to the issue of plasticity in Chapter 6.

4. Similar Contemporary Distinctions

Recent discussions show that Mitchell's considerations here anticipate contemporary debates. [26] Drawing upon Thomas Reid, Christopher Peacocke [27] has divided experiential content into *sensations, perceptions* and *judgements.* This tripartite distinction has been echoed recently by Allan Millar in terms of *sensations, sensory experiences* and *propositional attitudes.* According to Millar, 'sensations include itches, tickles, feelings of numbness, and experiences generally.' These, he claims:

> ... are always conscious in the sense of being episodes in the current stream of consciousness, though the subject may not always be conscious *of* them in the sense of noticing them. We may forget a back pain because absorbed in some activity, but it should not be inferred from this that while forgotten about the pain was not a conscious state. [28]

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[25] SGM, p. 49.

[26] The following discussion is taken largely from my *Experience and Content* (1996) Chapter 5.

[27] Peacocke, op. cit.

[28] A. Millar, *Reasons and Experience,* (1991), p. 11.

These "sensations" are, I think, roughly equivalent to Mitchell's conception of *feeling*. They are not, on Mitchell's account, meant to be in any sense incorrigible or epistemically foundational; nor are they meant to be always available to conscious introspection. [29]

By contrast, propositional attitudes 'are states like belief, desire, intention, and hope, in which the subject has an attitude to some proposition.' Sensory experiences, by contrast again, are 'akin to sensations in so far as they are always conscious occurrences [but they] can be described in ways which involve the ascription to them of propositional contents.'[30] According to Millar, while sensations are always conscious (but need not be noticed), propositional attitudes 'are not always episodes in current consciousness.' [31] However, while propositional attitudes are characteristically captured in terms of 'giving the content'[32] of the attitude in question, sensory experiences—like sensations—are best captured simply in terms of how they are felt or how they *seem* to the subject. Sensory experiences thus have characteristics common to both sensations and propositional attitudes. However, they are also distinct. Like sensations (but unlike propositional attitudes), they are always conscious, *albeit* not always noticed, and like propositional attitudes (but unlike sensations), they can sometimes be said to be *about* something.

The category of 'sensations' in the above classification is fairly uncontroversial. Characteristically, sensations are contentful without requiring representational input (at its

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[29] The "non-sensory fringe of consciousness" as it has been called, has recently been made the topic of a symposium in the cognitive science literature. See B. Mangan, 'Sensation's Ghost: The Non-Sensory "Fringe" of Consciousness', *Psyche,* 7, October, (2001), and forthcoming volumes of the journal.

[30] Ibid., pp. 10-11. 'We can say that it visually appears to someone that *p,* meaning by that to describe how the person's experience represents the world as being without implying that the person believes or is even inclined to believe that *p* ... [W]hen we see things we see them under certain descriptions. Looking at a rose bush, for instance, you might see it as a rose-bush where this would imply that your visual experience would not be as it is but for its seeming to you that a rose bush is there.' ibid., pp. 11-12.

[31] Ibid., p. 11. 'At any given time some of our propositional attitudes are conscious and some are not. As I touch my coffee mug I form the conscious belief that the coffee in it is cold. A few moments ago my current belief that my son is at school, which I undoubtedly held then, was not conscious.' loc. cit.

[32] Ibid., p. 10.

most primitive, there is no object-content at all in experiencing such sensations—i.e., they amount to what Mitchell calls "special sensations").

The class of "propositional attitudes" or "judgements" is also fairly uncontroversial. For both Millar and Peacocke, these categories are strongly inferential, requiring the input of high-level content, such as representational, conceptual and propositional elements. A judgement formulated in response to an experience, for instance, characteristically requires that the subject *believe* something about the experience in question. This belief is what is captured when a subject 'gives the content' of a propositional attitude. A certain sound, for example, might be judged (believed) to be the sound of rain falling. The attitude, in this case, represents the experience as an experience of a certain kind. (It is a belief-*that* in Armstrong's terms.)

However, it is clear that the content of a judgment can cause the content of an experience to be taken as an experience of another kind altogether. A person experiencing a certain sound that is believed to be rain, might judge later that a stereo has been left on, and the "rain" sound then comes to be heard as applause. The attitude representing the sound as rain has been influenced by the attitude that the stereo has been left on. Propositional attitudes or judgements can fix the representational content of an experience by bringing to bear different kinds of high-level information to the perceptual situation.

By contrast to propositional attitudes, "sensory experiences" or "perceptions" can be characterised in sensational terms, as well as representational terms. They cannot be classified properly either as sensations or as judgements. That this is so needs some explaining.

Like propositional attitudes or judgments, "perceptions" (Peacocke's term) or "sensory experiences" (Millar's term) have some representational content in *most* cases (in normal human experience). But in other circumstances they may not have such features. Nonetheless, there will always be some sensational content in an experience, conscious or

otherwise. This flexibility and independence in content is what distinguishes perceptions from judgments or propositional attitudes.

Millar offers a reason for distinguishing these kinds of contents. He suggests that a judgement or a propositional attitude, strictly speaking, must satisfy two principles: a concept principle and an intrinsicality principle. But a sensory experience does not always satisfy these principles. Simply put, the concept principle states that 'if a concept is an ingredient of the mental state then the subject must grasp the concept.' [33] The intrinsicality principle states that 'if token mental states in a given category (belief, desire, or whatever) have different contents then they are of different state-types within that category.' [34] More simply, the intrinsicality principle states that 'the representational content of a state is intrinsic to that state ... two states which differ in representational content are different states.' [35]

Obviously, the two principles are connected. It is surely not normally possible to represent a given state of affairs without having a concept with which to represent that state of affairs (so the intrinsicality principle requires that the concept principle be satisfied). [36] Yet, by parity, to have a concept as an ingredient in a mental state requires that one can identify experiences of certain representational state-types (so the concept principle requires that the intrinsicality principle be satisfied). [37]

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[33] Millar, op. cit., p. 20. 'If, for example, you believe that your pet cat is a Russian blue then you must grasp the concept of a Russian blue.' loc. cit.

[34] Ibid., p. 21. 'Thus if Kate's belief *B* is the belief that *p* and Fred's belief *B'* is the belief that *q*, then *B* and *B'* are different beliefs in the sense that they are different belief-types.' loc. cit.

[35] A. Millar, 'What's in a Look?,' op. cit., pp. 86.

[36] Peacocke affirms this point: '[I]t is in the nature of representational content that it cannot be built up from concepts unless the subject of the experience himself has those concepts: the representational content is the way the experience presents the world as being, and it can hardly present the world as being that way if the subject is incapable of appreciating what that way is.' op. cit., p. 7.

[37] Peacocke seems to affirm this point too: '[T]he representational content concerns the world external to the experiencer, and as such is assessable as true or false ... this content is something intrinsic to the experience itself - any experience which does not represent to the subject the world being the way that this content specifies is phenomenologically different, an experience of a different type.' ibid., p. 9.

In the case of propositional attitudes or judgements (desires, beliefs and so on) both these principles are satisfied. (It seems hardly possible to desire/want/believe some *p* without having the concept *p,* and it hardly seems possible to have *p* as a concept without knowing what kind of thing *p* would represent.) But in the case of sensory experiences, these principles are not so easily satisfied. To take an example: a perceptual judgement of a tomato requires that I have the concept "tomato" and also requires that the token experience I am having is a state-type intrinsic to a representational content of a certain kind (which someone else can share). However, both these conditions need not be satisfied. I can, for instance, experience a visual scene with a tomato in it without necessarily engaging the relevant concept (perhaps I am in a hurry or am being distracted at the time) and two people can share the same experience, even if one possesses the concept and the other doesn't (but this will not mean that their experiences are thereby of a different representational state-type). This kind of content is what makes an experience a sensory experience or a perception, rather than a propositional attitude or a judgment. [38] According to Peacocke, judgments ("propositional attitudes") involve "past experience" and are inevitably inferential in content involving high-level influences. However, perceptions ("sensory experiences") can have both *non-representational* and *representational* aspects. The non-representational aspects are supposed to be 'independent' [39] of inference, but not entirely: the representational aspects capture the idea

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[38] Millar adopts the convention of calling an experience which fails to satisfy the above principles an *F- type* experience, and an experience which satisfies these principles to be an experience *such that it seems to the subject that an F is there.* The former is 'an experience of the type which an *F* would yield, that is, would produce under certain suitability and normality conditions.' The latter is an experience which, 'in the absence of countervailing considerations its subject would believe that an *F* is there.' op. cit., pp. 1- 2. The idea is that in some cases (like the ones just mentioned in relation to the tomato) an experience can be *F- type* without necessarily being an experience such that it seems to the subject that an *F* is there. (Being distracted or not having 'tomato' as a concept yields one sensory experience or perception, but not the corresponding propositional attitude or judgement.) Only in having *both* experiences, according to Millar, can one yield an experience *of an F.* (loc cit.).

[39] C. Peacocke, op. cit., p. 6.

that there seems to be an *object content* to experience, while the non-representational aspects capture the idea that experiences can have observational features.

Peacocke's two "aspects" of perception then, are supposed to capture the intuition that Mitchell too saw a century earlier; namely, that while the categories of feeling, interest and action are distinct, they blur into one another, so that interest in the wide sense may contain "feeling", and vice-versa. For Peacocke, this point is the same, though the terminology is different. For Peacocke, the *representational* aspect has a determinate content; the *non-representatational* aspect has a *sensational* content. He explains:

> Historically, the distinction between putative perceptual experience, and sensation has been the distinction between those experiences which do in themselves represent the environment of the experiencer as being a certain way, and those experiences which have no such representative content. A visual perceptual experience enjoyed by someone sitting at a desk may represent various writing implements and items of furniture having particular spatial relations to one another and to the experiencer, and as themselves having various qualities; a sensation of small, by contrast, may have no representative content of any kind ... Representational properties will be properties an experience has in virtue of features of its representational content; while sensational properties will be properties an experience has in virtue of some aspect—other than its representational content—of what it is like to have that experience. [40]

The representational content of a perceptual experience, Peacocke says, has to be given by a 'proposition or set of propositions' [41] which specifies the way the experience represents the world to be. The non-representational aspects are not usually specified in this manner, but are properties by virtue of an organism being capable of having sensations of certain sorts. The distinction is: a representational content is the content of an experience which is specified in words by an application of descriptive concepts (say, about the presence of certain things in one's visual field, i.e., of the form *x is ø*); a non-representational experience is specified in quite different terms, perhaps in terms of some element of experience which is simply sensed.

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[40] Ibid., pp. 5.
[41] Loc. cit.

In support of this claim, Peacocke offers a number of examples intended to show that the non-representational aspects of perception are indeed independent of the representational aspects:

> (1) You are standing on a road which stretches from you in a straight line to the horizon. There are two trees at the roadside, one a hundred yards from you, the other two hundred. Your experience represents these objects as being of the same physical height ... Yet there is also some sense in which the nearer tree occupies more of your visual field than the more distant tree. This is as much a feature of your experience as is its representing the trees as being the same height ...We can label this problem, the 'problem of additional characterisation'...
> (2) Suppose you look at an array of furniture with one eye closed. Some of the pieces of furniture may be represented by your experience as being in front of others. Imagine now that you look at the same scene with both eyes. The experience is different. It may be tempting to try to express this difference by saying that some chairs now appear to be in front of others, but this cannot suffice: for the monocular experience also represents certain objects as being in front of others...
> (3) Consider an example in which a wire framework in the shape of a cube is viewed with one eye and is seen first with one of its faces in front, the face parallel to this face being seen as behind it, and is then suddenly seen, without any change in the cube or alteration of its position, with the former face now behind the other. The successive experiences have different representational contents. ... Yet there seems to be some additional level which the successive experiences fall under the same logical type. [42]

The above are not problems of perception as such, but problems for an entirely *representational* or propositional view of experience. If experiences are said to have only representational features, then the above are dilemmas, because they clearly illustrate that there are things about experiences which are not representational. The first example shows that a tree can occupy more of the visual field despite being represented as the same size as another; the second shows that something non-representational about the experience of the furniture can vary despite the representation of the furniture being 'held constant' [43] and

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[42] The point is, there will be something that seems the same about the cube, despite the representational differences. Peacocke notes that the Duck/Rabbit example was not used here because 'the arrangement of lines on paper remains constant' (ibid., p. 17) in this case, and the similarity of the successive experiences could be attributed to the representation of these lines. The wire cube example shows no such representational stability: the frame of the cube is represented differently, but *something non-representational seems the same* which accounts for the switch.

[43] Ibid., p 13. The point here is that the representation of the objects will not vary, but there is something qualitatively different about the experience. Peacocke notes that this phenomenon also occurs in aural

the third shows that something can *look* the same, (i.e., 'non-representational similarities' can occur) despite the *variation* in what is represented.

The first example, 'additional characterisation,' can occur in a number of situations even when experiencing one object on successive occasions. Sometimes this is known as the phenomenon of 'size constancy.' A distant object under certain viewing conditions, to take an example, can actually seem larger than the optically represented size on the basis of that perceived distance. However, one can usually operate satisfactorily in the world by ignoring such changes in apparent size.

This phenomenon has some explanation in the psychological literature. Objects normally become *smaller* when seen as being distant; however, when viewing conditions are disturbed by features such as atmospheric mist, apparent distance of an object can be exaggerated. (This occurs when viewing the moon: the presence of an horizon within the field of view causes the moon to appear larger there than it does at the zenith.) [44] When this happens, the brain compensates for the decrease in retinal image by correspondingly enlarging the distant object. This occasions a discrepancy between the true distance and the apparent distance, and the apparent perceptual dimensions of the object is thus distorted. So an object can be experienced as both larger than and smaller than it should be on the basis of its represented size. [45]

In underwater situations this size constancy effect is very pronounced. Even very familiar objects, such as a diver's hand can seem too big, or too close. It is unlikely, however, that such experiences can be explained entirely in terms of the brain's enlargement of the retinal image, as the experience of distant objects under unusual viewing conditions. Such objects as one's own hand seem too familiar as objects and could

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experiences: 'A stereophonic recording of a wave breaking sounds quite different from a monoaural recording, even if one cannot locate aurally the direction of the components of the whole sound.' ibid., p. 14.

[44] My thanks to Roger McCart for pointing this out.

[45] See: H. E. Ross, *Perception and Behaviour in Strange Environments,* (1974), pp 54- 56. passim.

hardly be seen as so visually deceptive. Another explanation offered to account for this phenomenon is that there is a conflict between different perceptual modalities—in this case, proprioception and vision —and what "feels" to be at its correct distance, looks too near, or alternatively, what appears at its correct distance, is actually represented visually as being too large. The sensational content of "small" or "large", in this case, seems to bear no intrinsic relationship to the visually represented experience with which it is usually associated. Interestingly, divers adapt to this problem in ways which suggest that they attend to different aspects of the perceptual situation. [46] Such cases are suggestive in indicating how there can be more to an experience than how it is visually represented. Clearly, if there can be enlarged visual aspects to an experience despite its optically represented size, then there is plainly more to an experience than *simply* its projected representational features. In other words, Peacocke's and, earlier, Mitchell's point that sensory experiences involve both kinds of features, seems to have some basis.

There are other more obvious ways of making the point. The 'problem of additional characterisation', for instance, does not arise only with *size* in the visual field. Peacocke notes that it can also arise in the case of visual *colour,* and aural *loudness.* Two walls of a room uniformly painted in terms of hue, brightness and saturation, might still look different in some non-representational fashion. And two car engines running equally loudly, might be represented as being indistinguishable in volume 'but again it seems undeniable that in some sense the nearer car sounds louder.' [47] These examples suggest again that some sensational content can be wrested from the representational aspects of

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[46] 'Divers respond to the conflict in different ways, some perceiving mainly size-distortion, and others mainly distance-distortion. If the diver moves around under water, or handles objects, he begins to adapt to some aspect of the distortion. Some divers adapt to size and *counter adapt* (perceive increased distortion) to distance; others do the opposite; and a few manage to adapt to both size and distance, thus learning new size constancy rules which are appropriate to the underwater situation.' ibid., p. 57.

[47] Peacocke, op. cit., p. 13.

one's experience. (How one *represents* the situation is only a part of one's experiential content in these cases.)

It is clear from the above analysis that Mitchell's tripartite distinction of the function and forms of experience anticipates and mirrors analogous distinctions in the contemporary literature in this area.

5. The Thought-Ladenness of Experience

Mitchell is also probing an issue here which has interested a number of contemporary Australian philosophers. The issue is the extent to which propositional attitudes ("thoughts") influence our experiential content; the extent to which experiences are thought-laden in some way. Some philosophers (e.g., Armstrong) think that beliefs constitute the content of our perceptions. [48] However, there are objections to this view. Frank Jackson has raised examples of cases in which, like Mitchell's examples, we might be experiencing aspects of objects (say, ripe tomatoes) even *without* attending to them; even so, it doesn't make sense to say that this wasn't an object of our experience. We might, for example, remember seeing that tomatoes were on the table without necessarily being able to say if they were ripe or not. (Clearly, however, if one represented tomatoes in one's experience one must have also experienced if they were ripe or not). [49] This seems to be a case of experience with an object-content which is not as accessible to "thought" as other parts of experiences—yet which is much a part of the experience as the representational or belief content. There may be a case for claiming that there are further levels in which experiences can have content without that content being captured by either representations or by "thought". (In a later chapter we shall see more examples from Mitchell which argue for precisely this point.)

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[48] See his Perception and the Physical World. (1961).

[49] See Frank Jackson, *Perception: A Representative Theory,* (1977), pp. 25-26.

Even when we are experiencing an object without the difficulties of attending just mentioned, there are subtle differences in the nature of our experience. We are familiar with being drawn to the whole or only some part of our experience; for example, noticing a particular person at a party (depending on our interests), but there is also the astonishing unity and depth in a single experience—features of which can be distinguished only with considerable difficulty. Mitchell uses the example of experiencing the hearing of an utterance in which the object of our experience is in the meaning of the words used:

> Examining this experience you settle first on the meaning they had for you; but that meaning is no easy matter to distinguish and describe. You easily give the essential part of it, the meaning that every one gives who understands the words, and that can be equally well expressed in other words. But on closer observation you will find that this is only part; it is abstracted from the particular form in which my words, and not others, gave the meaning, and in which they gave it to your mind and not to others. Besides the meaning, which was the central point of your interest, you had also the sound of my words before you. It will puzzle you to say what this presented to you besides the meaning. What of their tone, their loudness, their strangeness or familiar quality, their separateness, and the units of their sound? Most of all you will be puzzled to distinguish the meaning from the words, and their bits of meaning from the several words, and say what the difference was in the experience where you did not make any of these distinctions; for each made its contribution to the total meaning. And you doubtless had for object in your experience more than my words and their meaning; your eyes, for one thing, were open as well as your ears. Then, turning from what was object in the experience, there is all that we shall call the subject-experience, including not merely your organic sensations but your doubt or perplexity, and your attention, interest, or irritation, about the object as you thought it. [50]

In this case, the experience has a number of elements: contextual meaning (both of the utterance as a whole and of single words), intonation, "organic sensations" (qualia); and thoughts *about* the object of one's experience, such as irritation and perplexity. Experience, Mitchell seems to be suggesting, is a complex—an amalgam. The elements which are contained and unified in the experience are what make the experience what it is—yet they can also be isolated as distinct experiential episodes, if required.

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[50] SGM, p. 12.

However, isolating them is an artificial exercise, and an abstraction from the real situation, according to Mitchell (again we see Bradley's and James's influence here). Each "pulse" of experience—say, for example, the tone of a voice heard in an utterance—is essential to the overall experience: tone is crucial for meaning; meaning is essential for the sense of the complete utterance; sense is crucial for one's experiential response to the utterance as one hears it, and so on. It wouldn't be the experience it is without these contextual features. One can abstract the qualitative experience of tone from the experience, as long as one recognises that one's "cross-section' of the experience belongs to the totality of the experience for the length of that experiential episode.

That the contents of the amalgam can be distinguished, Mitchell argues, it doesn't make them equivalent to the same experience. Our thoughts about the utterance we are hearing, for example, might be a thought of irritation; yet the thought is quite different from the experience itself, even though the thought was partly what gives the experience its particular character. Our thought might be conflated with the experience, yet this is an error. Mitchell warns against 'the psychologist's fallacy ... confounding an experience with our thought of it. ... The experience is not the same as our thoughts about it; it is the fact to which our thoughts have to be true.' [51] Thoughts, representations and sensations, Mitchell claims, are *aspects* of experiences, but not equivalent to the experience of which they are aspects.

When one focuses on each of the elements of an experience, however, we find that they too are composites. Whether we initially notice it or not, each episode in an experience is itself an amalgam containing features of greater refinement:

> Every simplest sensation, in addition to the quality from which it takes its name, has a degree or quantity of the quality, and a degree of vividness, clearness and interest. These

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[51] Loc. cit.

> aspects are all felt for it does not matter that they are not distinguished from one another, and that the sensation does not analyse itself. [52]

The amalgam is thus present both in singular experiences and also in the elements which constitute those experiences. Moreover, the same kind of complexity may also be present diachronically and as cross-sections of singular moments of experience. Each moment of experience has composite elements which we may attend to or ignore. We can dissect any moment of experience 'like a moving object ... represented by a series of biograph pictures that we take into our hands, examine, and connect in proper order', [53] but this is an abstraction from the real situation—the sentence meanings ("tissues of the story", as Mitchell calls them). Or we can attend to the total experience in its fullness and complexity, noticing what we can, depending on our relevant interests.

Experience, no matter how fragmentary always takes time, and each segment has "structure and connection" internal to itself and the whole of which the segment is a part. Thus, for Mitchell, sense of temporality is a function of the unity and structure of experience and not the other way around. One notices time passing because one is attentive to the changing position of the course of experience: the tone and meaning one hears fades in relation to new tones and meanings, etc. This attendance to the structural connections between the composite parts of an experiential episode, is, in his view, the foundation for our metaphysical view of time: 'the division of the course is part of the experience, without which we should have no sense of time.' [54] (We shall look at this account in more detail in the concluding chapter.)

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[52] SGM, p. 13.
[53] SGM, pp. 14.
[54] Loc. cit.

According to Mitchell, composite experience seems to have 'unity and mutual dependence of what seems many or merely different.' [55] This is true of all biological entities to different degrees as a function of their evolutionary sophistication. He warns us against the 'common error' of ascribing too much to experience, however: 'to read higher forms of experience into lower lives ... [such as] reading notions of geometry into the mind of a bee, and see[ing] sadness of reflection in the eyes of a ruminating cow'. [56] And at the same time, he also warns of parochialism about the degree of sophistication of experiences for such creatures: 'the thoughts of an animal and infant are no more bewildering and unsatisfactory to them than ours to us.' [57] But this is not to imply that we find our experiences always intelligible; the extent to which we understand our experiences and respond to them is a function of several things: how attentive we are to their message, how coherent the message being presented, and how sophisticated the organism receiving the message:

> A sentence, whose several words give precision to an idea in your mind, is only a babble to an infant; and a primitive mind with all its senses in action has a thought so meagre that it would bewilder you and me if we were not falling asleep, for we should not be satisfied with it. ... [T]urn again to your own experience and you will find that, the more poorly it is organised, the fewer the elements that are distinguished in it. Compare, for example, your following an interesting story with your listening to one of which you have lost the thread, or to an argument that perplexes you, or to a comparatively unknown tongue. Is not the complexity greatest when your understanding is most comprehensive? Wherever you cannot grasp and hold as one, the distinctions are blurred and few; they do not even exist for you; they are lost with the point of them. And the more you lose it, as by growing tired or sleepy, or absorbed in something else, the more do the very sounds lose their independence and become babble to you. [58]

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[55] SGM, p. 11.
[56] SGM, p. 14.
[57] Loc. cit.
[58] SGM, pp. 14-15.

6. Further Distinctions

Mitchell's tripartite distinction between feeling, interest and thought raises refinements in the categorisation of experiences. These refinements are concerned with: i) the epistemological perspective by which experiences become part of one's subject-experience and object-experience; and ii) the attitudes toward these experiential perspectives—called by Mitchell *knowing, interest in* and *acting on.*

6.1 Subject Experience and Object Experience

Examples of this kind of experience are unsophisticated, relatively immediate and unambiguous mental *qualia:* 'experience[s] ... of cold, or sweet, or a pain, or sound, or a mass of these sensory objects' [59] Mitchell sometimes calls feeling "subject-experience" to capture the sense in which quale are crucially subjective: i.e., *first-person* states, or states from a subjective point of view. [60] "Object-experience", by contrast, is concerned with an 'act of knowledge when ... we recognise or identify anything.' [61] It is clear that Mitchell accepts a distinction between first person ascriptions which constitute the domain of what philosophers now call "phenomenological content" and third person ascriptions which constitute the domain of what philosophers now call "representational content" or "propositional content".

However, while Mitchell accepts an ontological distinction between these two levels of content, he does not admit of an epistemological division between them. Experience, according to Mitchell, is naturally an organic unity; it is only artificially a composite of many elements. Feeling and object-experience belong with one another. He asserts, for example, that in having an object-experience we also have subject-experiences, and vice-

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[59] SGM, p. 57.

[60] This is another of Mitchell's themes which seems to have been taken up independently by Nagel (1979).

[61] SGM, p. 57.

versa. 'The experience of an object is never without experience of our self, and the experience of our self is never without experience of an object.' [62] Subjectivity is thus part of the experiential amalgam in experiencing common objects and external events, even though we may not be attending to our subjective response at the time. In any object-experience, subjectivity is intrinsically involved and not separate. To become aware of our subjectivity we must turn our attention from the object-experience aspect to the subject-experience aspect; but this action, Mitchell claims, constitutes a new experience (i.e, it is not simply the object-experience with the subject attached):

> To have an object-experience is also to have a subject-experience; it is to differentiate the object as we think it from our thinking it, our interest in it, and our dealings with it. These are our subject-experience. The experience of the difference of subject and object is not an experience of differentiating two objects. We set before ourselves the object but not the thinking and the rest, not the self or subject from which it is differentiated. We can make the subject in an experience the object in an experience, but only in a new one, not in the same one. In the experience of our self as object we set it before us, but there is at the same time the self doing so, the self thinking, approving, attending to the object—the self as subject. [63]

Experience is thus layered, multi-aspect, multi-textured, and transformed by our attentions and interests. An experience which is object-orientated can become an experience which takes the subject as the object, and thus becomes a new experience of a higher order—now "self" absorbed as object and not simply object absorbed as object. If this sounds somewhat Hegelian, it shows the idealist influence once again. However, unlike Hegel, Mitchell informs us that this doesn't mean that the object and subject of our experience themselves become changed by these transformations: 'our experience of both of them is more or less different at different moments. That does not prevent the self from being the

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[62] SGM, p. 58.
[63] Loc. cit.

same, and felt as the same, any more than it prevents a house from being the same house, and thought to be the same house, when we see it from different points of view'. [64]

If the contents of an experience remain unchanged, then what are they about? They are about as many things as they can be about; indeed, things as varied as one's interests. An object-experience may be about individual or general objects (this particular red chair or "chairs" in general); concrete or abstract objects (a physical thing in time and space, or something like "justice"); objects of reason ('laws, atoms, the past') or objects of sense ('colours and sounds'). [65] Subject-experience, according to Mitchell, is similarly about as many different things in the corresponding mental sphere: *this* experience of colour or "colour experiences" in general; a certain concrete case of a subjective experience or the same concern for the whole species *writ large;* and so on.

So, for Mitchell, the interests in subject-experiences and object-experiences have parallel concerns. This might tend to suggest that they are different cases which deserve to be treated differently. However again, the "essential thing" according to Mitchell, is not drawing attention to the distinctions which can be made between subject and object (and their parallel concerns), but the essential *unity* they have in every experience: 'the experience of an object is never without the experience of our self; and the experience of ourself is never without experience of an object; and that is the case when the object is our self, just as when it is anything else'. [66] So the concerns of each are actually best seen as not parallel, but *integrated,* concerns. There is thus, on Mitchell's account, a threefold distinction between the contents of our experiences: subject, object and the *unity* between subject and object. And there is a corresponding threefold distinction between the *concerns* of both subject and object experiences and the concerns of the subject-object unity.

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[64] Loc. cit.
[65] SGM, p. 59.
[66] SGM, p. 58.

6.2 Knowing, Interest in and Acting on

There is a further set of distinctions to mention. Given this unity of experience as subject and object, Mitchell argues for a threefold distinction of cognitive *attitudes* with respect to these contents: the attitudes are *knowing, being interested in* and *acting on.*

For any experience of the kinds I have discussed, concern can result in any of the above cognitive attitudes to the experience. It is the extent to which all three attitudes can be satisfied in a given experience which determines the kind of experience in question. In a simple object-experience, such as seeing a chair, for example, all three attitudes can be satisfied: we *know* the chair in so far as we are clear about what it is and what it is used for; we are *interested* in the chair in so far as it is the subject of our attention and plans; and we *act* on the experience in so far as we can pick up the chair, move it and sit on it. For a subject-experience the same applies. However, this satisfaction of all three attitudes is not always possible, as in, for example, the case of abstract experiences of "imaginary worlds". Mitchell explains:

> There is the same threefold division in our experience of the minds of others; we know them and their experience, we take interest in them, and we act in regard to them. Similarly of mental products, e.g., theories, institutions, and the imaginary worlds created in literature. ... We may regard them as each an imaginary world of our own creating, and with reference to it we can also say that we know them, take interest in them, and alter them. But if we do not so regard them, then we have to say that we think them, and not that we know them. [67]

This has implications for serious philosophical studies as to the nature of aesthetic experiences; for example, films and other art forms when they represent events via a variety of media. What precisely are such art forms conveying? An early film by the Lumiére brothers about a train going down a track was once seen as sufficiently "real" to

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[67] SGM, p. 59.

cause most of the audience viewing the film to leave the cinema in fear. [68] Does film represent real events, give the illusion of real events or present real events transparently, i.e., through a medium in which we can imagine real events? A matter of current contemporary debate concerns the nature of filmic ontology, and the distinction between transparency, illusionism and "likeness". [69]

Mitchell would have a rather different response to this debate, given his outline of the structure of experience. His answer would consist of an analysis of the experiences of the audience under consideration. For the epistemological conditions of experience, to Mitchell, determine the nature of the experience in question. He would want to say that aesthetic experiences generally (i.e., about "imaginary worlds"), are real, in so far as the reaction to the experience is one of knowing, showing interest in and acting on. Were our responses merely interest, for example, (i.e., in the case of a contemporary audience), we can't be said to *know,* hence the only plausible answer to the transparency, illusionism, likeness debate is *illusionism;* the cinematic image gives an illusionary experience to those involved which is somewhat similar to a real experience, but is really an experience of rapidly flickering images on a screen. On the other hand, were a cinema audience genuinely cognisant of knowing, having interest in as well as acting on their experience, (i.e., being prepared to run from the cinema), then it can truly be said in this case that *likeness* is the answer to the question about the nature of the cinematic image. In this case, the filmic image is *like* the real world and is not "illusionary" at all. Thus, for Mitchell, one's conception of "real" is tied to one's response to experience and not vice-versa. Epistemology is secondary to one's experiential ontology (we have already seen that this does not justify labelling his work as "idealist").

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[68] See, G. Currie, *Image and Mind: Film, Philosophy and Cognitive Science.* (1996), especially Chapter 1.
[69] Ibid., Chapter 1.

7. Mitchell's Epistemology, Knowing, Thinking and Believing

Mitchell makes a clear distinction between knowing, thinking and believing. The distinction runs parallel to the forms and functions of experience.

7.1 Knowing

"Knowing" for Mitchell has nothing to do with justified true belief, as analytic philosophers assume it is. Instead, knowledge is about being able to both take interest and act on one's experience. Thus, as we have noted before, Mitchell's epistemology has a pragmatic dimension. (See Chapter 3).

Knowledge can be said to occur to both object-experiences and subject-experiences. However, for each there is a different procedure undergone in interpreting our experience. In the case of an object-experience, the experience itself triggers our interest in the experience and the need to act on that experience. In the case of subject-experiences, the experience triggers a *secondary* experience which triggers the "interest in" and "act on" responses. Thus, knowing requires primary causes and thinking requires secondary causes.

For example, we may be interested in and act on our experience of seeing our house burning down. In this case, the experience is both the subject of our future plans (we wish to put the fire out), and we can act on that experience (locate a source of water, call the fire brigade, and so on). However, were we to merely *think* that our house was burning down (say we were at a party and the neighbour rang with the news), we might be compelled to regard the thought initially as a joke. However, the experience of hearing and thinking about the news might give rise to a secondary experience: i.e., a further thought that our house *was actually burning down.* It is this secondary experience that then gives rise to our responses. Thus, our primary experience is the object-experience—our house burning down; our secondary experience is the subject-experience—the *thought* that our house is actually burning down. To "know" the former requires the primary experience only; to "know" the second requires that the secondary trigger (a thought) be a proxy for the

primary experience. As Mitchell says: 'We can also know the object as it is thought, but only when we make a second thought which takes the first for its real object—its object as existing.' [70]

"Knowing" for Mitchell is thus not a simple externalist relation: not a relation simply between subject and object, or between thought and reality (though this is the case in purely object-experiences). It is also partly an internalist relation too: i.e., a relation between thought and secondary thought, in so far as this is grounded in a relation involving thought which 'takes its object as existing' (this is the case in purely subject-experiences):

> To know is not merely to think something, to set it before us, to form an object of thought. These expressions mean the same thing, but to know is to think something that has a nature of its own, to which our thought of it claims to be true. [71]

In the case of experiences with both subjective and objective aspects, of course, the internalist-externalist distinction seems to oversimplify the actual relations involved. For, in this case, there are simultaneous relations going on between thoughts and secondary thoughts and objects at a number of levels.

7.2 Thinking

"Thinking" for Mitchell is different from "knowing" in the sense that, while in knowing one can have an interest in and be able to act on the experience, in thinking one is merely able to do the former. However, this too can be done both with a "real" object or an imaginary one, i.e., an object-experience or a subject-experience.

We can think about round squares and other absurdities, mental products, such as 'theories, institutions, and the imaginary worlds created in literature', and abstract 'objects

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[70] SGM, p. 59.
[71] SGM, pp. 59-60.

of reason', like laws, atoms, the past', [72] just as easily as we can think about our neighbour's kind smile. But we cannot *know* such things: 'a mere thought', Mitchell claims, 'is neither true nor false'. [73] Whereas experiences, such as a perceptions of a colour or a sound, can be items of knowledge because we can act on them and not merely take interest in them. The difference is that while in thinking we have only an interest in our experience, in knowing we can also act on that experience.

This might seem odd: if a novelist, for example, thinks about a scene in his novel, he might conceivably go on to alter it. In this case, the subject-experience of the imaginary world does act on his experience. Why then does Mitchell claim that this is not an item of knowledge?

In this case, a secondary experience is created. It is the secondary experience which is acted on, not the primary experience created by thinking about the novel. The novelist thinks about a scene, which then triggers a further experience which he "sets before him" (in Mitchell's terms) as a further item of knowledge. The second experience 'takes the first for its real object—its object as existing'. [74] That further experience might, for example, be the scene as it is based on a real event in the novelist's life, a real situation or place. In this sense, the novelist acts on the *secondary* experience, not the primary one, according to Mitchell. His interest in the imagined scene triggers a subject-experience of the original scene on which the imaginary one was based and it is that which he acts on—for example, by modifying characters and place names in the simulated version of the real event. The imagined world is the novelist's primary object of interest, though the real world is his primary object of *action.*

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[72] SGM, p. 59.
[73] SGM, p. 60.
[74] SGM, p. 59.

Mitchell has an interesting point here. Not even imaginary worlds in literature are completely divorced from some real-world inspiration: art may not simply *represent* reality, as some philosophers have claimed; *mimesis* may not be the best understanding of the nature of aesthetic experience. But it seems outrageous to say that art has no bearing at all on real-world actions and events and subjective experiences based on those events. Even non-representational and abstract art surely says something about the artist's object- or subject-experiences, regardless of how oblique that might be. Even the least representational of the arts—for example, a flamenco dance movement or a piece of sombre Russian music—is triggered by some primary experience of the artist, such as a mood or sensual feeling: the exuberance and excitement of the Spanish resistance, or the oppressive weight of Soviet tyranny.

This is not to say, however, that we are clear about the application of the terms "knowledge" and "thought" to our experiences. Indeed, according to Mitchell, these terms are often used indiscriminately to apply to each other. We might say that we "know" that Hamlet loves Ophelia when we read Shakespeare, for example. Nothing of the sort is true, according to Mitchell, except in a derived sense. We merely *think* that Hamlet loves Ophelia and no more. (The only person to whom it can be said that they knew that Hamlet loves Ophelia is the creator of the work.) Were a plausible new interpretation of Shakespeare's play to come about, we would not hesitate in revising our thoughts. (Much of literary criticism, philosophy, art theory, etc., are disciplines which are concerned with the changing of thoughts in these matters—i.e., through intelligent discussion and revision of aesthetic assumptions.)

According to Mitchell, the cause of this confusion is the conflation of thought and object:

> Our experience is of self and object, but not one and the other as if both were objects, or as if one could be had without the other. *It is of the two in relation:* it is an experience of an object by a self, and so of the attitude of a self toward an object. The experience of an object is never without our experience of self, and the

> experience of self is never without experience of an object; and that is the case when the object is ourself just as when it is anything else. [75]

Because of this dialectic between self and object, there is an inevitable confusion in what we think and what we claim to know. We use the word "think", Mitchell tells us, ambiguously 'for both objects—of the object as it is thought, and the object as it exists or is real'. [76] But it is only of the latter is true knowledge really possible. To "know" is not merely to have a thought about an object. In his epistemology, all thought—even "imaginary worlds" such as Hamlet's love for Ophelia—is an experience of self and object in relation.

"Knowing" requires more than just thinking something, however. Knowing requires that something thought 'has *a nature of its own,* to which our thought of it claims to be true'. [77] To determine whether a thought is more than a thought (i.e., an item of knowledge), we need to form a secondary thought about the object, by 'tak[ing] the first [object] for its real object—its object as existing'. [78] If we take an object thought about as a real object and we later judge that there are 'factors in the object as we think it that in our opinion warrant the claim', [79] (that is, it coheres with our other thoughts and knowledge), then that is—for all intents and purposes—an object of knowledge. Some thoughts can never be tested in this way and they remain items of "belief" (we shall look at beliefs shortly).

Nonetheless, although we might use the terms "thought" and "knowledge" indiscriminately, Mitchell claims that we are actually familiar with the distinction between knowledge and thought from infancy:

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[75] SGM, p. 58, italics mine.
[76] SGM, p. 59.
[77] SGM, p. 60, italics mine.
[78] SGM, p. 59.
[79] SGM, p. 223.

> My perception of this room is a real event of this moment, and has its own attributes: it is clear or vague, long or short lived, true or false, capable of inducing further thoughts in me and of preventing others, and I can analyse it into the course of perceiving and the room as I perceive it. The room has quite other attributes. It is so many feet long, is lighted well or ill, and it is not affected by my perceiving it. If we all glance at the ceiling and guess its height, there are so many different perceptions of the one height—so many different heights as we think them. [80]

As well as confirming yet again Mitchell's unwillingness to embrace idealism ('The room [is] not affected by my perceiving it'), this passage demonstrates that the distinction between thought and knowledge is bound up in the nature of our perceivings of the world—our experiences. We experience the lighting and the rough dimensions of the room, and the height of the ceiling; we might even claim that we know that our respective measurements—our mental estimations—approximate the objects experienced. However, our various thoughts about the height of the ceiling are really neither true nor false, according to Mitchell. Our thoughts are merely *claims* to knowledge which do not become knowledge until acted on (for example, we might actually measure the room). These claims to knowledge, however, are something more than mere thoughts: we actually think that the experience we describe conforms to the thoughts we have about it. They are thoughts with an obvious, direct real-life application (i.e., the room). This is a clearly stronger kind of thought—which is *closer* to being knowledge—than the thought that Hamlet loves Ophelia (which is largely imaginary). It is this kind of thought which Mitchell terms "belief":

> Hence, while a mere thought is neither true nor false, a thought that is knowledge is true and one that claims to be knowledge is always true, false or partly both. The claim in the thought is called belief. [81]

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[80] Loc. cit.

[81] Loc. cit.

7.3 Believing

There are several things required for something to be an item of knowledge, according to Mitchell: i) one must have interest in and be able to act on the experience; ii) the claim to experience must be capable of being thought of; iii) that thought must be either true or false or partly both. It is this last criterion which distinguishes "beliefs" as items of proto-knowledge.

"Believing" in Mitchell's epistemology is thus closer to knowledge than mere thinking, if "thinking" is understood as mere interest in something (as one can be interested in whether Hamlet loves Ophelia or not). But believing is not mere thinking in this sense. In the present example, the thought doesn't claim to be true, or false or partly both. We don't *know* that Hamlet loves Ophelia. We don't even *believe* that Hamlet loves Ophelia for the same reasons, according to Mitchell. We merely think it is so, and were the play to be understood differently, we would think otherwise. Thus, for Mitchell, "thinking something is true" is strictly speaking, a malapropism.

But believing is not the same thing as knowledge either. For knowledge requires both an interest in and acting on the experience in order to assess it as true. (If the experience is acted on and is found to be true, then the claim about the experience is knowledge; if not, it is not knowledge at all). Believing, contrariwise, requires merely that the *claim* be capable of being true, false or partly both, prior to acting on that claim. The thought that Hamlet loves Ophelia can't be true, false or partly both; thus that thought can't be a belief so defined. The claim that Shakespeare wrote *Hamlet*, however, can be a belief because it is a claim which is true, false or partly both (it happens to be true). A "belief" is thus a hybrid of these two conceptions: like knowledge, it can be acted on and can be true or false or partly both; and like a thought it can be of interest.

This kind of epistemological framework can be looked at in terms of the standard philosophical definition of knowledge as true, justified belief. Say I am watching McEnroe

playing Borg in the Australian Open Tennis Final on television. I experience Borg beating McEnroe and thus I claim to know that Borg was the winner. I make the claim—either to myself or out loud: *Borg won the match.* According to the traditional conception of knowledge, the three conditions seem to be satisfied: i) what I claim is true (I see McEnroe defeated); ii) what I claim is justified (I have evidence that McEnroe was defeated); and, iii) I believe that McEnroe was defeated (the evidence is compelling). However, Gettier's famous counter argument casts doubt on this account of knowledge as follows: Suppose the television program I am watching is—unbeknown to me—a replay of the previous year's final (not the current year's final in which the outcome of the match was rather different). Even in this situation, all three conditions are satisfied, yet it can't be said that my claim: *Borg won the match* is an item of knowledge. There is something wrong, it seems, with the traditional conception of knowledge as true, justified belief.

Mitchell's account of knowledge, thought and belief is relevant here. In this situation, it can't be said that I *know* that Borg won the final, despite the evidence before me and the compelling belief I hold. I may have interest in the match and claim that Borg won the final; in this case, I *think* that Borg won the final. But were I to act on the thought as a belief (for example, telephone a friend and ask him about the match), I would soon discover that the initial belief was not knowledge at all. It may have been partly true (in that Borg was seen to have won), and partly false in that it was really a replay of the previous year's match (not this year's match). However, my claim that *Borg won the match* could not be considered knowledge, only a belief which was partly true and partly false. Mitchell's account of the criteria for knowledge thus runs against the traditional conception of knowledge and at the same time sidesteps the famous Gettier counter example.

8. Distinguishing Real Objects from Objects of Thought

In any perceptual exchange we have with the world, Mitchell thinks that there is a need to distinguish the *real* object from the *object of thought.* This enables his account to be understood once again as being a realist, not an idealist epistemology. He specifies three ways of making this distinction: a) by means of the difference in thought between the experience of subject and the experience of object; b) by means of the difference between the process and the product of thought; c) by means of comparing two thoughts on the same object.

8.1 Subject-Experience and Object-Experience

In any epistemological exchange, there is always a difference between subject-experience and object-experience, in Mitchell's view. Say, for example, I see a tomato which forms my object-experience. I might then leave the room and recall the tomato by memory (this forms my subject-experience). In this situation, and on Mitchell's account of perceptual exchange, the thought of the real object is made the real object of the second thought. Now, is there a substantive difference between the two experiences? If there is no difference, then we are entitled to accuse Mitchell of failing to make a robust distinction between thought and reality, and he could thus be seen as presenting an idealist account.

According to Mitchell, there are several differences between subject- and object-experiences. For one thing, the subject-experience is informed by things of which I may not have been aware at the time of experiencing the object-experience. I may not have been aware that I was hungry while initially seeing the tomato, for example; or I may not be aware that I was in a hurry and wanting to get to work before 9am. I may not even have been aware of seeing the tomato and wanting to include it in my lunch (that is, the purpose for which I wished to notice it). In this situation, I may have just experienced the tomato "on automatic pilot", as it were—without "setting before us" (Mitchell's words) the *reasons* for noticing the object, the *purpose* of noticing it, or the *feelings* we had in the

process of noticing it. However, in making the tomato the object of a secondary experience—a subject-experience—there is a different experiential process involved: the secondary object is made an object of thought in a way in which the first wasn't. It is different in so far as it is an object of deliberate *thinking;* whereas, the first experience may have been an experience of which we were not completely aware (compare Jackson's "unnoticed tomato" example below—**§8.2**). In the object of thought there seems to be scope for increased subtlety and experiential certainty than in the object-experience. It is conceivable that in recollection, one might experience more in the subject-experience than in the original object-experience. All these features help to distinguish the content of the second experience (the subject-experience) from the content of the first (the object-experience). That this distinction can be maintained argues against the claim that Mitchell was an idealist.

8.2 Thought and Thinking

According to Mitchell, thought can be distinguished from thinking. Similarly, all interaction with the world involves *processes,* and processes can be distinguished from *products.* On Mitchell's account, any experience occurs in the context of processes in which it plays a role or performs a task. Experiencing the tomato as an object-experience might be part of a process in which I am rushing to go to work, and in this case, the experience may play a role in reminding me that I require some lunch, for example (it may not do this entirely adequately, as we have seen above). In another conceivable scenario, the experience may play the role of an aesthetical object of some sort (for example, something to study as an object in a "still life" exercise).

The various roles that an object can play are intrinsic to the process in question: just as a spark plug can be a crucial part of an engine, an item of religious worship in a primitive society, a paperweight, an object with which to shatter windows, etc., so any product of experience—any object- or subject-experience—is crucial to the experience in question.

The point is that the product occurs in a context of various kinds, and 'it neither comes after the process nor exists apart from it'. [82] Call this *the context thesis.* The context thesis ensures that every experience is unique. Moreover, we can abstract from specific contextual situations and see the product in isolation from the original context and in the context of a further, secondary experience.

To take Jackson's example mentioned above, I can recall, in thought, my object-experience seeing the tomato earlier in the day and not being aware whether it was ripe or not. But in the secondary experience—the thought—I may be able to experience things about the product unavailable to me in the original situation: for example, in "setting the object before me", I may realise that the tomato I had experienced earlier *was* ripe after all! The secondary experience may be thus liable to becoming the object within a new experiential context, a new process. It is no longer, strictly speaking, the same experience—though we might ambiguously refer to it as such, just as we refer to a thought we had today being the same as the thought we had yesterday. But this is an ambiguity which cannot be sustained given the context thesis. Objects of experience—be they real or subjective—become transformed and united in further experiences and play new contextual roles once they are thought about on successive occasions.

Mitchell explains this difficult point by using the example of the aim of a rifle: the aim being analogous to the "product"; the positions we have to take to get the appropriate aim being analogous to the "process":

> We do quite the same when we speak of our aim with a rifle. This is a product, the product of a complex series of positions that we have taken, but it does not exist apart from them nor after them. And when we say that our aim may be the same in different positions, our expression has the same kind of ambiguity, though not in the same degree, as when we speak of our having the same thoughts as we have had before, or the same thoughts as others have. [83]

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[82] SGM, p. 62.
[83] Loc. cit.

The point here is not that thoughts are artefacts of thinking (as the "aim" is the artefact of the positions taken). Nor is the point that products are "universals" and the processes are "particulars" (though it might easily be interpreted in this way). The point seems to be that, in forming thoughts, the context of the thinking is vital. Just as the aim of rifle is the product of the positions taken, so our thoughts are the product of the thinking taken. We might say, for example, that we have the same thoughts. However, this is not strictly true on Mitchell's epistemology. Our thoughts on the same issue are as different as the aims we might take with a rifle. Both thoughts might be of the same thing we take to be true (both "aims" might hit the target), but they are actually epistemically different and contextually unique.

8.3 Comparing Thoughts

Mitchell says that 'When we refer to thinking we speak usually not of the same thought but of the same kind of thought'. [84] He means, of course, that thoughts are never the same on successive occasions, as we have just seen; they are, instead, best understood as epistemic *types*. There are thus no grounds for claiming that thoughts are identical with each other. The best way of understanding the relationship between thoughts and the objects of thought is to regard them as products in an associated process which changes over time in response to different situations. Thus the best we can do in comparing thoughts is to isolate them as types in various epistemic classes. Mitchell gives some examples:

> We say that seeing is the same kind of thought as hearing because both are species of perceiving, that perceiving is the same kind of thought as judging because they are species of believing or knowing, that measuring is the same kind of thought as pondering because both are species of comparing. All are species of thinking. When we say that two people are looking at the same scene, or hearing and understanding the same argument, have the same thought, we do not refer to the looking, or hearing, or understanding. In respect of these, we rather say that they have the same kind of thought.

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[84] Loc. cit.

> Nor do we mean that the real object is the same, for of course it is, but that the object as they think it is the same. [85]

Compare Armstrong's rather similar account of the contemporary notion of *propositions:*

> Suppose, for instance, that nine men believe that the earth is flat. We have nine different beliefs. There is A's belief, B's belief, C's belief ... there are nine numerically different *states* .... In the case of the nine men, what is thought is the same thing in each case: that the earth is flat. It is just such a case that philosophers, at any rate, describe by saying that what the nine men think or entertain is the same *proposition.* [86]

This seems to indicate that Mitchell is sympathetic with some kind of propositional account; and, indeed, he does seem to be in this passage. But the point is not simply to draw attention to the fact that each thought may be discrete and different, yet of the same qualitative type. It is also to draw attention to the point that there is a qualitative difference between *real* objects and *objects of thought.* In comparing various thoughts, we see that this distinction can be sustained once more: for, in comparing them, we see that thoughts are proposition-like (and can be the same for different people in different circumstances), while real objects are not proposition-like at all. Once again, a robust distinction between thoughts and reality can be once again upheld against false allegations of idealist sympathies.

9. The Confusion of the Forms and Functions of Experience

Distinctions may well be made between real objects and objects of thought, but Mitchell recognises that they are regularly confused. Acknowledgment of this may explain some of the idealist accusations levelled at Mitchell's work.

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[85] SGM, pp. 62-3. He also gives an example of several individuals reading a passage of text: 'In reading the words, we do not all form quite the same thoughts. Even when the words give a simple description of a scene so that every reader forms true thoughts of it, and all are therefore said to have the same thought of it, some are doubtless satisfied with merely thinking the general meaning of the words, others form sketchy pictures, while a few go slowly and carefully enough to complete the picture with something of the fulness [*sic*] that it had for the author, but no doubt with a difference'. SGM, pp. 63-4.

[86] D. M. Armstrong, *Belief, Truth and Knowledge,* (1973), pp. 38-9.

He claims that, in many exchanges we have with the world, we 'turn our interest in an object into a quality of it'. That is, we regularly associate the object of thought with the object itself—'as when we call it interesting, pleasant, hateful, tragic, or comic'. [87] Of course, objects aren't themselves interesting or hateful; ideas or personalities might be, but not objects. Nonetheless, Mitchell claims, we often lapse into thinking that 'our interest [is] part of the object, quite as colour belongs to a landscape and loudness to a sound'. [88] Mitchell even thinks that this projective tendency is an inevitable consequence of our engagements in the world. [89] But this is also a confusion born of failure to distinguish the three functions and forms of experience. It is to confuse feelings, interest in and thoughts about the objects of experience:

> It is one thing to be pained by an object, another to turn from it, and it is a third thing to think the object, or set it before us, and in doing so to include among its qualities painfulness and repulsiveness. [90]

In the same way, objects of thought are usually conflated with the thinking of a given thought. For instance, thinking about dinner is often confused with the dinner we are thinking about. The one, however, is a process; the other is the "setting before us" of a mental object.

This is the extent of Mitchell's propositionalism: we can regard "thoughts" as an important part of experience, as long we don't confuse them as being the only part. Thoughts have their role, as do the other forms of experience: interests and feeling. Thoughts are neither to be under-emphasised, nor over-emphasised in his analysis. In this sense, Mitchell would clearly be unsympathetic to present views on collapsing the observation-theory distinction (we shall see why in the next chapter). In Mitchell's view,

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[87] SGM, p. 64.
[88] SGM, pp. 64-5.
[89] SGM, p. 65.
[90] Loc. cit.

high-level cognitive capacities ("thoughts") belong to patently different epistemological levels than do other capacities, such as feeling and interests. Similarly, one imagines Mitchell would have little sympathy for present-day propositionalism in theories of mind and content.

10. Intellectual Interests and Object Interests

Given that the functions and forms of experience can be confused with their objects, it remains a difficulty how to tell the two apart. Mitchell suggests that making a difference in kinds of interests is the way of doing this. He proposes a distinction between a) *intellectual interests* (both extrinsic and intrinsic); and, b) *object interests* (also extrinsic and intrinsic). However, this is a misleading way of putting his point, as it turns out that intellectual interests can also be about objects and object interests can be about intellectual pursuits. The distinction is better made by saying that intellectual interests are concerned with things *qua* their intellectual content; while object experiences are concerned with things *qua* their object content. There is a final category concerning interests which he describes as "purely" intrinsic, which is simply about things as they are felt.

This set of distinctions parallels the three functions and forms of experience: *feeling, interest* and *action* to some degree. However, they also cut across them to designate not so much psychological types as general classes of human responses to objects we set before us. These distinctions correspond to our *theoretical,* our *moral* and our *aesthetic* interests in objects.

10.1 Intellectual Interests

These constitute our theoretical interests. Intellectual interests are, to Mitchell, typified by the sciences which are concerned with 'the truth that a thought claims or seeks'.[91] But they

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[91] Loc. cit.

are also concerned with more mundane claims about the real world and the nature of things in the world (for instance, how clouds form, or how human and animal behaviour is to be understood). While intellectual interests are best seen in the case of the sciences, Mitchell tells us that his account 'applies to our interest in any kind of object'. [92]

Mitchell regards the sciences as seeking truths which are, to some extent, independent of one's desires and practical needs. The extent to which one's intellectual interests are independently truth-seeking defines them as *intrinsic;* the extent to which they are not defines them as *extrinsic.* He defines intellectual interests as follows:

> The interest is not the same for every kind of truth, but varies with the importance of the truth, so far as we know it. Very often this is its value for an interest other than knowledge. Our interest in it is then extrinsic. But the value of a truth may be theoretical, purely intellectual, intrinsic. We have a greater interest in one historical or scientific discovery than another, and in formulae, laws, exceptions, than in truths that seem merely isolated and incidental. This intrinsic value of a truth belongs to it as part of a system, and as a means of determining other truths. It is relatively, not purely or absolutely, intrinsic. [93]

We have already seen how Mitchell's epistemology links with his endorsement of a subtle coherence theory of truth (hinted at in this passage) and an internalist theory of interests and knowledge acquisition (also implied here). Mitchell seems to be claiming that intellectual interests have a role in determining scientific progress, in some sense, by delimiting the boundaries of speculative and intellectual inquiry. They do this by determining what theories we should hold in both a formal and practical sense: i.e., it is *intrinsic interests*—not inductive certainty, evidence, truth-likeness, or any other criteria—which determine what scientific theories, laws and formulas we should hold, and which are "isolated and incidental". The difficulty which arises is that this criterion also opens the way for relationalism: interests vary and, thus, so must the "intrinsic value of truths". In

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92 Loc. cit.

93 SGM, p. 66.

Mitchell's case, this is an outcome which is inconsistent with any objectivist theory of knowledge, but not—as we have seen—with realism. In Mitchell's view, the relationist consequences here are avoided because the pragmatic dimension of his epistemology determines where our interests should lie. This is the reason why "isolated and incidental" views never gain common currency.

The extrinsic intellectual interests are interests which are valued 'other than [for] knowledge'.[94] Though he does not discuss this in detail, the kind of thing that Mitchell had in mind here would include the valuing of aesthetical creations (e.g., literature, music and the visual arts), ethical issues, manners and etiquette, politics, religion, and even philosophical arguments and mathematical proofs (where they are not appreciated as items of "knowledge" as much as they are appreciated for their intrinsic elegance and/or cleverness—as, for example, the ontological argument is appreciated for its cleverness but establishes little in the way of knowledge).

Of course, the boundaries here between the two kinds of intellectual interests are very blurred, and Mitchell acknowledges this point. Intellectual interests can be partly intrinsic and partly extrinsic (for example, a scientific theory can be valued both as providing knowledge and as an elegant expression of a theoretical point). His divisions are not to be thought of as clear separations of kinds of interests, but polarities on an "interest continuum". He also notes that 'the failure to distinguish our intellectual interest from the rest of our interests in things, and to give both their rights, has led to error in both practice and theory'. [95] He cites intellectualism and formalism of literature, and similar practices in the arts, and manners. He may well have added the recent overt policies in higher education, where knowledge-valuing aims—dissemination of *content*—have been

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[94] Loc. cit.
[95] Loc. cit.

advanced at the expense of appreciating the intrinsic academic merit of simply communicating ideas, the value of artistry, and clarity of style. [96]

10.2 Object Interests

Object interests are also divided into the intrinsic and extrinsic, according to the role they play in our cognitive economy. Extrinsic object interests are concerned with practical matters, the end that objects serve for us, and hence, coincide with the *action* part of Mitchell's three aspects of objects. Obviously, this would concern things that are useful for us as a means to doing something (as a spade would be if we wanted to dig). This kind of thing is within our range of action. However, we can also extrinsically value "futile" things which we cannot change, such as the weather. However, extrinsic object interests also cover things which are not objects, but mental states or attitudes. They may be 'any [object] that we set before us ... our impulses, opinions, taste, when we deal with them, seeking, let us say, to reform them for any reason'. [97]

Intrinsic object interests are 'not merely in the object, but in the object on its own account—the interest that it has merely as an object that we experience'. [98] For this, the object of the interest has to take a "value of its own". For example, the character of being 'beautiful, chivalrous or mean' can be intrinsic object interests, as a rainforest can be for ecologists (for others it is merely an extrinsic object interest). Intrinsic object interests constitutes our *moral* interests.

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96 There is no doubt that Mitchell was aware of this: 'What a teacher seeks to communicate is his experience. By instruction he communicates an object as he knows it ... But he also has to communicate his ways of thinking and knowing ... By instruction he points out, and gives thought about what is beautiful, for example, and what is right: but it is only by discipline, only by requiring practice, that he can teach the actual feeling of any beauty that needs teaching, and an effective desire to do what is thought to be right. SGM, p. 64.

97 SGM, p. 67.

98 SGM, pp. 66-67.

10.3 Purely intrinsic interests

This category covers our *aesthetic* interests. It covers the kind of interests we have which are independent of intellectual and object concerns. It includes emotions, feelings, religious interests, social interests and aesthetic values. Mitchell describes them thus:

> Our primary and ultimate interest is not in things to be known, nor in things to be done, used or avoided, but in things that are enjoyed or the reverse. ... This group is so heterogeneous that, except the word intrinsic, I do not think that we have another to denote it, especially as we include in it sensuous pleasures and pains. [99]

This class of interests corresponds to the distinctions, made earlier, which was concerned with feeling, interest and action. However, this group just outlined corresponds to general classes of human responses toward objects we set before us, not to psychological types.

11. Conclusion

In this chapter, we have seen how Mitchell understands the structure of experience. We saw that he divides the forms and functions of experience into intrinsic, practical and cognitive interests which have both narrow and wide dimensions. We have seen how each of these dimensions corresponds to various contemporary distinctions which are made between qualia, perceptions and propositional contents or judgements (the work of Peacocke and Millar was discussed in this connection). We then saw how, for Mitchell, the thought-ladenness of experience cannot be understood in terms which some contemporary philosophers assume. Indeed, we saw that Mitchell argued for subtle distinctions to be made between the contents of experience, of which "thoughts" are only one aspect. In support of this conclusion, we saw that Mitchell held there to be a distinction between object- and subject-experiences, but also argued that this distinction does not compromise

[99] SGM, p. 68.

the unity that occurs in experience. These points constitute Mitchell's structural features of the mind as yielded by the "direct" account.

Chapter 7, The Course of Experience

> The facts must be found in the nature of experience. If we say that the mind grows, it is because there is growth in experience; and if we say that there is a mind at all, it is because the nature of experience demands it.
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> SGM, p. 8

1. Introduction

The structure of experience is a different matter from the course of experience. It is the latter which is the concern of this chapter. For Mitchell, the course of experience is a matter of psychological and intellectual development. The structure of experience, by contrast, is a matter of understanding the mental taxonomy specific to a certain species (i.e., the conditions for the possibility of experience for that species). We have just seen that Mitchell thinks the conditions for the possibility of experience are the functions and forms of experience: feeling, interest and thought or action.

There are some other differences between the structure of experience and the course of experience. The structure of experience doesn't change and develop; however, as we shall see, the course of experience does. The structure of experience is multi-aspect; the course of experience is not. While attention to the structure of experience informs Mitchell's epistemology, attention to the finer points of the course of experience informs Mitchell's metaphysic of mind.

2. The Course and Growth of Experience

The course of experience is different from the growth of experience. We shall deal with the growth of experience in detail in Chapters 8-10. The former can best be described, in

contemporary terms, as an *epistemic engine:* it consists of the means by which experience represents the world; it also deals with how parts of an experience are associated; i.e., the extent to which experiences are either consciously or unconsciously *series-like.* The latter consists of the extent to which experience changes over time and becomes "new". Mitchell explains the course of experience like this:

> We may define a single course of experience as one that directs itself, every next stage in it being determined by the present one. [1]

He is clear in this passage that the course of experience is, to some extent at least, series-like. Later, we shall evaluate the meaning of this claim and the nature of seriality as Mitchell understands it. As we shall see, there are two conceptions of experience being series-like that we shall need to distinguish.

By contrast, he explains the growth of experience in these terms:

> [T]he mind grows by its own working, and its way of working reveals its organisation. We know, for example, by means of what we have known before; but how we use this knowledge without having to think about it, and how it gives depth of feeling, how we seize a point, how we hold a mass of knowledge in a single thought, and drive new courses to results that surprise ourselves, these are questions of the organisation that our minds have learnt to take. [2]

The growth of experience is clearly about the development and maturation of experience from one *level* to another—to "results that surprise ourselves". The course of experience is about the progress of experience from one *moment* to the next. The former implies a sense of maturation; the latter implies a sense of psychological and temporal connection and *flow.*

An example of the course of experience is when one experiences the decreasing light toward evening (with each moment of the experience having slightly less light than the

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[1] SGM, p. 83

[2] SGM, p. 107.

previous moment). In this case, the experience has changed but it has not grown: each moment is associated to the previous and later moments are thematically connected, but it is essentially the same experience. An example of the growth of experience is when one's experiences of childhood are qualitatively different to the experiences of adulthood (for instance, in appreciation of some kinds of food and music). In this case, the experiences have not just changed but have also, in a quite literal sense, matured or *grown.* (These are not Mitchell's examples but I think he would agree with them.)

3. Features of the Course of Experience

Several features are characteristic of the course of experience: 1) the mediate and immediate distinction; 2) the "construction" of experience; 3) the episodic and causal character of experience; and 4) various degrees of seriality. I shall discuss these in turn. Finally, we shall look at two further characteristics of experience: 5) the systematic unity of experience; and finally, 6) the distinction between associational experience and repetitive experience.

3.1 Mediate and Immediate Experience

The first point which Mitchell makes is that there is no principled difference between an "immediate" experience (that beloved of sense data theorists and positivists alike) and experience as a process—i.e., the course of experience occurring over time. The difference between immediate and non-immediate experience is, Mitchell proclaims, 'a relative distinction'. [3]

For one thing, the length of time involved which separates the two kinds of experiences is insufficient to maintain a clear distinction between them: 'When I see at a glance,

[3] SGM, p. 83.

answer a question immediately, or grasp a point at once, there is some time involved'. [4] So "immediate" experience is not really immediate at all. We cannot maintain a principled distinction on this basis, according to Mitchell.

He also notes, however, that we do not normally contrast the length of time involved when we make the distinction between immediate experience and the course of experience; instead, we contrast the degree of *mediation,* i.e., the extent to which cognition or inference is involved in each case—in other words, the extent to which experience is passively or actively constructed or influenced by our minds. This leads naturally to the issue of constructivism. A "constructed" experience would be mediate, not immediate, in Mitchell's terms; thus, if all experience is constructed, there is, again, no principled distinction to be made between mediate and immediate experience. I shall turn to a brief discussion of constructivism as it is relevant to Mitchell's claims about mediate experience.

3.2 Constructivism

What is a "constructed" experience? This is easy to explain. If my experience of a dog is immediate and direct (as the sense-data theorists and positivists contend) it requires no construction by the mind. On this view, experiences consist, partly at least, of intervening coloured *sensa* which provide the non-epistemic foundations for experience. (Feyerabend's identification of a dog as "canoid patches of colour" makes light of this view.) [5] On the other hand, if my experience is mediate, it does require construction by the mind.

It is plain that experience is mediate to some degree: at least, I certainly require the *concept* of a dog to see a dog—if I didn't have the concept, it is doubtful that I could distinguish a dog from its surrounding background. I can't see what I can't identify; and to

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[4] Loc. cit.

[5] See, P. K. Feyerabend, 'An Attempt at a Realistic Interpretation of Experience', in *Realism, Rationalism and Scientific Method,* (1981).

identify something I require some amount of knowledge of what it is. So experiences require *concepts*—or some other method of meaningful identification. The argument to this conclusion is neatly summarised by H. I. Brown:

> Consider a relatively common, everyday instance of perception, such as my seeing my typewriter. Now, in order to see that this object is a typewriter, it is not sufficient that I just look at it; it is necessary that I already know what a typewriter is. Simply glancing at objects with normal eyesight will undoubtedly stimulate my retina, initiate complex electro-chemical processes in my brain and nervous system, and perhaps even result in some conscious experience, but it will not supply me with meaningful information about the world around me. In order to derive information from perception, it is necessary that I be able to identify the objects that I encounter, and in order to identify them it is necessary that I already have available a relevant body of information.[6]

So we need, firstly, a "relevant body of information" in order to see anything; even banal things, like typewriters. And to have a relevant body of information we need concepts.

Secondly, in order that I see a dog, I must *believe* something about my experience (for instance, believe that there is something dog-like before me). Seeing a patch of colour is thus tantamount to believing, or otherwise knowing, that something is in my field of view. Thus, experience also requires epistemic categories, such as *beliefs*. Thirdly, as we shall soon see, on some accounts it is even argued that *language* and *meaning* are involved in the construction of experience too. This intuition is motivated by the idea that one must have a token in one's head (a "proposition") which represents that thing. Some philosophers go further and even identify an experience with the belief content represented by the proposition. We need the proposition to have the experience; were this not so then one would not be able to identify the thing at all. Hence, Alan Millar:

> ... it is tempting to regard experiences as being, like beliefs, intentional states, that is, states which have a *representational* content specifiable by means of propositional

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[6] H. I. Brown, *Perception, Theory and Commitment,* (1977), pp. 81-2.

clauses. To say that a subject has an experience of a ø before him is to say that it seems or appears to the subject *that there is a ø* before him.[7]

Clearly, if experience is constructed of concepts, beliefs and language, it is not "immediate" at all, but mediated—and mediated by some quite sophisticated epistemic categories.

One can clearly see the motivation and reasons for thinking that experience is mediate. Some philosophers take such useful insights to extremes, however. It is one thing to say that some experiences have aspects which are mediated by concepts, beliefs and meanings; it is another thing to say that experiences are fully constituted (i.e., "constructed") of such things—that there is *nothing more* to experience than the concepts, beliefs and meanings that mediate them. We shall shortly see some examples where this tradition is taken to those extremes.

The point of the constructivism thesis is that experience certainly is mediated. There are no "immediate" experiences. All experiences require concepts, beliefs and perhaps even language. In other words, there's *more to seeing than meets the eyeball.* [8] It would seem that one even requires epistemic categories when one sees things that have no clear shape or location. When I see the blue of the sky, for example, I require the concept of blue to identify the colour. Otherwise, how would I distinguish blue things from non-blue things (e.g., white clouds)? Alan Chalmers has outlined this point clearly in arguing against the failings of an inductivist theory of knowledge:

> From all the perceptual experiences of an observer arising from the sense of sight, a certain set of them (those corresponding to the perceptual experiences arising from sightings of red objects) will have something in common. The observer, by inspection of the set, is somehow able to discern the common element in these perceptions, and come to understand this common element as redness. In this way, the concept "red" is arrived at through observation. This account contains a serious flaw. It assumes that from all the infinity of perceptual experiences undergone by an observer, the set of perceptual

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[7] A. Millar, 'What's in a Look?,' (1985), pp. 83-4.

[8] This is Hanson's famous dictum, now adopted as the rallying cry of those sympathetic to inference at all levels of cognition. See N. R. Hanson, *Patterns of Discovery,* (1975), p. 4.

> experiences arising from the viewing of red things is somehow available for inspection. But that set does not select itself. What is the criterion according to which some perceptual experiences are included in the set and others excluded? The criterion, of course, is that only perceptions of *red* objects are included in the set. The account presupposes the very concept, redness, the acquisition of which it is meant to explain. ... The claim that the concept "red" is delivered from experience and from nothing else is false. [9]

Of course, there are somewhat different claims being made here, and it would be wrong to conflate them. It is one thing to ask how some terms (e.g., "red") used in application to an experience have acquired their meaning as *concepts.* It is quite another to inquire whether experiences can be had without conceptual mediation. But it is clear that if all experience requires knowledge and concepts, then again all experiences are mediate—even a "simple" experience, like that of the colour red. So it would appear that experiences aren't "built up" by collections of immediate sensations, according to this view: they are mediated by "high-level" sources—such as beliefs and concepts, instead. All "seeing"—so the argument goes—requires concepts and background beliefs. The language expressed here is different, but the point is the same to that just made in the context of Mitchell's work. All experience, according to the view just presented, is to some degree *mediate.*

This is known, in contemporary terms, as *the inferential and non-inferential distinction.* Those who hold that, at some level, experience is largely non-inferential (e.g., sense-data theorists or positivists), think that there is a principled distinction to be made between immediate and non-immediate (mediate) experience. Those that don't—and I have hinted that Mitchell is somewhat sympathetic to this view—claim that there is no distinction at all. All content, for the inferentialist, is non-immediate, in the sense that it always involves inference from sophisticated background beliefs and concepts.[10]

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[9] A.H. Chalmers, *What is this Thing Called Science?* (1982), pp. 29-30. Italics mine.

[10] Harman gives a useful statement of this radical view: 'Knowledge of the world is based on inference. If there is knowledge of the world in perception, then there is inference in perception. If one is not conscious of the inference, then there is unconscious inference. If it would have to have been instantaneous, then inference

Now, it turns out that most contemporary philosophers have been persuaded by the force of arguments against "immediate" experience, and arguments in favour of mediate experience.[11] Most philosophers these days are—as I like to call them—*inferentialists*. They also take seriously the claim that all mental state attributions of various kinds are best characterised in terms of mediation by beliefs, concepts, theories and even terms in a language.

Examples of this tradition in contemporary thought are not hard to find. P. K. Feyerabend, for example, has claimed, counter-intuitively, that the only difference between a blind man and a seeing man is that 'one uses a different part of [a] theory (or some of the consequences of [a] theory) as his observation language.'[12] Feyerabend thus associates seeing with both *language* and *theorising*. P. M. Churchland's eliminative materialism also stresses the theoretical dependence of mental content, but he also claims that any such theory is held as a network of integrated sentences which are held true as a pattern of integrated holistic beliefs. Churchland thus associates mental content both with *beliefs* and the mediation of *language* in the character of *sentences*. [13] Elsewhere, for instance, he claims explicitly that sensations are not to be understood 'in the nature of the perceptual environment':

> ... but rather in the structure and content of our common language, and in the process by which each child acquires the normal use of that language.[14]

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takes no time. If one was not aware of the premises, then one can make inferences without being aware of the premises of those inferences. G. Harman, 'Epistemology', in E. C. Carterette and M. P. Friedman, *Handbook of Perception*, (1976), p. 54.

11 The detailed arguments can't be given here. I give an account of the arguments in my *Experience and Content*, (1996), passim.

12 P. K. Feyerabend, op. cit., p. 33.

13 See, for instance, his remarks about sensations being 'determined by the network of sentences containing them accepted by the speakers who use them'. P.M. Churchland, *Scientific Realism and the Plasticity of Mind*, (1979) pp. 11-12.

14 Ibid., p. 7.

Like Churchland, Wilfred Sellars holds to the radical view of *psychological nominalism:* that there is no awareness outside what can be expressed in the terms of a theoretically and epistemically loaded language. Sellars, for instance, claims that: '*all* awarenesses of *sorts, resemblances, facts,* etc., in short, all awarenesses of abstract entities—indeed, all awareness even of particulars—is a linguistic affair'.[15]

N. R. Hanson too argues for the view that there is a "linguistic" factor in seeing—in his words: 'Unless there were this linguistic element, nothing we ever observed could have relevance for our knowledge. We could not speak of significant observations: nothing seen would make sense'. Elsewhere, he claims:

> Our visual sensations may be 'set' by language forms; how else could they be appreciated in terms of what we know? Until they are so appreciated they do not constitute observation: they are more like the buzzing confusion of fainting or the vacant vista of aimless staring through a railway window. Knowledge of the world is not a *montage* of sticks, stones, colour patches and noises but a system of propositions. [16]

There are many others who take this inferentialist line, of course. D. M. Armstrong, for instance, claims that 'the concept of perception is ... definable in terms of such concepts as knowledge, belief and inclination to believe'.[17] Maybe the *concept* of perception can be so defined; but sometimes Armstrong seems to want to say that perception *qua* perception is fundamentally belief-like too.[18] Other philosophers—J. J. C. Smart for example—are also sympathetic to this view. There is clearly considerable support for the doctrine of *mediated*

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15 W. Sellars, 'Empiricism and the Philosophy of Mind', in *Science, Perception and Reality,* (1963), p. 160.

16 Hanson, op. cit., p. 26.

17 D. M. Armstrong, Perception and the Physical World, (1961): p. 121.

18 See, for example, 'Perception [is] nothing but the acquiring of true or false beliefs ... To perceive that there is something that is red before us is to acquire the (true) belief that there is something red before us as a result of the causal action of that red thing on our minds .... Beliefs involve concepts. Acquiring the belief that a particular object is red involves the possession of the concept of red. Possession of the concept entails a general capacity of the perceiver ... to distinguish between things that are red and things that are not red. And so, a perceptual belief, which involves capacity for selective behaviour ... entails the possession of *higher-order* capacities.' op. cit., Armstrong, (1968) p. 339, italics mine.

experience among contemporary philosophers—and it seems that there are no shortage of such philosophers in Australia.

All this requires further discussion at greater length than I can go into here.[19] But the point of raising this issue is not to pursue this in any detail; rather, it is to point out how the issue is brought to bear on Mitchell and his course of experience. As we have seen, Mitchell claims that the distinction between immediate and mediate is somewhat contrived and relative. This is certainly a different claim from saying that there is no distinction at all, but neither is it is the same as accepting the distinction. What is Mitchell's position on the construction of experience?

Mitchell was writing, of course, long before the present debate about constructivism and the inferential/non-inferential distinction. However, from his remarks we can ascertain his views on this issue. We have seen that Mitchell was aware of the distinction between mediate and immediate experience. Can it be argued that he too was in the tradition of inferentialism, like the other philosophers outlined above? Moreover, did Mitchell attempt to subsume experience to other features, such as beliefs, concepts or language? And how does his stand on mediation rest with his functions and forms of experience? We are now in a position to see how Mitchell makes an important contribution to this very contemporary debate.

His contribution is this: Instead of making a clear distinction between the immediate and the non-immediate (between "non-inferential" and "inferential"), Mitchell suggests an alternative. He asks us to regard experience as something which we approach in different ways; i.e., not as instances of distinct and incompatible levels of experience but more usefully through degrees of attention and action—i.e., as a matter of the means of experiential *adjustment:*

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[19] For a detailed elaboration and criticism of this account—the reasons for it, and problems that arise, see my (1996), passim.

> All experience is on some occasion to which we adjust ourselves in thought, feeling, or act, and we may do so either immediately or only though a course of experience. The thought that satisfies us may need pondering, or we may have it without; an interest like fear may need reflection or it may come on the mere shock of a sudden sensation; there are resolves to which we have to bring ourselves, others that need no considering; actions that require care, others that need none. Through practice, and other means of learning, a long course becomes short, and mediate experience immediate.[20]

We recall at this point, from Chapter 6, Mitchell's forms and functions of experience: feeling, interest and thought. We might also recall that their role is to deliver, respectively, three levels of content: *quale, representational experience* and *propositional attitudes.* I described these levels of content as different "aspects" of experience, to make it clear that Mitchell wasn't trying to subsume all experience to one particular kind of content. The first two of these provide different kinds of epistemic content to mind; the last provides grounds for high-level belief, which thence gives rise to action. Hence, the parallel phenomena we discussed: *feeling, interest in* and *act on.*

There is now a further consideration to add to our understanding of Mitchell's outline of the course of experience. This consideration helps make sense of his functions and forms of experience and his position on the mediate/immediate issue. Mitchell's meaning in the passage just cited is that the three levels of experience ("thought, interest and act") do much more than passively provide content. They are not structures which could be associated, for example, with contributions made by fixed Kantian categories. Nor are they exactly identified with the experiential content received; Mitchell can be seen to accept "poverty of the stimulus" arguments elsewhere.[21] Instead, the forms and functions of experience are structures which are intrinsically involved in the experiential exchanges we have with the world—they *mediate* experience in an important sense. However, the functions and forms of experience are not blunt instruments "imposed" on the world we

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[20] SGM, p. 83.

[21] See his remarks: 'Usually we find organisation when we think to catch mere sensation', and this in response to 'the mass and variety of external stimulation'. SGM, p. 103.

perceive. The course of experience is not "filtered" as much as dynamically *shaped* experience. Experience is *jointly informed* by both mental constructs and the dynamics of one's given experiential course.

Mitchell is quite clear about his rejection of the "imposition" story of mental constructivism. He is clear that, while we always have available to us "suggestions" about how to manage experiential inputs from which we learn to select (the current status of our epistemic engine ensures this), what we don't have is an *a priori* ready-made pattern or grid which makes possible our ability to experience the world:

> The essential thing to understand in any course directed to an end is not that we must have had the means somewhere in hand, but that we learn to select them, and hit a course to suit our purpose. We are never in want of suggestions of a sort; to escape from having them we must go to sleep, or be prevented from thinking by hard physical labour, or by paralysing emotions. But to hit the right suggestions without having to think of others is another matter. [22]

That said, to a certain extent Mitchell is an inferentialist in the contemporary tradition. The functions and forms of experience are shapers of experience at various levels depending on initial inputs received. In this sense, all experience is *mediate* experience. However, it is clear that Mitchell is not necessarily going that further step: he is not saying that all experience is solely characterised by mediate content, as Harman, Hanson, Armstrong, Feyerabend, Churchland and many other contemporary philosophers, contend. His position, rather, is that both mediate and immediate experience feature as parts of the *course* of experience at different levels of epistemological exchange. Even mediate experience can become immediate and we would be forgiven for thinking that it never was other than immediate (such as when an experience becomes so familiar that it "needs no considering"). But, for Mitchell, experience is a dynamic process—not simply a matter of beliefs; the structure and content of our "observation language" or "propositions"; or the

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[22] SGM,p. 88.

nature of conceptualisations we impose on experience. There is no domination of the "high-level" sophisticated contents over others lower down. Full-blown constructivism, inotherwords, is unsatisfactory.

It is certainly true, according to Mitchell, that when we "ponder or reflect", we experience things differently than when we experience things suddenly by "feeling". But we can "resolve" to change the course of our experience, by adjusting our level of consideration. Hence his remark above: "through practice, and other means of learning, a long course becomes short, and mediate experience immediate". The functions and forms of experience provide the grounds for active searching of content, depending on our level of *interest* at the time. Thus, the distinction between mediate and immediate is not a principled distinction for Mitchell: it is a blurred and relative distinction. Relative to what? Relative to our interests and the form and functions of experience. The two things are closely connected. The central point is that where experiential inputs provide the raw material for content, the forms and functions of experience provide the structures which mediate the various inputs for certain epistemological purposes, which can, in turn, change, develop and *grow.* Mitchell has in mind something closer to a *dynamic process epistemology* than a conception in which high-level inferences impose *order* on experience. A neo-Kantian account is thus abandoned by Mitchell in favour of an account which recognises a dynamism in the process of experiencing the world.

Of course, this is not now a new perspective. We are thoroughly familiar with the contributions Piaget made to knowledge acquisition earlier last century (Piaget made his contributions some 16 years later than Mitchell). Piaget developed an "active" neo-Kantianism in the area of developmental psychology. According to Piaget's *genetic epistemology,* knowledge is acquired by means of conceptual categories which respond

through "assimilation and accommodation" to the exigencies of the external world.[23] We are also familiar with the similar developments of Kant's views made by Konrad Lorenz in the area of evolutionary biology, who argued for Kantian categories being responsive to selective pressures like other biological features.[24] A relatively recent attempt has been made to apply Piaget's general theory in outlining a coherent philosophy of science which incorporates notions of dynamic systems with a detailed evolutionary epistemology.[25] There have also been recent attempts made to blend Piaget with Fodorian innatism (see Chapter 8, **§6.2.1**).[26] There is no shortage of positions which aim to "naturalise" Kantian themes.

However, while not new in the twentieth century, such claims were certainly new in the mid-nineteenth century when Mitchell was developing his ideas. It could be argued that Mitchell later anticipated such views in an account which recognised both the plausibility of mediate theories of experience and the failings of contrary accounts such as sense-data and, later, positivism, which stressed immediacy and "directness". Importantly, however, Mitchell also recognised very early the need to keep in perspective the extent of mediation on the course of experience by emphasising the dynamic nature of the exchange. This is something contemporary philosophers may well heed.

3.3 Episodic Experience and the Causal Character of Mind

Let us now return to the course of experience in light of these remarks. A single "course" of experience Mitchell defines as the circumstance when experience directs itself; when

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23 J. Piaget, *The Origin of Intelligence in Children,* (1954); M. Boden, *Piaget,* (1979).

24 K. Lorenz, (1962), 'Kant's Doctrine of the A Priori in the Light of Contemporary Biology', *General Systems Yearbook,* Vol. 7. pp. 23-35.

25 See C. A. Hooker, *A Realist Theory of Science,* (1987); see also W. D Christensen and C. A. Hooker, (1999), 'An Interactivist-Constructivist Approach to Intelligence: Self-Directed Anticipative Learning'.

26 A. Karmilov-Smith, (1992), *Beyond Modularity: A Developmental Perspective on Cognitive Science.* (1992)

'every stage in it [is] determined by the present one'.[27] But the course is not completely determined by present stages. Growth in experience is as much a function of environmental inputs as it is of the present stage in the course. Examples he gives of this include thinking out a problem, repeating from memory, reading a book, carrying out a desire, or listening to a voice or music. He gives several examples of the general idea of the course of experience in these terms:

> In every instance there is an immediate thought, or feeling, or desire, that does not satisfy us, and we proceed to improve or prolong it till it does. The course may be called a course of seeking, and of our seeking. It can be called a course of seeking, only if there is some thought of being better satisfied. Often we do take thought, as when we contrast our unsatisfying thoughts, feelings, and desires with what they ought to be, thus setting them before us. But this needs a human grade of intelligence; ... it is better to continue to say not that we work on our unsatisfactory experience, but that our experience works itself, or grows, into the more satisfactory form. You will not suppose, of course, that in order to grow, an experience, any more than a seed, must find the material for its growth in its own bosom.[28]

Mitchell makes no attempt at arguing for this point. He maintains it is simply "obvious" that most experience is a "self-determined course", i.e, a process. This is compared to the situation where experience consists of 'a mere succession of experiences ... determined by casual sensations',[29] for example, in the case of a sudden, unexpected sensation, such as flash of light, or an intrusive memory or thought—e.g., in dreaming. However, as we have seen, he claims that most experience is not like this second kind; it is, instead, generally process-like in character. We might put this point in contemporary terms by saying that most experience is *episodic,* rather than instantaneous and discrete.

The episodic nature of experience has often been cited in support of a number of different positions, including Darwinian-type arguments against epiphenomenal theories of mind. These arguments cite examples of the growth of experience which would otherwise

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[27] SGM, p. 83.
[28] SGM, pp. 89-90.
[29] SGM, p. 84.

be highly improbable states of orderly organisation, unless mental states had some kind of extant causal role: 'When a mathematician thinks through the steps of a complex proof, when a composer consciously thinks his way through the construction of a musical work, when anyone ... puts his mind to planning his day's activities, his monthly budget, or his tax returns ... It follows from this that conscious experiences must affect, or else are very likely to affect, the physical side of human behaviour and, through behaviour, the physical aspect of our environment.' [30]

This is a compelling argument: If most conscious experience is orderly, as well as episodic, mind must have a *causal* role in the world; the "idleness" of phenomenal properties is not a plausible option. Of course, one could argue that only *some* experiences are orderly and other experiences are not (and, correspondingly, one kind is causal and the other isn't); but then the issue of consistency would arise—why would some experiences have the role of being causal while others experiences were epiphenomenal? Occam's razor would suggest abandoning such an unnecessarily complex suggestion. On the other hand, a coherent story might be able to be told in which otherwise causal experiences have *concomitant* epiphenomenal aspects, as Frank Jackson has argued.[31]

An important point which arises is this: any defender of episodic experience, while not committed to rejecting epiphenomenal accounts, has good grounds for doing so and putting in place a strongly *realist* and *causal* theory of mind. Such a position, were it true, would put to rest any claim that Mitchell was an idealist philosopher. In a crucial sense, he was a precursor to later materialist and realist themes developed in Australia.

Mitchell assumes that experience is process-like. But is this claim true? According to Mitchell, some experiences which appear to be instantaneous (e.g., 'when I see at a glance,

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[30] See D. Shaw, 'Natural Selection and Epiphenomenalism', in *Issues in Evolutionary Epistemology,* (1989), pp. 576-7; K. Popper and J. Eccles, *The Self and its Brain: An Argument for Interactionism,* (1977), p. 73-4.

[31] F. Jackson, 'Epiphenomenal Qualia', in William Lycan (ed) *Mind and Cognition: A Reader,* (1990).

answer a question immediately, or grasp a point at once'), in fact, take time: all experiences are episodic or process-like and influenced by the state or readiness of the organism (i.e., they are mediated by the extent to which the organism is prepared to make experiential connections from one moment of experience to the next). Again, as well as being process-like, most experience is *mediate* rather than *immediate,* on Mitchell's view. And even when experience *seems* to be immediate it isn't.

Does this mean that Mitchell thinks that the course of experience is fully inferential? Once again, this would be to mistakenly take his view to extremes. His claim is that while experience is always mediate, it is not fully inferential. There is a difference in claims here. While Mitchell clearly does take a stand against "immediacy" and thus, against the tradition of positivism and sense-data views—siding with the inferential nature of observational experience, instead—he doesn't go further than this. Even mediate experience can have aspects which are immediate—like *feeling.* That this is possible is part of the mechanisms of experiential adjustment. Hence his claim: 'Through practice, and other means of learning, a long course becomes short, and mediate experience immediate.'[32] It is by the course of experience that we can learn to *shorten* experience, to recognise it by its "immediate" features. However, this doesn't mean that we must go to the other extreme and locate immediate experience as primary. As we have seen, he is sympathetic to a dynamic view of this distinction, not an account which is completely characterised by either inferential or non-inferential mechanisms.

Most experience then, consists of a succession of events in sequence, according to Mitchell. It is this sequence which defines its "course". In the case of listening to music, for example, no unit of experience is casual nor self-sufficient: each note heard contributes to the experience of musical phrases; phrases contribute to passages; passages to themes,

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[32] SGM, p. 83.

resolution and cadence and, finally, conclusion. An issue which immediately arises is the nature of this "course". Firstly, I shall discuss the serial nature of the course, followed by a discussion about the course itself.

3.4 Degrees of Seriality, Discrete and Synchronous Series

Experience might be series-like, but this does not mean that it is, in fact, a series. A *genuine* series is not the same thing as a sequence which is series-like. A simple analogy will explain. A series is normally understood as a sequence of *discrete* occurrences. Analogy: a "series of events", such as that which elects a certain political party to office, might include such things as failure of existing government policies; election of a new and popular opposition leader; length of incumbency of the previous government; recessions; global trends toward particular kinds of policies (for example, conservatism), and so on. The crucial point is that each of these events might occur one after the other; or they might occur synchronously. In both cases, we could describe the events as a *series*—a series of events which brought about the election of the political party. There is thus an ambiguity in the notion of a series which we should distinguish. To the extent that the events in a series occur one after the other, we might describe them as a *discrete* series; to the extent that the events occur together we might describe them as a *synchronous* series.

Mitchell argues that experience should be understood as what I have described as a *synchronous series.* Drawing attention to several kinds of experience, he claims that there are no grounds on which the idea of a discrete series can be maintained. In complex cases requiring higher-level experiences, e.g., 'your feeling of self, your curiosity or languor, your attention, doubt, satisfaction', [33] there are always associated experiential states (e.g., a feeling of curiosity is accompanied by a heightened sense of arousal, attentiveness and so on). Thus, he claims, every experience is a *complex:* there are no clear cases of single units

[33] SGM, p. 13.

of experience giving way to the next. But, according to Mitchell, even simple sensations are also complexes:

> Every simplest sensation, in addition to the quality from which it takes its name, has a degree or quantity of the quality, and a degree of vividness, clearness and interest. These aspects are all felt, for it does not matter that they are not distinguished from one another, and that the sensation does not analyse itself. With the gradual change in any one of them, it is felt to alter gradually, and not simply to give way to a new sensation.[34]

So even in apparently simple sensations—feelings or *quale*—there are no clear boundaries by which experiences can be individuated. Each has intensity, vividness and clearness to various degrees which we may or may not notice, and which gradually give way to various other kinds of sensations with which they are associated. Compare this with the writings of contemporary philosophers on the notion of what the informational content of sensations provides:

> Sensational properties can be further illustrated with the help of the notion of an *aspect.* A uniformly red surface looked at from a particular point of view in particular conditions of light may present a richly variegated pattern of light and shade and hue. ... Often, perhaps more often than not, we do not notice the colour aspects of the things we look at. That is one reason why it is difficult to paint and draw. But even if in looking at the red surface we failed to notice the variegated pattern it presents, there remains a sense in which our experience could be said to register the aspect. Even if we are not attending to the aspect in a way that would enable us to describe it, our experience would in normal circumstances have a phenomenal character which would be different if the aspect were different. A change in the position of the light source, for instance, would alter the aspect and this would normally produce a change in the phenomenal character of the experience. Registering the colour aspect in question is a sensational property. [35]

What seems to be a simple "sensational property"—say, the colour red—is actually a complex, according to some philosophers. Red has texture, hue, brightness and vividness; before one hue passes another emerges (imagine, for example, watching a sunset). Likewise, for Mitchell, agglomerated sensational properties—containing complex

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[34] Loc. cit.

[35] A. Millar, op. cit., pp. 88-89.

"aspects"—are crucial to one level of the course of experience. We need not notice the different aspects as they change. Furthermore, there are no obvious boundaries of difference: for example, there is no clear instance of one colour, then the next, and so on. No matter how short-lived it seems, each phase or "pulse" of the experience is, it seems, synchronously crucial to the series and can't be coherently isolated as distinct elements. Mitchell again explains:

> Even the most momentary experience occupies some time and none can be all represented by a series of sections, however many we take to the second, and though experience proceeds in pulses. We might as well say that a moving object is represented by a series of biograph pictures that we take in our hands, examine, and connect in proper order. [36]

Stress needs to be placed on the claim here: we *might* well try to isolate a momentary experience—say, the experience of the colour red of a certain brightness and hue—but we can't *represent* it as such, except within the course of our experience. This doesn't mean that experiences can't be thus isolated, only that aspects of their content are lost when we do so. To isolate a segment of experience from a course (Mitchell calls this "making a cross-section") is one thing; to claim that its nature is fully characterised by this attempt at segmentation is quite another; and, as we have just seen, he rejects it.

There is a *caveat* to add to this: just as experiences are complexes and part of a synchronous series, so there is always structure to experience; i.e., it seldom has aimless and pointless elements, even when we do attempt to study them as "biograph pictures". We might try to see elements of experience as segments of an experiential course (predictably enough, he calls this "taking a longitudinal section")[37], but Mitchell claims that this does not compromise the essential unity of experience—i.e., the extent to which the various

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[36] SGM, p. 14.

[37] The discussion occurs in SGM, pp. 13-4.

complex parts of experience fit together as a synchronous series. This claim might be called the *Unity thesis.* (I discuss the unity thesis in detail in **§7** below.)

Each element of experience, then, is present in one's experiential "course". What it means, briefly, is that both the sounds heard and the degree of intensity, tone and colour of the sounds are intrinsic to the listening experience. Removing a note, focussing on it, and it is like taking a colour from a sunset—the colour and note lose part of their content which is always intrinsic to the experiential course to which they belong. As more recent philosophers have noted, this unity is not something which is *objectively* unified (i.e., not a matter of a unity of perceptual objects or data); rather, it involves a sense of *phenomenological* unification which is closely tied with the involvement of *attention.*

> Direction and focus [in perception] normally shift with shifts of attention; if attention is taken by something near and to one side while one is focusing on something distant and ahead, the eyes are likely to turn to the new object of attention and refocus on it. But with effort, we can, to some extent prevent this coordination of direction and/or focus with attention. We can deliberately attend to objects towards the periphery of our vision (and to how they look, blurry, of uniform colour, etc.) without turning our eyes; or, while focusing on the distant trees through the window, attend, without refocussing, to the (blurry) appearance of a scratch on the window pane. ... If we are physically focused on the trees a hundred feet off, we will ordinarily not notice scratches on the window through which we are looking, even though they are certainly visible to us at that focus. ... There are [also] cases where attention, even to whatever is in perfect optical focus, ... diminishes or is entirely absent. While listening intently, concentrating on a problem, or daydreaming, our attention may be partly or wholly engaged elsewhere, or engaged nowhere.[38]

In a sense, no experience is ever completely unified, but only temporarily unified until the focus of ones' attention shifts. As we shall see shortly, Mitchell has an account which incorporates the unified elements of experience, the notion of attention focussing, and the course of experience involving the three functions and forms of experience.

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[38]F. N. Sibley, *Perception: A Philosophical Symposium,* (1971), pp. 93-95.

4. Experience as a Dynamic Process

We have seen several characteristics of the course of experience: mediate and immediate, constructivism, episodic and causal experience and various kinds of seriality. But now what about the aim of the course of experience itself? The course of experience, for Mitchell, is—as I have mentioned—a *dynamic* process. But what does this mean precisely?

4.1 The Aim of Experience and the Attitudes

He begins with a few terminological distinctions: The "aim" of the course of experience is to move from 'an attitude that does not satisfy' to a situation where it 'works itself into one that does'. [39] Mitchell means by "attitude" simply the practical functioning of the three forms and functions of experience—feeling, interest and action—i.e., when one or other is carrying out its task. (He sometimes just calls them "the attitudes"). He doesn't necessarily mean, by "satisfaction", any anthropocentric, or highly cognitive notion, as understood by some contemporary psychologists which is associated with some sense of goal achievement-based comprehension (i.e., "the rat is satisfied that if it doesn't go this way in the maze and find the lever, it won't obtain the food source".) This notion, if it is relevant at all, is relevant to the higher functional levels only. His claim, rather, seems to be that the mind is mostly a pre-conscious *equilibrating* mechanism which tends toward improving the experiential aims at each of the three levels, e.g., meeting the desire, indulging our feeling, or thinking better. Each of the attitudes has an imbalance or "want", and each want requires satisfaction. He explains the process in these terms:

> In every instance ... the growing experience begins in an attitude—a thought, feeling or desire—that does not satisfy, and works itself into one that does.[40]

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[39] SGM, p. 90.
[40] Loc. cit.

To do this, it requires that the organism, in Mitchell's terms, "sets before itself" the experience in question in order to obtain more satisfaction. "Setting before" is an epistemologically neutral expression. Mitchell uses the term to refer to the various kinds of processing involved: be it feeling, interest or the higher-level cognitive states like desires, beliefs and action. "Attention" is an example of the setting before, e.g: 'attention is a setting of the object before us'.[41] Attending to the 'blurry' scratches of the window pane, in Sibley's example, brings the scratches of the pane into focus. It "sets the experience of the scratches before us", whereas otherwise we might not notice the experience at all. In contemporary terms, this is the distinction between perception *qua* an unnoticed seeing; and perception as a propositional attitude or an object of thought (seeing as an "X", for example). "Unnoticed seeings" are thus an implication of Mitchell's account as they are an implication of more contemporary philosophical accounts. [42]

Of course, Mitchell doesn't mean only objects are set before us when we thus attend. As will be clear from previous discussions, he also means other things are set before us in their respective experiential fields: for example, feelings and interests. But, given that most experiences do have representational content; i.e., they are experiences of *objects,* it is not wrong to refer generally to "setting objects before us", providing the expression is understood to refer to general and epistemologically neutral contexts.

The mind's aim is thus to make the functions and forms of experience bring about the course of experience through the means of satisfaction-seeking. The aim of the *course* of experience, as an epistemic engine, is thus to meet the satisfaction of the organism at each level.

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[41] SGM, p. 91.

[42] For example, Jackson (1977). A number of contemporary philosophers have come to regard unnoticed experience as being important, e.g., Owen Flanagan. See also B. Mangan, 'Sensation's Ghost: The Non-Sensory "Fringe" of Consciousness', *Psyche,* 7, October, (2001), and forthcoming volumes of the journal.

4.2 Attending and Setting Before

The means of bringing about satisfaction is to generate *interest* in an experience at each level. This Mitchell informs us involves two processes: i) attending to the experience by 'setting it before us' [43], but additionally, ii) 'setting it before us to gain a further experience' [44] The two processes are crucially interdependent: it's one thing to attend to blurry scratches in the window pane (to make the scratches the object of attention), but if we did not wish to gain a further experience of the scratches, then they are likely to remain blurry scratches and not focussed, *qua* an object of experience. Similarly with *quale:* attending to a quale is one thing; attending to it without attempting to gain a further experience of it is the difference between taking a sip of wine and savouring its subtle flavours and aromas—a vast difference experientially.

Let us first look at the course itself in general, and then take examples of the course at each of the levels of feeling, interest and action.

5. The Course of Experience in General

At the lowest level of the course of experience there is simply qualitative *feeling.* Mitchell sometimes describes this level as 'intrinsic interest'. [45] However, this level does not usually occur alone—with the exception, perhaps, in less sophisticated creatures.[46] Usually, from a feeling a slightly more sophisticated level of experience, for example, representational content, is formed. (This is the difference between seeing red, and seeing a red *qua* object.) Both levels of experience result in a different experiential course and bring

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[43] SGM, p. 91.

[44] Loc. cit.

[45] SGM, p. 96.

[46] There are several points at which Mitchell makes it clear that he regards animals, insects and the young as experientially unsophisticated compared to higher (adult) mammals. For a discussion of these points, see Chapter 8.

about different actions. Mitchell gives an account of the course of experience at these levels in the following terms:

> The thought to be improved may be of so simple an object as a present colour or a taste; we improve it by making better use of the organ of sense by which we have it. When the thought is the perception of a thing, we seek other sensation as well, approaching, handling, and otherwise analysing the thing by actual movements.[47]

Before discussing this claim, we should make another terminological point: Why does Mitchell describe these kinds of experience as "thoughts" and "objects" when a colour or taste is evidently a case of qualia, and a perception of a thing need not be an object of thought at all? Recall (Chapter 6, **§2.1**) that "thoughts" and "objects", in Mitchell's taxonomy, do not have the necessary commitment to propositionalism that is common today. [48] They are not, in Mitchell's usage, tied to "high-level" content as present philosophical speculation on this matter might have us believe. As explained in the previous chapter, Mitchell sometimes uses the term "thought" as a generic term for any kind of content in experience whatsoever. It is clear that he uses the term "object" in a similar fashion.[49] It is this usage that is intended here. Thus, misleadingly in the first part of this passage, Mitchell means by "thought" or "object" a *quale.* However, when he says "the thought is the perception of a thing", this means more than a quale, it means an experience which also has some representational character. (This is one of the many terminological subtleties evident in Mitchell's work which may have prevented a fuller appreciation of his writing when first published.)

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47 SGM, p. 90.

48 See, for an example of propositionalism in current theorising about mind, M. Pendlebury 'Sense Experiences and their Contents: A Defence of the Propositional Account,' *Inquiry,* 33, pp. 215-230. For a recent reaction to this view, see: W. Bechtel and A. Abrahamsen, 'Beyond the Exclusively Propositional Era,' in J. H. Fetzer (ed) *Epistemology and Cognition.* (1991).

49 'Under the term object we include not merely objects of nature and other real objects, but any that we set before us, whether we set them before us as being real or not. They all form the world in which we live a conscious life. The objects in nature may be individual or general objects, concrete or abstract, objects of reason like laws, atoms, the past, *or objects of sense like colours and sounds'.* SGM, p. 59, italics mine.

Mitchell is clear how different the course of experience can be at these levels. The course of experience at the level of feeling is characterised by making "better use of the organ of sense"—i.e., an automatic physiological response which is largely involuntary. He cites, as examples of this, 'the instinctive movements of the eye'.[50] This is the first part of the course of feeling—an involuntary movement of one kind or another of one's sense receptors. Another kind of course of feeling is 'attending to a distracting suggestion or noise, or to a toothache'.[51] Thus, "attending" to a *quale* is another part of the course of feeling—albeit at a somewhat higher level of consciousness (though still either voluntary or involuntary). [52]

A third part of the course of feeling is 'reflecting, revolving, analysing and the other ways of thinking' and this, 'whether it be a general or abstract object'.[53] This third level requires yet higher-level capacities, though it is not necessary that it be conceptually focussed on things in the world. This "object", of which Mitchell speaks, need not be an object or feeling external to us; it may, indeed, be an internal, subjective state of some kind. To quote in full:

> The whole course of improving the thought is a course of attending to the object, whether it be a particular object, e.g., a physical thing to which we attend by a better use of our senses, or a mental object like an emotion, or whether it be a general or abstract object, to whose various relations we attend, not by means of our senses, but by reflecting, revolving, analysing, and the other ways of thinking.[54]

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50 SGM, p. 105. This point is borne out empirically. See F. I. Dretske's paradoxical remarks about the eye's capacity to 'notice [things] before we see them' in *Seeing and Knowing,* (1969), p. 15. Gregory also remarks of the extreme edge of the retina: 'when stimulated by movement we experience nothing, but a reflex is initiated which rotates the eye to bring the moving object into central vision, so that the highly developed foveal region with its associated central neural network is brought into play for identifying the object. The edge of the retina is thus an early-warning device, used to rotate the eyes to aim the object-recognition part of the system on to objects likely to be friend or foe rather than neutral.' R. L. Gregory, *Eye and Brain: The Psychology of Seeing,* (1972), p. 91.

51 SGM, p. 91.

52 It is imaginable that one can forget that one has a toothache or a backpain (for example, whilst engaged in some activity) and thus not attend to it. Allan Millar, has also recently argued that this is an important feature of content at lower levels. See his *Reasons and Experience,* (1991), p. 11.

53 SGM, p. 91.

54 Loc. cit.

As will be recalled from the previous chapter, for Mitchell, subjective feelings—emotions, pains, etc.—can be made secondary "objects", such as when we attend to an emotion as an object of feeling. Thus, in Mitchell's schema, all experiential states can be objects depending on their place in the course of experience and one's focus of attention.

Mitchell's analysis here seems to make certain facts of experience intelligible. For example, while engaged in some difficult activity, one might not notice that one is in pain—say, one is learning how to negotiate a difficult cliff face with ropes and harnesses (one's attention is directed at the object-content of one's experience). However, once one has reached the top of the cliff face it might be asked: "are you OK ?". This might bring about a drift in one's focus of attention from the activity of climbing to a painful sensation in one's leg (the subjective content of one's experience). The pain in the leg was, in one sense, *experienced* all the way along, but was not noticed. However, the subject-experience of pain can also be made an object-experience, *qua* object of thought; as, for example, when we attempt to describe the pain we are having to a doctor. This requires that we engage in "reflecting, revolving, analysing", as Mitchell puts it; in this case, about the pain sensation we are having. This, Mitchell calls "improving" the thought because one is "making better use of one's senses"; i.e., one is not letting the experience remain as a mere subject-experience, but one is turning the subject-experience into an object-experience. The latter requires much more than "instinctive movement" of sensory organs, but also a sense of deliberation and deepening appreciation. (We shall discuss later, in Chapter 8-10, whether this progressive appreciation of experience to higher and higher levels is an implication of his account of experience.)

This idea of an "improvement" in the course of experience is meant in a practical, not an epistemological sense. He doesn't mean "closer to truth", or "truth-likeness" or something similar, though he does imply (see below) that in some sense "more knowledge" can be obtained in the process of improvement of the course. He means by "improvement"

bringing about a more *advantageous* or *satisfying* experience. And this may occur by either deepening one's aesthetic appreciation of experience (e.g., becoming a wine expert); "seeing the other side" in a conflict (e.g., empathically simulating another's feeling of anger or grief); or merely developing a further interest in an experience (e.g., by attending to it or making it the content of a subject or object-experience).

The improvement occurs at all levels of the course—not merely from the most basic level to higher levels, but within the higher levels themselves. Mitchell has in mind the idea of an endlessly progressive series of possible practical "advances" in response to given experiential "problems"; problems which are practical rather than epistemic. Some of the problems are to do with resolving conflicts of feelings; bringing about new attitudes or feelings or experiencing the "fullness" of others (the latter being, for Mitchell, an aesthetic development):

> Suppose that the feeling excited in us at the sight or other thought of an object does not satisfy us. Frequently it then becomes the occasion of a practical attitude towards the object, as when we are in fear and anger; and the object may be ourselves as when we are shy or remorseful. Then we seek a different feeling. But frequently it is not a new feeling that we seek. Our present feeling may not satisfy, either because we seek a fuller or merely a longer indulgence in it, or because there is a conflict of feeling, as when we like and dislike, or hope and fear, or feel sorry and angry, towards the same person and event. We resolve the conflict by thinking the object further in the interests of the disputants. And again if, instead of having a conflict to resolve, we seek a fuller feeling: we attend to the object, we take further thought of it, seeking not a better understanding in the sense of more knowledge, but what is sometimes called an aesthetic understanding of it. We dwell on it as we know it; we live it, and so feel it more fully. [55]

In this process of improvement of the course, several levels of experience are made items of attention by various means. The improvement of the course can occur within the content of a single experience (as the example of having a pain shows). What Mitchell concludes from this discussion on the general course of experience is the importance of *attention* as

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[55] SGM, p. 92.

the guiding mechanism in the course of experience: 'Attention is thus in one or other of our three interests in an object'.[56]

We have seen the course of experience in general and how it can make improvements. Now a few specific remarks on the course of experience at each of the three levels.

5.1 The Course of Experience, Feeling

As we have seen, at the level of feeling the course involves the voluntary and involuntary movement of sense organs, where we improve the simple feeling of an object, such as a colour or taste, by 'making better use of the organ of sense'.[57] The aim of this movement, along with attention, is to "set before" an experience in order to gain further appreciation.

Mitchell thinks that it is at this level that a distinction can be made between unsophisticated organisms, such as amoeba and insects and sophisticated organisms, such as mammals. One would expect that, on Mitchell's account, only organisms capable of *setting before* their feelings are capable of higher-level interests and thoughts, and indeed, this is what Mitchell argues. Inability to set before one's feelings for analysis is what distinguishes man from beast. It is also the factor which distinguishes *feeling* from mere *sensation.*

5.1.1 Feeling and Sensation

According to Mitchell, experience *qua* feeling is not the first stage of sensation, though it is the first stage of experience proper.

The word "sensation" contains a crucial ambiguity. In one sense, sensation is an involuntary response to some kind of stimulus (in that one's pupils sense bright or dim light levels and constrict or dilate, respectively, in response). This meaning of the word does not presuppose "feeling", and cannot be described as an experience. In another sense,

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[56] SGM, p. 91.
[57] SGM, p. 90.

the word is a synonym for feeling (in that one can "sense" that a friend is in a bad mood). However, this distinction is not the same as the distinction between voluntary and involuntary experience, but cuts across it (an experience in the first sense may well be involuntary but it doesn't follow that the second sense is voluntary). This second sense of the word "sensations" does require feeling (as opposed to just reaction) and can be described as an experience. What we often mean when we talk of sensation is the second meaning. Mitchell, however, seeks to remind us of the importance of the first.

All living organisms require the capability to sense without feeling, because they need to survive and respond to threats to their survival.[58] Feeling, in these circumstances, is not needed; all that is needed is an immediate response to survival pressures. He notes, for example, that a plant 'appears to do these things without the help of feeling'.[59] Mitchell's claim certainly seems generally applicable in other cases: some organisms, for example, *Stentor caeruleus* (a ciliate—a unicellular organism) only requires the most minimal forms of automatic responses for survival purposes.

In some cases, however, it is unclear if we should say that organisms can "sense" in the second sense or not. Some organisms, despite their size, can have extremely sophisticated and subtle sense receptors, sometimes far subtler than our own, but in very specific modalities.[60] (Mitchell cites the example of protozoa which apparently are able to respond to 'every class of stimulus except sound' and may have the capacity to differentially respond to various intensities of stimulation). [61] Other organisms can respond to stimulations to which we cannot respond at all; certain species of fish, birds and butterflies,

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58 'The process of living, whether in plants of animals, involves incessant activity, for life is never still; its very existence is in change. Its livelihood has to be selected from the world around it, and being threatened by many dangers, it must find means of escaping them'. SGM, p. 38.

59 SGM, p. 38.

60 It is noted in work on invertebrate perception that bees, for instance 'can distinguish between different colours ... [but] they have a very limited ability to distinguish shapes.' See: P. A. Meglitsch, *Invertebrate Zoology,* (1981), p. 653

61 SGM, p. 38.

for instance, are able to perceive UV radiation—an ability lost in primates. Approvingly, Mitchell cites the point that 'among invertebrates there may be fifty other senses as different from ours as sound is from sight'. [62] This diversity in the ability to sense might suggest that such organisms can experience in the second sense after all; and moreover, who are we to make judgements about things we can't sense? This raises two arguments which Mitchell rejects. The two arguments are that ability to experience is premised on a) subtlety of response to stimuli and b) ability to respond to classes of different stimuli.

As Mitchell notes, neither a) nor b) is sufficient, nor necessary, for experience, even though they might be both necessary and sufficient for *sensation* (in the first meaning of the word). For Mitchell, the distinction between "intrinsic interests" (feeling) and what we now call "proximal stimuli" is all important. While some organisms can clearly respond to subtle kinds of stimulation, this does not mean that they *experience* anything. As Mitchell says: 'feeling [cannot] be inferred from the presence of a nervous system'.[63] Nor, however, can feeling be inferred from the sensitivity of specialised sense receptors. He notes, for instance, that 'greater sensitivity and a variety of sense-organs are not at all adverse to the view that there is no sensation, and that none is required'; and, 'we cannot infer sensation except from perception'. [64]

There is a temptation, nonetheless, to conflate sensation and feeling and make one dominant over the other. Some, for example, argue not just that sensation has an important

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62 SGM, p. 39. Mitchell cites Lubbock's *The Senses of Animals* ; SGM, p. 192. And the claim seems to be true. Snakes, apparently, "see" heat. See: 'The Infrared "Vision" of Snakes', E. Newman and P. Hartline, *Scientific American,* 246, March (1992): pp. 98-107; See also Christopher Peacocke, *Sense and Content,* op. cit., p. 90n.

63 SGM, p. 39.

64 Loc. cit. This claim has support from contemporary theorists: 'There are kinds of sensitivity that we are not sure involve experience in even the lowest-level sense of the term. For example, there is the light sensitivity of unicellular organisms like paramecia. A short distance up the phylogenetic scale there are the chemical sensors of the scallop that cause it to move when an unfamiliar object intrudes in its space. Information is being received and living creatures are responding to this information, but there is no reason to think that ... paramecia and scallops can feel or experience anything.'. Owen Flanagan, *The Science of the Mind,* (1995), p. 314.

survival role, but that there is *only* sensation and no feeling. Others take the opposite extreme and argue for an account where every sensation has "felt aspects". He points to two examples of this kind of argument: a) the case of ants; and b) the case of over-enthusiasm in ascribing feelings and desires to animals based on observable behaviour. Both tendencies are still prevalent in contemporary philosophical discussions, so we shall need to discuss them.

5.1.2 Ascribing Feelings, The Case of Ants

The case of ant colonies directs us to the *non-necessity* of feeling for experience. According to the argument, the example of an ant colony shows *feeling* to be a redundant notion:

> [Ants] are certainly the greatest marvels of apparent intelligence under man, ... sluggards, socialists, and unwary commanders have been invited to learn from them ... [T]here are wonderfully complex forms of life which thrive by means of an inherited structure that receives no help from experience and suffers no education. They are so well equipped for the environment that concerns them that they do not have to feel it. And their equipment includes a degree of plasticity with respect to it. For, first, their failure in one direction is often the occasion for their trying another way; and, secondly, they grow up in a form to fit their environment according to the reactions that it allows or demands. Here, then, is one ideal, as it were, of life and growth, where creatures are adjusted to a changing and exacting environment without the intervention of experience.[65]

The passage is certainly right about one thing: humans have long been encouraged to learn from ants, though not always as positive exemplars of conduct. [66]

Mitchell clearly thinks, however, that this kind of instinctive experience is—as far as it goes—one way of achieving growth of experience (he describes it as "one ideal, as it were, of life and growth"). For lower organisms, it is clearly the only kind of informational content they have to go on—though it might not be sophisticated and complex.

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[65] SGM, pp. 39-40.

[66] S. J. Gould relates the story of entering the Hall of Free Enterprise in New York to escape the rain: 'Inside, prominently displayed, was an ant colony bearing the sign: "Twenty million years of economic stagnation. Why? Because the ant colony is a socialist, totalitarian system'. S. J. Gould, *Ever Since Darwin,* (1978).

Recently, the same kind of redundancy argument has been raised in very different contexts. It has been suggested that, rather more so than ants, scientists do not require experience to carry out high-level research; science can be conducted, as it were, *experience-free:*

> There is a method, apart altogether from our physical senses, of testing the reality of the sun ... When my metaphysical friends tell me that the data on which the astronomers made their calculations were necessarily obtained originally through the evidence of their senses, I say "No". They might, in theory at any rate, be obtained by automatic calculating machines set in motion by the light falling upon them without the admixture of the human senses at any stage.[67]

This argument has been adopted with enthusiasm by P. K. Feyerabend in his influential paper 'Science without Experience', where he loudly proclaims: 'It must be possible to imagine a natural science without sensory elements, and ... indicate how such a science is going to work. [68] Such views clearly result from taking sensations to be dominant over feelings. It is also a consequence of views which overstress the importance of inference in experience (as we saw earlier—**§3.2**). However, to learn from ants that sophisticated behaviours can be carried out without experience is not to say that we do the same. While it might be possible to do science without experience, it is not so clear that it can be done without some kind of direct transducer or interface with the world by means of which predictions can be tested.

5.1.3 Ascribing Feelings, The Case of Animals

The second case Mitchell describes is the over-willingness to ascribe high-level experiences to lower animals. Mitchell is not sympathetic to the extension of this kind of flagrant anthropomorphism to lower organisms:

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[67] W. Churchill, quoted in Karl Popper, *Objective Knowledge,* (1972), p. 43. See also Dudley Shapere, 'The Concept of Observation in Science and Philosophy', *Philosophy of Science,* 51 (1984), pp. 23-43.
[68] Feyerabend, op. cit., p. 132.

> [Taken strictly] we should find in the buds of vorticellae the love antics that are common among birds, as well as a coyness in the loved object, and in the morsel of a lover, an ardour of pursuit, a fickleness in her presence, and a return to nonchalance in her absence, which would make him the fellow in feeling of still higher brethren. But the marvel makes it the more doubtful whether there is feeling at all. [69]

Mitchell is drawing attention to the implausibility of ascribing too much feeling to lower animals. His response to this is that it is metaphorical overkill. A more likely account would stress that 'we recall the degrees by which we have ascended' and that 'we rise from inherited to acquired instincts'. [70] A far more plausible account would allow for evolutionary considerations in the ascription of experiential states.

While sensation and feeling can't be conflated, both clearly have their role in the course of experience. Sensation, as we have seen, is important for "lower" organisms and for fight/flight reactions. Feeling is thus a means by which that a more sophisticated organism moves to the next level of the experiential course, and the course of this is characterised by making better us of the sense organs in the achievement of sensory satisfaction.

5.2 The Course of Experience, Interest

The course of experience is not merely "making better use of the organs of sense" as it is for feeling. It is also a function of our *interest* in an object. "Interest", however, has two senses. It refers to: 1) a function of the "growth of our satisfaction in an object" *qua* object; and 2) the growth in satisfaction in an object *qua* the subject-experience of our experience. It is the second that is relevant here, as we are looking at the course of experience itself. Mitchell describes the course of interest in the following terms:

> The satisfaction and dissatisfaction are with our attitude, with our work, and not with the object. They are the interest we feel in achieving a thought, a feeling, or a desire, as distinguished from our three kinds of interest about the object. [71]

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[69] SGM, p. 38-9.
[70] SGM, p. 41.
[71] SGM, p. 95.

We have already looked at the "three kinds of interest about the object". These are: *intrinsic interests, practical interests* and *cognitive interests* (see Glossary, or Chapter 6). However, Mitchell is here drawing attention to interest *in the course of experience itself* (i.e., in abstraction from, and independent of, the things we are experiencing). However, he says that, though he is identifying the course of interest here, it can only be seen in relation to cognitive, practical and intrinsic interests.

Like the course of feeling, in the course of interest there is a working of experience into a more satisfactory form. In the case of a *cognitive interest* there is a distinct course of interest which relates to "grasping truths". He gives the following example:

> The interest is most easily distinguished in our exercise on puzzles of any kind, for here the other interest is all but absent, the result of our seeking having little or no value for us, but only or mainly the search and the finding.[72]

He has in mind here the exercise of interest in relation to cognitive experiences, for which there is little evident feeling or desire or any other kind of interest. It is interest in the "pure" exercise of one's cognitive capacities (doing logic or making lists of useless data are other examples).

In the achievement of a *practical interest,* there is also satisfaction in merely exercising one's practical decision-making capacities:

> If in a question of opinion most people find it is more comforting to take a side than to suspend their judgement, we all know how practical suspense may seem worse to bear than the worst thing that might happen.[73]

This certainly rings true: there is a sense in which a level of practical resolution is required in the course of our interests. It is this phenomenon that Mitchell is identifying here.

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[72] Loc. cit.

[73] SGM, p. 96.

In the case of the course of *intrinsic interest,* there is the phenomenon of simply "enter[ing] into the spirit ... [being] absorbed ... and having whatever emotion it is capable of giving us'. [74] He gives the following clear example:

> There is ... a satisfaction in weeping with those that weep, as well as rejoicing with those that rejoice; and with people, too, who need not be on the stage, but near and dear to us.[75]

In the course of interest then, there is also a requirement to exercise the experiential capacities by entering into those various activities appropriate to the various interests. This involves intellectual pursuits (in the case of cognitive interest); resolutions or decision making (in the case of practical interests); and simulation and absorption (in the case of intrinsic interests). In all cases, there is a movement from an experience which does not satisfy to one which does.

5.3 The Course of Experience, Thought

Thought, of course, implies a higher level of control on the course of experience: it requires a degree of *direction.* An example might be the course of a musical experience, which is "determined" by the listener to the extent that they mentally anticipate the total course of their listening experience as they undergo it: from notes to phrases; from phrases to cadences; from cadences to resolution and conclusion. At the level of thought, the course of experience is not merely making better use of the organs of sensation (as in the case of feeling); nor entering into the activities of interest (as in the case of interest); but, to some degree, directing the course of experience.

This is not to say that we always know what is going to happen next in a piece of music (although, often enough, we can anticipate this).[76] It just means that our level of interest

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[74] Loc. cit.
[75] SGM, p. 97.

allows us to concentrate on the experience we are having, which thereby enables us to participate in a given experiential course. Were we to be interrupted while listening to music, the course of experience would not stop, but it would move in a new direction altogether (see below the distinction between *associational* and *repetitive* experience). The synchronicity of the series is maintained throughout by the course of the experience and the level of thought. Even though experiences are synchronous, that is no guarantee that they stay "on the same course". Depending on our interests—the forms and functions of experience—the course of experience may change, develop and even grow.

Of course, it is not necessarily a conscious decision which is made when we have experiences of this kind. The sense in which we determine our experience, for Mitchell, is the extent to which our experiential phenomenology is unconsciously series-like. Seriality of experience is not, then, necessarily a conscious event. Nowhere does Mitchell claim that we must be aware of its serial nature (although, often enough of course, we are). The reason we are not normally aware of the serial nature of experience is that experience has a further feature which explains more fully the nature of the course of experience. This feature is the *Unity thesis* which I shall discuss shortly.

6. The Synchronous Series and the 'Disunity' of Mind

An account of *synchronous* experience has some contemporary defenders in the very new discipline of cognitive science. Recently, G. J. O'Brien and J. Opie have argued for something like this kind of story in the case of at least one kind of conscious experience. They distinguish *genuine seriality* (the view of consciousness as a 'serial stream containing only one contentful element at a time') and what they call *fusion* (the view of

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[76] Just as we often anticipate other things: people finish each others' sentences at dinner parties, for example. (This is Kim Sterelny's example, see: 'Navigating the Social World: Simulation Versus Theory', *Metaphilosophy* , 28, Nos 1, 1977). There are interesting connections which can be made between Mitchell's course of experience idea and contemporary discussions about simulation theory.

consciousness as 'unified experience embracing multiple contents). Interestingly, they also use music as an analogy in explaining the difference between the two views:

> Genuine seriality is like a solo performance, in which the chorus remains silent, and a single voice is all we hear. ... [S]uch a solo is monophonic, i.e., it contains only one note at a time. An advocate of genuine seriality supposes that the brain imposes a similar limitation on phenomenal experience—it can contain only one distinct content at each moment. ... On the other hand, if we suppose that consciousness incorporates a number of distinct contentful elements (e.g., from a number of modalities) fused into a single experience, then it is best likened to *polyphonic* choral music. Polyphony involves two or more *simultaneously active* voices, such that at any moment there are a number of different notes being sounded. Each voice contributes to the total sound, yet there is a sense in which none is entirely independent of the others. In a similar fashion, an advocate of fusion supposes that the brain binds together a collection of simultaneously active, but distinct, informational elements into a single conscious experience. [77]

In the terms of this distinction, it seems that Mitchell is on the side of *fusion* rather than genuine seriality (I have called it a "synchronous series"). The point of bringing into focus this way of distinguishing different types of series is this: firstly, we can see that Mitchell's account of a synchronous series of experience has some contemporary adherents; secondly, the issue of fusion-type seriality is very much on the agenda of contemporary cognitive science and theories of mind; thirdly, as we shall see, Mitchell makes a contribution to this debate in that he rejects some of the conclusions which, it is alleged, follow from the claim of fusion.

The authors of this paper go further than simply claiming that fusion is a plausible way of understanding conscious experience. Not only is *fusion* supported over seriality, but it is argued that fusion gives reasons for adopting a *disunity* theory of consciousness. Mitchell accepts the premise of fusion, but denies the conclusion of the disunity of consciousness. So there seems to be more ways than one to interpret the unity thesis.

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[77] G. J. O'Brien and J. Opie (1996) 'The Disunity of Consciousness', *Australasian Journal of Philosophy*, (1998), p. 3.

Summarising so far, we now have the following understanding of Mitchell's account of the course of experience: i) he supports the essentials of a *dynamic* account, according to which experience is both *mediate* and *immediate,* depending on the type of epistemological exchange in question; ii) by implication, he supports a *causal* theory of mind in which most experience which has a mediate role is orderly, systematic and *series-like* in function; and iii) he supports a *synchronous,* not a discrete, view of the serial course of experience at the level of thought. (This later point helps us locate Mitchell's position on the fusion/genuine seriality distinction, placing him firmly within a current tradition in cognitive science.) I shall now turn to his remarks on what I have called the unity thesis.

7. The Unity Thesis

The unity thesis holds that the course of experience doesn't just have associated elements, but is intrinsically structured as a total, unified experience. Nothing in the experience is peripheral, pointless or random. This is not to say that one cannot find apparently purposeless elements in an experience; one clearly can.[78] But this is the exception rather than the rule: experiences—even irrational ones—have a certain intrinsic unity and self-directedness. Mitchell expresses the unity thesis in the following way:

> With the complexity there goes a unity of experience, both at any moment and during the period when it runs its course. Taking it at a moment, as if in cross-section, observe that the complexity is without confusion; or, if a feeling of confusion is present, that you want not less complexity, but less perplexity: you want a single thought in which the whole matter is organised or grasped. ... Whether we make a cross-section or a longitudinal section of our experience, we find everywhere structure and connection. [79]

Compare this to the argument for the "disunity" thesis just outlined, which claims that, like polyphonic music, experience is structured from separate sounds "fused" or combined

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[78] 'It is not hard to find sporadic and purposeless elements in it; and we are often distracted, or in two or three minds; but it is only in very abnormal cases that the two or three minds might as well belong to different people'. SGM, p. 14.

[79] SGM, pp. 13-14.

together by diffuse, parallel-processing capabilities of the brain. The conclusion O'Brien and Opie draw from this model of consciousness—a connectionist conclusion—is that, phenomenal experience is *disunified* and, if we take a section of experience, we won't find "everywhere structure and connection" as Mitchell claims, but separate polymorphous elements.

Ultimately, the nature of the course of experience is an empirical matter and likely to be decided by such means. But Mitchell is clearly not on the side of disunifiers, even though he accepts fusion of experiential elements. Again, he would offer for consideration the point that disunity abstracts from evolutionary considerations. (Though this is an interpretation on my part of Mitchell's account, it seems to follow from what he has said.) He discusses, for example, how our "life history" of making sense of fragments of experience (themselves discrete yet unified) helps to make sense of later experience by "carrying forward" their meaning, as a power 'to appreciate and organise the coming parts, so that they are felt with a far richer meaning and interest than if they had begun the story'.[80] This process continues onwards and upwards to higher levels of experience, such that:

> Our whole experience exhibits an organic growth; and not only our experience, but that of the lower animals, if experience is of value to them ... The general idea is sufficiently clear that experience has a growing complexity of structure and a deepening unity. [81]

The music analogy is thus misleading, in so far as it assumes that experience is either polymorphic or serial, and that if experience is not serial, it must then be polymorphic (and hence disunified). Neither music nor biology is like that, however. Biology seldom works with such blunt categories. Lower down the phylogenetic tree there is also unity in

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[80] SGM, p. 15.
[81] SGM, pp. 15-16.

experience, as Mitchell has claimed.[82] And, with decreasing sophistication in processing capabilities, there is not a proportionate degree of disunity of polymorphous elements. In fact, there is as much unity in "lower" experiences as there is in sophisticated ones, according to Mitchell.

This is also true of music, it seems to me. If the musical analogy is to be maintained, the relation is not between serial and polymorphic music (which assumes either a solo performance or polymorphous complexity); the relation should rather be between *single note harmonies* and *chordal harmonies:* in both there is a unity of connection which is intrinsic to the respective musical structures. In single notes, there is an implicit realisation of intrinsic tonal harmonies over single notes being played (5ths and 3rds usually); in chords, the harmonies are explicitly realised as intrinsic elements of the chord. In neither case is there disunity of polymorphous elements. (Tonal properties of single notes go to combine harmonically with richer and more complex chordal structures at higher levels.)

This matter obviously needs further discussion. However, it is sufficient for my purposes here to note that Mitchell realised that there was a case to be put for the unity thesis, which is rather different from contemporary discussions on the matter.

8. Two Kinds of Experiential Course, Associative and Repetitive

Mitchell argues that the self-directed nature of experience is of two general kinds: i) following the direction of experience from that of an old course (call this *associational experience*); and, ii) following the direction of old experience to a new course (call this *repetitive experience*). The first is achieved by following associations formed in the past by the work of memory; the second is achieved by attaining a new kind of experience by means of habit and repetition.

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82 'The thoughts of animal and infant are no more bewildering and unsatisfactory to them than ours to us', SGM, p. 14.

This kind of experience is brought about by the association of memories of previous events experienced. There is no implication here that the previous events must have occurred in succession or have to be internally coherent or rational (for instance, they may be parts of a dream or a fit of madness or delirium).[83] The role of associational experience is to make "internal connections", and give coherence to 'a new kind of connection often called mechanical'.[84] The kind of thing Mitchell has in mind here is when 'any part of a previous experience is repeated, we tend to think the rest'.[85] For example, when a tune is hummed, we can hum the rest or can "think" the melody once had 'by the mechanical means of internal speech'.[86] An example might be the previous case of being able to hum a tune once heard after being "reminded" of the tune by a particular note or chord.

The work of memory is crucial in associational experience. Without memory, experiences are disconnected and lack continuity; experiences are not episodic but fragmentary and discrete. Someone with severe memory loss (for example, in cases of Altzheimer's disease) makes no association between one "fragment" and the next; one's experiential world is limited to the temporal present. [87] Their experiences are not so much *courses* as unassociated fragments.

Mitchell notes the "remarkable" nature of this common-place ability and cites the equally remarkable ability of the brain to associate parts of experience 'no matter through what different channels they have come and no matter at what distance their areas in the

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83 'The parts may have been together in the previous experience either simultaneously or successively, and they may or may not have had an internal or rational connection'. SGM, p. 84.

84 SGM, p. 84.

85 Loc. cit.

86 SGM, p. 85.

87 See Oliver Sacks, *An Anthropologist from Mars.* (1985).

brain'.[88] It is unclear what precisely he means by this. Presumably, he means that the kind of experiences which prompt associational experience can be varied and unrelated to the experience which they bring about—as in the case of experience prompted by messages received by different sense organs (for example, a particular odour may prompt the experience of a melody with which it was once associated). By this remark, Mitchell seems to have been anticipating the diffuse character of brain events in bringing about phenomenological experiences—a relatively recent neurological advance in understanding the role of the brain in mental life.

However, while the association may be brought on by different means, the causes are not variable at all. Mitchell claims that associational experience is specific to certain causes and not others. Using the example of hearing someone's "old yarn", he claims that one's being bored is not a function of having heard the yarn before; it is, in fact, due to having been caused to be bored more than once in this situation—i.e., the cause of the boredom is the repetition, not the hearing of the yarn. Hearing the yarn once more is instrumental in bringing about the boredom only because it sets in train specific causes of boredom. Similarly, feelings of "nausea, buoyancy, and the quaking of fear" can only be brought about by specific causes, not merely what he calls the "idea" of specific experiences in the past.

His meaning is this: one can simulate the conditions under which one felt some "organic sensation", but it is only the causes which bring about the sensation, not the mere *simulation* of the events which might have caused it. (This is plausible: presenting the original experience of a tiger, one elicits the original fear; presenting the "idea" of the tiger, or a picture of one, is not quite the same thing—secondary experiences clearly don't have the phenomenological force as the originals). In the case of some sensations (e.g.,

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[88] SGM, p. 85.

vision or sound), Mitchell notes that it is easier to bring about identical causes for their original experiences (one simply has to simulate the visual or auditory causes which brought the original course of experience about). In others, that which Mitchell calls "special sensations"—heat, cold, smell and taste—*quale* generally, it is much harder. He says: 'it is as difficult to bring to the likeness of their originals as it is to bring the memory of toothache'.[89] Mitchell thus makes a prediction about the kinds of experiences the senses deliver: one can bring about tokens of sensations of vision and sound easier than one can do the same with the "special sensations". This suggests that there is a degree of informational importance which can be attached to senses like vision and sound, and less importance attached to taste, olfactory and thermal receptors. Later, we shall see whether this point is empirically borne out. At this point, it is sufficient to note that Mitchell has in mind a clear division in the role that the senses play in experience.

What is the relationship of the functions and forms of experience to this? One thing is clear: associational experience is not the means by which the forms and functions of experience can determine the course of experience. Were this so, then all experience would merely follow the same course as it always did; for associational experience has no novelty, it just associates and continues the old course experience had taken. However, ordinary experience is not normally merely associative; it is also creative and new. Furthermore, this tells us something about Mitchell's conception of the three functions and forms of experience; namely, that they are not like thoughts being associated, but that they must play an entirely different role in experience of an entirely different kind. Mitchell is clear on this:

> [O]ur three attitudes toward an object are not connected, when they occur together, like three thoughts. They are mutually dependent, they are occasions for the occurrence of

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[89] SGM, p. 86.

> one another ... [I]t is an internal connection giving them coherence; it is not due to their association. [90]

I shall return to this important point in the next section once repetitive experience has been outlined.

In summary, *associational experience* is the kind of experiential course which is brought on by memory. It gives *coherence* to the course of experience. Associational experience follows the direction of experience given from an old course and continues it. It may be triggered from different sensory modalities (smells and so on), but it must have the same *cause* to bring about the same association. (This, incidentally, gives reasons why the sound of a trumpet is *not* like the look of red, even though the two modalities can be associated. The reason is that they have quite different *causes*.) [91] With some sensory inputs it is easier to elicit the associated experiences than with others. Visual and auditory experiences are easier, in this regard, than contents which Mitchell terms the "special sensations"—*quale,* as recent philosophers call them. [92]

8.2 Repetitional Experience and Work of Habit

This kind of experience is one step further removed from association. It is not a separate kind of experience, but is different by degrees. It involves the situation when a given experience has been associated with a given cause over a sufficient period of time for a specific or general experiential response to occur. In this case, the regularity of the causal event (say, a note or an odour) sets in train the course of experience with such strength of association that it is very hard to change the association, either consciously or

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[90] Loc. cit.

[91] See Thomas Nagel, 'What is it like to be a Bat?', in *Mortal Questions,* (1979).

[92] Strictly speaking, visual and auditory experience too have *quale:* the look of red, the sound of a trumpet, and so on. But even among qualiaphiles, the phenomenological content of vision and sound is usually overridden by the *representational* character of the content, not the qualitative character (i.e., we see a red *wall,* not just red; we hear a sound being played from *this direction,* not just a sound, etc). This distinction between representational dominance and sensational content proper is brought out nicely in Peacocke's examples in *Sense and Content,* (see Chapter 2). See also Alan Millar, *Reasons and Experience,* (1991).

unconsciously. Through repetition, one's experience "automatically" sets in train a response. This may be an object-experience or a subject-experience, or sometimes both. For example, when one sees red flags, one might either begin to depress the brake pedal (an object response to an object-experience) and/or one might think of freedom from oppression and the pursuit of universal egalitarianism (a subject response to an object-experience).

This response may not always occur in the experience of physical objects and sensations. It could happen, for example, in the case of continually associating certain questions with a certain (philosophical) mode of response (e.g., probing, analysing assumptions and so on) to the point where a given questioning automatically elicits philosophical reasoning. Thus, genuinely *new* habits can form in response to experiences. Philosophy thus genuinely teaches a skill, on Mitchell's analysis, not merely subject matter. The extent to which one has learnt something from one's philosophical training is the extent to which one has assimilated the skill to the point of habit and applies it habitually to new situations.

The habitual nature of this kind of experience raises the experience to the level of "skill" or "fixity of strength or conduct" in not only the specific instance of a given response, but a general responsiveness in the circumstance of certain experiential inputs. Thus, following inculcation of repetitional experience, one may begin to respond as philosophers do to all kinds of interrogative exchanges, not just the specific kinds of experiences which were originally the source of the response (thus one learns a "skill"). Habits can thus become generalised to all kinds of other similar exchanges; not merely to the exchange which brought it about: 'By a habit of thinking, of skill, of conduct, and the rest, is not meant merely a facility in particular cases, e.g., in a certain argument, or a single dexterity; it

means also a general facility'.[93] Thus, for instance, athletes and musicians can often adapt quickly, by means of habit in skill formation, to a new field of sporting activity or, new musical instruments, respectively.

Mitchell claims that something important follows from this kind of generalisability: namely, the importance of repetition in strengthening the course of experience. As I have mentioned, the functions and forms of experience are not based on association, according to Mitchell. They are, instead, based on habit and repetition. Were they based on association only, there would be no growth of experience, there would merely be association from memory. But there clearly is growth. Hence, there is a qualitative difference between experiences formed by association and those formed by repetition and habit. Those formed by association are often chanced to occur by accidental correlations of certain kinds. When these are strongly correlated there may be strong associations, especially if associations are made by memory from accidental associations formed elsewhere. But strong associations are not the same as strong habitual responses. Natural repetition of association, in Mitchell's view, raises the experience response to a different level:

> Repetition of the association strengthens the connections due to it, and frequent repetition makes it habitual. This is the effect of repetition on all connections: we learn habits of thinking and believing, of interest, skill and conduct. These connections in experience are not themselves due to association, as the other is. An argument, for example, is not formed by its parts having chanced to appear together in experience, and been so connected. A piece of skill is not a series of movements that have become associated by their chancing to occur in succession. When the argument or the skill is repeated, it is repeated by the same means as the first, not by new means like a course of memory. [94]

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[93] SGM, p 86.
[94] Loc. cit.

Mitchell is clear here that the causes of skill are specific to certain causes, not merely the association of memory. This affirms, once again, that associational experience is different from repetitive experience.

Mitchell also notes that the effect of habitual experience is different from that of associational experience. Its first effect is to give strength and certainty to the response it generates; its second effect is to 'lower the interest of the experience'.[95] Thus, while *associational experience* simply gives rise to the continued course of experiences by means of combining memory with incoming inputs (its effect is uncreative, but it provides coherence); *repetitional experience* 'gives fixity' [96] or strengthens experience and makes it into a new skill, whilst lowering the interest and familiarity in the experience at the same time. These are the differences in the effects of the two different responses to experience.

Of course, the two kinds of experiences work in conjunction with one another. In this process, Mitchell points out two things: firstly, that the "new course" of repetitive experience always has its roots in prior associational experience, even when we may not be able to immediately identify the source of the new course. Secondly, while distinguishing a new course of experience is possible after the fact, its course need not necessarily be distinguishable in practice as an end, but may just happen "as in reverie", or like a "casual suggestion" or "a wandering thought":

> When our experience directs itself in a new course, it is still direction by every present experience occurring in the course. The direction may or may not be by thought of an end. It is not in a course of casual suggestion. ... Sometimes it is welcome, as in reverie, but often unwelcome, as in harassing and in merely wandering thoughts. Though a new course, its matter is old. This is obvious when it includes reminiscences, but also when they are absent. When, as in reverie, all may seem new, we find on examination that every next thought suggested is one with which the present experience was previously connected. [97]

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[95] Loc. cit.

[96] Loc. cit.

[97] SGM, p. 87.

Mitchell's claim receives support when one phenomenologically introspects on one's own experience: to what extent is any experience *entirely* new; not based, at least in part, on previous thoughts, feelings and actions—that is, previous associations? The claim seems correct in most cases, but what about that of the work of genius? Mitchell's view is that even in this case, 'creative work ... is ... playing the architect with materials already existing'.[98]

9. The Growth of Experience, Habit And Novelty

Habits and skills which are formed also grow. If one learns the technical manoeuvres necessary to habitually play a musical instrument in the correct way, one inevitably progresses in one's level of skill. Bringing this level of skill to the point of *habit*—where technical manoeuvres become no longer movements which require attention, raise the height of the skill to a level of *expertise.* This is the connection, in practice, between the course of experience and its growth. And it is understanding the dimensions of the growth of the organism's capacity to experience which is the central concern of Mitchell's philosophical work.

There are two examples of the growth of habit: i) where there has been an increase in the strength of the habit by means of repetition of the same course of experience (this is found, for example, when learning a musical instrument). This is also found, for example, where there has been change or a *development* of habit, i.e., from one habit to a new kind of habit (e.g., when an athlete learns a new skill based on previous habits and skills). The second kind of growth of habit is when the habit is eliminated through lack of interest in the experience. Mitchell notes that interest in habitual experience is due mainly to the *novelty* of the experience. Lack of interest in experience is inversely proportional to the degree of novelty: once this is no longer present and continual repetition brings about boredom in the

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[98] SGM, p. 88.

habit, there is growth of habit from increased use and development to a loss of use; that is, a change in use from interest, to continuing the experience without interest. This is not to say that habits we wish to discontinue—e.g., smoking—are necessarily cause for displeasure. Indeed, Mitchell carefully distinguishes boredom from displeasure:

> A habit pleases, because it is a habit, even when the matter has lost its interest, and sometimes when we had rather not follow it but for the pain of resisting, or of not acting at all. This is true in the exercise of general habits of thought, emotion, and conduct, as well as in particular habits, like putting our hands in our pockets, and mannerisms of all kinds. [99]

It is this dialectic between repetition through interest—which leads, in turn, to habit and skill, increased boredom and, thence, decreased interest—which informs both the nature of habit and the level of interest in a given experience.[100]

Both the development of habit and subsequent boredom and decline, however, can be described as a *growth* of experience, as the habit is changed in each case: one positive and one negative. The nature of this process requires detailed treatment. Accordingly, it is to the growth of experience and its many manifestations that we turn in the next chapter. Just as we have seen the course of experience in providing coherence and new habits, so we shall now see that the growth of experience has a role; namely, 'the development [of] a new power'.[101]

10. Conclusion

We have seen in this chapter Mitchell's account of the role of the course of experience as an epistemic engine. The aim of the course of experience is to bring about stability and new habits to organisms which seek satisfaction from their experiential inputs. The course

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[99] SGM, pp. 97-8.

[100] 'The interest of any experience is more or less dependent on its novelty; e.g., wonder and surprise, fear and sorrow, delight in succeeding, and the misery of failure. And what we do habitually we do without the same keenness of desire, as well as without the same effort in striving'. SGM, p. 87.

[101] SGM, p. 87.

occurs at all levels of the structure of experience and involves all three faculties: *feeling, interest* and *action.* I have argued in this chapter that the course also commits Mitchell to a view of seriality which is compatible—indeed, anticipates—current views of cognitive fusion. However, I have also argued that this does not commit him to an account of mediation which is strongly constructivist, nor to an account of consciousness which is disunified. We have seen, in support of this claim, Mitchell's *unity thesis,* in which contents are considered to be essential to experience at all levels, regardless of whether or not the content is currently the focus of feeling, interest or action.

V: The Growth of the Mind

Chapter 8,The Growth of Experience: Sensory Intelligence

> Nature is the form in which the real world appears to our senses, and to creatures with different senses it doubtless appears different.
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> LM , p.10.

1. Introduction

Just as the structure of experience is a different matter from the course of experience, so the growth of experience is different too. There are similarities, however. Both the course and growth of experience are diachronic, and both are driven from an idealist perspective of experience in Mitchell's analysis. However, while the course of experience consists in the operations of the epistemic engine (including the local temporal extensions of experience), the growth of experience is a Piagetian-type project: the maturation of the mind over time and the development of new mental powers.

The growth of experience presupposes the differences in the functions and forms of experience: feeling, interest and action, and the means each takes in satisfying their respective courses. Growth, generally, is concerned with the qualitative development of conscious experiential life on a given occasion, not merely the following of a course—thus, there is an inequivalence relation between "course" and "growth", in Mitchell's taxonomy. By "development" is meant the movement to a 'fuller and higher experience' [1]

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[1] SGM, p. 107.

beyond that of the original experience and to 'greater definiteness' [2] of experience. In this and the next two chapters, we will look at the growth of experience at each of the levels of experience previously discussed. This chapter will outline several of the important features associated with the growth of sensory intelligence: 1) The notion of an "occasion"; 2) The nature of sensations; 3) The issue of instinct and learning; and 4. The growth of sensations.

2. Growth on Occasions

The first thing to note about the growth of an experience, generally, is that it occurs on what Mitchell calls an *occasion.* An "occasion" is Mitchell's term for the general conditions under which an experience occurs and the content that such conditions bring about. It might be thought of as 'the given content' [3] of an experience (i.e., that content which is the subject of the perceptual act); though this, I think, misleadingly sounds like Mitchell was sympathetic to the idea of non-inferential sense data, which he clearly was not. Rather, Mitchell's account strongly emphasised the "organisation" of sensory data, not the input of mere sensation. As we have seen, at some points, Mitchell even sounds like he was strongly endorsing "poverty of the stimulus" arguments. [4]

Broadly construed, the notion of an occasion might best be thought of, in contemporary terms as some kind of computational state, in so far as states of intelligent systems are always understood in terms of the computational/representational conditions they are in, at any given time. The kind of cognitive state, which the occasion consists in, is a state of some kind of representational *disturbance.* Mitchell explains his notion of an occasion in these terms:

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[2] SGM, p. 203.

[3] R. B. Perry, 'Structure and Growth of the Mind' (Review) (1908), p. 47.

[4] Compare, his remarks: 'Usually we find organisation when we think to catch merely sensation. In response to the stimulation of our special senses, we probably objectify all the matter that we have at any time from them all ... These, therefore, are not mere sensations'. SGM, p. 103.

> The growth of the system is entirely in making adjustments to the system of things in which we live, as this is represented by a present occasion offering a challenge. The adjustment is to what is new in the occasion. Every occasion is so far new, but the greater part of it is always familiar as well; and this part we have to picture as the occasion of only so much disturbance as corresponds to our immediate thoughts and to our taking for granted. [5]

The important thing about the occasion is that it represents a "disturbance" in the cognitive state of the organism at a given time. The organism must equilibrate the disturbance in some fashion. Internal cognitive processing itself can start the disturbance and resolve it (i.e., it does not necessarily have to be from perceptual input from external events), and the action of the mind is always an action on an occasion (for example, an occasion might be the 'physical stimulus on an organ of sense; then sensation is the reaction of our mind upon that'). [6] Moreover, an occasion is a function of different levels of experience and their course at any given moment, thus it is not to be understood in foundational terms, but rather as a *state-initiator* of subsequent states. ('... every part of the course [of experience] is the occasion for the next'). [7]

The notion of an occasion may thus occur at each of the three levels of experience: *feeling, interest* and *action;* it is to be understood in non-foundational terms; and can be best described in contemporary philosophical terms, as a *machine state* of the organism as it undergoes various levels of intellectual and experiential processing (though given nineteenth century metaphysics, Mitchell himself would not have made the association with machine states as much as with organic states of psycho-physical systems).

An occasion, in the case of mere physical inputs, is a mere sensation, but it can also occur at higher levels. In fact, Mitchell is explicit that the notion of degrees of sophistication in mental events is tied to the notion of an occasion:

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[5] SGM, p. 480

[6] SGM, p. 107.

[7] SGM, p. 108.

> All mental action is reaction to an occasion, and consists in developing the interest of the occasion. The lower the mind, the more it waits for occasions; the higher it is, the more it creates them. [8]

There are obvious affinities here with some contemporary issues in cognitive science and the philosophy of mind. With necessary caution, the notion of an occasion might superficially be compared, for example, to the notion of a psycho-physical *module,* as understood by Fodor (1985). Like the notion of a module, an occasion is understood as a machine-state of the experiencing organism. Like the module, the occasion gives rise to other states. Like the module, an occasion can occur at a number of levels of the organism (thus, there can be a "language module", as there can be modules for low-level states, like seeing red). Finally, like Mitchell, Fodor understands the mind to be a representational system of some sort. Specifically, Fodor understands mind to be part of a system which performs *computations* over representations and which can itself be in informational states of some kind, and which can have access to its own content "architecture". In a sufficiently broad sense, the "occasion", as Mitchell understands it, has something of the same character as a modular state of an informational system.

There are differences, however. In Fodor's schema, the module can be *constrained* by this architecture and have limited access to cognitive information from other (higher) conceptual levels:

> A module is (*inter alia*) an informationally encapsulated computational system—an inference-making mechanism whose access to background information is constrained by general features of cognitive architecture, hence relatively rigidly and relatively permanently constrained. ... at least some information that is available to at least some cognitive processes is not available to the module. [9]

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[8] GL Second series, p. 12. See also R. F. A. Hoernlé's review of SGM: 'All mental action ... is reaction on an occasion, developing that occasion. In sensation, the occasion is a physical stimulus, and only a physical explanation is possible in this case. But the sensation may itself become the occasion for higher developments, and with that we are within the province of psychology proper, and have to look for the explanation to mental "faculties" inherited or acquired'. p. 261.

[9] J. A. Fodor, *The Modularity of Mind,* (1985), p. 3.

His case for modular encapsulation, of course, has been presented in his famous argument about the Müller-Lyre illusion (see Figure 2 below). On this argument, an illusion of two lines with arrow-heads (one with the arrow-heads pointing inwards, the other with arrow-heads pointing outwards) gives rise to one line looking longer than the other. Fodor notes that though we *know* that the illusion is an illusion, knowing this doesn't make the illusion go away. Hence, the mechanisms of sensing at lower levels are cognitively isolated from mechanisms of inference at higher levels.

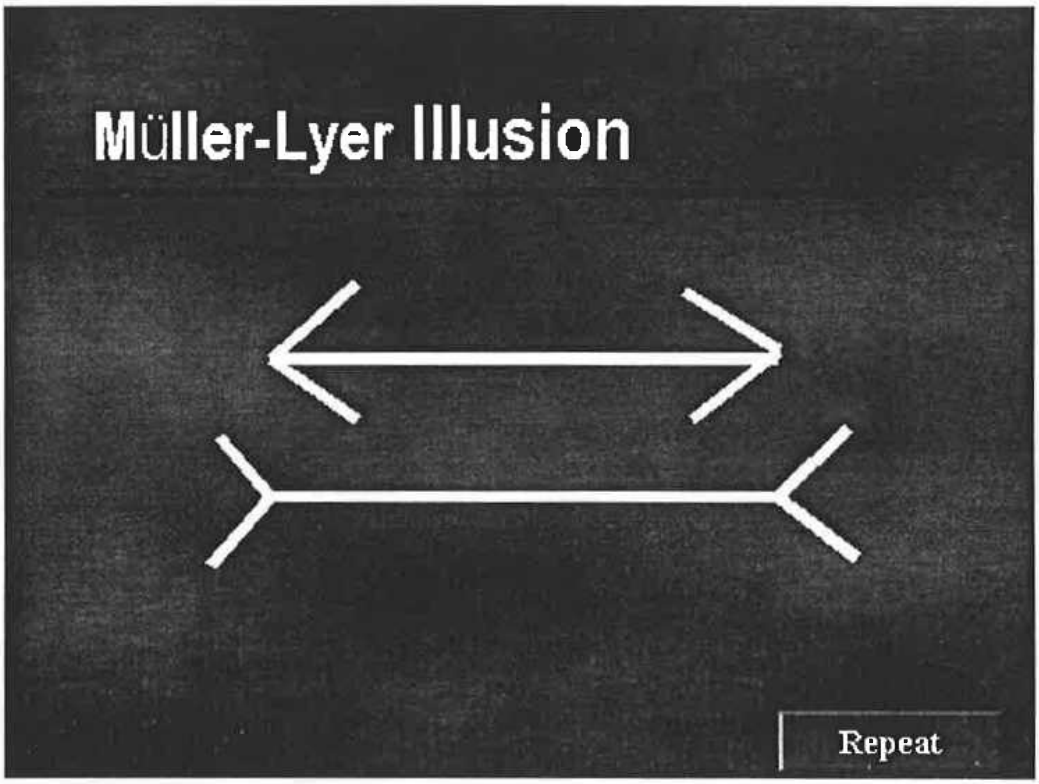

Figure 2: The Muller-Lyer Illusion

The similarities between *occasions* and *modules* might be overstated. However, it is a useful comparison, as we shall see later. We shall need to look carefully at this notion again later, once we have covered the central issues concerning Mitchell's understanding of the growth of sensory intelligence. As we shall see, whereas contemporary accounts (like Fodor's) emphasise the static character of cognitive systems in terms of their

cognitive impenetrability, Mitchell's account stresses the dynamism and growth potential of such systems beyond current capabilities. The occasion is not a static representational system but a malleable one, which must be understood developmentally in terms of the nature of dynamic systems. As we shall see, this makes Mitchell's account most compatible with a *trans-modular* theory of cognition. This kind of account has recently emerged in the cognitive science literature in competition to the encapsularity account.

3. Sensations

The first thing to outline is Mitchell's understanding of "sensation" as the rest of his account of the development of sensory intelligence is premised upon this. Mitchell presents a reasonably clear section entitled: 'The Definition of Sensation' in *Structure and Growth of the Mind.* [10]

He outlines several philosophical meanings of "sensation". These include: 1) The simplest act of the mind or the product of a sense organ; 2) An element of experience; 3) The simplest form of thought; and 4) 'Our first knowledge of what is real'. These definitions encompass "sensation" in four clear senses: (1) its *functional* usage in terms of its causal role; (2) its *introspective* usage; (3) its *logical* usage as a "propositional attitude" (as we might put it nowadays); and, finally, (4) its *physical* or *metaphysical* usage. He claims that for the purposes of his investigation, the understanding of (3) and (4) is peripheral and he does not discuss them further.

Of the remaining two definitions, Mitchell claims that the first is the view of physiological and functional psychology, and the second that of structural psychology, but the structure is 'not of the mind, or of the brain, but of experience'.[11] This makes it clear

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[10] See SGM, pp. 213-217.

[11] SGM, p. 213.

that Mitchell is interested in an analysis of experience *qua* experience; that is, an analysis which doesn't preempt what this structure might yield in terms of mind/brain relations.

He notes that the *physiological* definition includes both the idea that sensation is an action of external events on the nervous system ("proximal stimulations", as we put it these days), and the idea that consciousness of some kind results from such a process. However, it does not explicitly include other physiological processes leading up to the experience; such as the nerve ending stimulation of the sense organs themselves; or mental images, illusions or other means by which a sensation may result. The problem with this account, Mitchell notes, is that it seems rather arbitrary in terms of what it includes and excludes from its analysis.

The *structural* approach understands sensation as an elemental feature which cannot be further analysed. Citing the work of Helmholz and Wundt, Mitchell notes that this approach presupposes that a "mind map" of sorts can be constructed by means of comparing sensations which are like "chemical atoms" in structure (e.g., such as "pleasantness" and "unpleasantness"). The problem with this view is that it assumes that sensations can be isolated from the growth of the organism. A second problem is that there is considerable room for disagreement over the number of possible sensations that can be thus isolated. [12]

Mitchell notes that 'it is legitimate to define sensation from both points of view'.[13] However, in his view, the attitude of structural psychology is misdirected because we do not actually have isolated sensations; instead, we experience "wholes" rather than "parts" (see below). But neither is Mitchell entirely happy with the attitude of the

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12 'One psychologist numbers elementary sensations, or quantities of sensations, at less than a hundred all told, while another puts them at forty or fifty thousand. Some put the elements of feeling with sensations, and of those that do not, some think there are only two, viz. pleasantness and unpleasantness, while others make them more than the number of sensations, and pretty well infinite'. SGM, p. 215.

13 SGM, p. 214.

physiological/functionalist doctrine because it identifies sensation too closely with consciousness. This, he thinks, is flawed for two reasons: a) some sensations only later come to full conscious accessibility; and b) we usually have to *learn* to be conscious by being aware of our sensations. His account of the nature of sensation can be found in the following passage:

> Our experience begins in a mass of sensations, before they are felt as separate; we have them separate as wholes, before we separate their aspects; we distinguish simultaneous wholes like tastes, noises, harmonies, and even groups like melodies, ... before we distinguish their parts; we know the greater before their smaller parts; and, last of all, and only by special search, do we distinguish the units that are called elements. ... The effect on the parts is to make them definite and to give occasion for the emergence of sensations, e.g., flavours, that were not only not distinguished, but were not even felt. Hence all the definiteness, and often the existence, of sensations are products of learning.[14]

Mitchell's account of sensation is thus different from other accounts mentioned in respect of the following three issues: 1) the distinction between wholes and parts; 2.) a distinction between "felt" and "unfelt" experiences; and 3) the issue of *learning* in forming sensations. The distinction between holistic experiences and their parts has been dealt with earlier, in reference to the *Unity thesis* (Chapter 7). This is the notion that experiences arise as organic wholes in which connections are never pointless and random or disassociated. The distinction between "felt" and "unfelt" sensation concerns the difference between a sensation which has aspects of which one is presently consciously aware (a *quale*) and a sensation which does not. This issue has been discussed by contemporary philosophers (for example, Jackson on unnoticed and noticed seeings). [15] The issue of learning in relation to sensation is whether sensation is "immediate" or "given" as elementary units and built up by association, in the manner the empiricists (such as Hume) believed. Mitchell explicitly argued against traditional associationist philosophy in the following terms:

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[14] SGM, pp. 215-6.

[15] Frank Jackson, *Perception: A Representative Theory*, (1977)

> It is not with such units that our sensations begin. We do not have them given us, and then proceed to build the more complex objects out of them. We have to make the bricks as well as the building. As we do not know the alphabet before we learn to speak, so we do not begin our knowledge of nature with what we know afterwards to be the simplest objects in our experience of it. ... The simple object .... e.g., a simple tone, ... requires the same intelligence to determine it, as do the complex units, e.g., the notes and chords, of which it is a part. We speak before we spell. [16]

Sensations are products of learning in his view. He sometimes makes the stronger claim that they sometimes exist because of learning. [17] And not all sensations are conscious, initially, but may become so later. Yet even simple sensations are holistic forms of "intelligence" as important as more higher level discriminations. From the point of view of nineteenth century philosophy of perception, this is an enlightened view. We shall have to see how such an account of sensation is supported.

4. Instinct and Learning

The crucial thing about the growth of experience is the capacity to *learn.* Instinct and learning are crucially connected concepts for Mitchell. It is instinct which sets the occasion for learning and it is learning which brings about the growth of experience. Learning distinguishes experiences which grow from merely instinctual experiences. However, not all experiences which do not grow are instinctive; some are learnt but advance no further. Later, several distinctions will need to be made between instincts and the capacity to learn. For now, I shall discuss *instincts* under several heads: 1) Pure and impure instincts; 2) Instincts and directive sensations; and 3) Instincts and growth. Only later will I turn to the matter of learning.

4.1 Instincts, Pure and Impure

Instincts are sometimes understood to be fixed endogenously-specified traits or habits which are involuntary (e.g., blinking one's eyes when a sudden movement is made).

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[16] SGM, p. 212.
[17] SGM, p. 216.

Another sense of the word, drawn from Darwinism, means complex reflexes, derived from one's genetic inheritance, which are subject to selective pressures (for example, imprinting behaviour in young chicks). Yet another use of instinct is in terms of a *motivational* force (e.g., the instinct for feeding, mating and quenching one's thirst). A more colloquial use of the word is as a synonym for "without thought". This latter sense of the word carries no necessary connection with either inheritance, motivational force or involuntary behaviour (for example, we often say that we "instinctively" apply the brake pedal, when we see a stop sign). [18]

Not all of these uses are scientifically acceptable. For example, the last is clearly an example of colloquial usage and does not really commit oneself to anything like an "instinct" beyond its metaphorical usage. But what about the evolutionary conception of instinct? Much of value has been made of the Darwinian concept of instinct (for example, by Lorenz and Tinbergen), yet it is not obvious that it stands as a replacement for internal processing of some kind; it is less obvious that the idea has application outside the case of animals of fairly limited cognitive capacities.

What about the notion of instincts as motivational devices? The conception of motivational instinct has considerable appeal. However, it is generally regarded that little sense can be made of motivational forces as instincts, unless the *kinds* of motivational drives can be isolated and understood empirically. And, in all but the simplest cases, this is very hard to do without question-begging the existence of instincts as motivators—the very thing one is attempting to demonstrate. Another problem with this strategy is that, once one motivation is accepted as an explanation for one perceived "instinct", it can usually be applied generally to so many kinds of behaviours that the notion of a "motivational instinct" loses meaning and becomes unacceptably dilute: 'It proved impossible to classify

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[18] D. J. MacFarland, 'Instincts', *The Oxford Companion to Mind,* R. L. Gregory (ed), (1987), p. 374.

animal behaviour in this way without resorting to a *reductio ad absurdum* involving drives for thumb-sucking, nail-biting and other minutiae of behaviour'. [19]

Mitchell understands instincts entirely differently from all of the above. He understands them in a very general sense as minimal *capacities to experience;* specifically, capacities which give rise to *interest.* As he defines it, the course of instinctive action is: 'the power of pursuing an infinite variety of course[s], directed throughout by present sensation'. [20] (The "course" being, as we saw in the previous chapter, the course of experience at various levels.) This "power" or growth is what we shall look at shortly. He also notes in this passage that 'interest depends on instinct'. [21] And, as we have also seen in a previous chapter, "interest" in the broad sense, for Mitchell, is that function of experience which ensures anything is experienced at all—it ranges from a minimal capacity to discern various sensory inputs, to complex cognitive capacities. In one passage, Mitchell describes instinct in terms of the *power to react* and the *power to anticipate:*

> An instinctive action being a reaction on an internal or an external stimulus, its course on any occasion opens with organic or with special sensations, and continues with sensation of the reacting movements, and with the new organic and special sensations due to the changes resulting from the movements. The instinct is perfected ... by the differentiating of this serial mass of sensation: the stimulus is taken more readily, and the consequent movements gain in precision. But there is more. Wherever there is certainly feeling, it must be revealed in a power to anticipate. [22]

Thus, the uncontrollable constriction of the pupil in response to increasing light is an instinct, not because it is hard-wired (though it might be), but because it is forced by the need to react or to anticipate and experience things more precisely (the latter being a function only of those higher animals who have "feeling"). Interestingly, Mitchell claims that, for more sophisticated animals with feeling, there *must* be anticipatory reactions, not

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[19] Ibid., p. 374.
[20] SGM, p. 194.
[21] SGM, p. 193.
[22] SGM, p. 219.

merely there might be—a point which again indicates he thought sensory qualia to have a causal role in our cognitive economy.

Mitchell distinguishes *purely* instinctive from *mainly* instinctive experience (or impure instincts) to capture certain kinds of instincts. The former includes such experiences as 'the affective quality of tones and colours'. [23] The latter includes such experiences as 'our delight in crushing and stamping on things that we think loathsome'. [24] While fairly vague and unhelpful, this latter example at least makes it clear that Mitchell was not sympathetic to the idea of "instinct" being an entirely hard-wired or endogenously-specified phenomenon (we shall see more reasons for this below). He did permit a considerable degree of socialisation of one's experiential capacities, as we shall see. He also clearly had in mind the idea that instincts constitute initially minimal experiential capacities, which are then developed by exposure to experiential cues and which "grow". When they grow they become, in turn, part of the organism's experiential repertoire, which assists the organism in succeeding in whatever task it happens to be pursuing (even if simply seeing an object). This process of growth and filing as a stock response are the elements of Mitchell's notion of "taking for granted" (Chapter 4).

This kind of evolutionary story about the growth of experience from simpler elements to a high degree of cognitive complexity has more than a passing similarity to the work of Piaget. [25] Piaget was a contemporary of Mitchell, though he published his seminal work in psychology some 17 years later than *Structure and Growth of the Mind.* It is a curious accident of history that they developed somewhat similar accounts independently. However, while Piaget had a *staged* approach to cognition, Mitchell had a far more dynamic account.

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[23] SGM, p. 194.
[24] Loc. cit.
[25] Jean Piaget, *The Language and Thoughts of the Child,* (1923).

It is the responses of different kinds of instincts which, for Mitchell, bring about the change and growth of experience from its low-level, affective forms to highly complex kinds of intelligence. The latter are described as "impure", while the initial responses are described as "pure":

> In the beginning of our conscious life we achieve experience immediately, and purely instinctively. From this, we grow to a fuller and higher experience. Sometimes a thought, feeling, or resolve requires to be wrought in experience, before it will satisfy us. But we also learn to succeed immediately, and then, because the power has been learnt, we do not say that it is purely instinctive. [26]

So pure instincts give rise immediately to "impure" instincts. And "pure instincts" here means the achievement of conscious experience of certain kinds: such as the experience of affective tones and colours. This leads, by degrees, to higher-level capacities, such as thoughts, feelings and so on, which then become part of the power of what are considered to be "impure" instincts. This suggests that pure instincts form the basis for further cognitive developments beyond that of low-level states; from minimal to greater and greater levels of conscious discernment and sophistication. Pure instincts are the initiators of the growth of experience in Mitchell's account, and impure instincts are the result of this growth. On this account, despite the differences in terminology, Mitchell's story seems indistinguishable from that of the empiricists Locke, Hume and Berkeley, for whom "impressions" give rise to "ideas". [27] However, as we shall soon see, this is a misleading and superficial comparison.

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[26] SGM , p. 107.

[27] Sometimes Mitchell sounds very much like he has this kind of empiricism in mind: 'the course of development ... of the object as it is thought, beginning with a merely sensory object and proceeding to such abstract objects as are occupying us at present'. SGM, p. 194.

4.2 Instincts and Directive Sensations

Indeed, things are not so simple, for there is also a relationship of dependence between sensation and his notion of instinct. Mitchell also claims that 'experience is the growing point of instinct'. [28] In a very obscure passage, Mitchell points out the relationship between instincts and sensation:

> The course of instinctive action is a course of sensation necessary to directing the action. This is apparent when a difficulty presents itself, and especially when the animal pursues an elusive prey. And this again is so usual that, instead of saying the instinct is being thwarted, we may say that it is the power of pursuing an infinite variety of course, directed throughout by present sensation. The directive sensations need no selecting, no borrowing of interest from an end in conscious view; they are as integral a part of the instinctive mechanism as the factors that are not felt. [29]

What can be meant by such confusing comments? The key to this, I think, is to recognise, again, that for Mitchell "instincts" are not fixed, endogenously-specified behavioural patterns of the kind described earlier. Rather, they are the product of the directive course of sensations; they are *tendencies* which arise from the incoming flux of an organism's available sensory inputs. They are not programmed, but flexible. Animals certainly do pursue courses of action for survival needs: they pursue prey, avoid irritation, seek pleasure, and so on. The reason for this may be biological drives of various sorts (this is the meaning of "instinct" in the usual sense, but not Mitchell's meaning).

However, for Mitchell, this is not the thing that is most interesting: what is interesting is that this seeking behaviour gives rise to certain sensations. Once commenced upon, the course of sensation takes on a pattern and a direction until it is satisfied—a kind of responsive, non-programmed, yet directive behavioural engine. For example, a dog snaps

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[28] SGM, p. 194.
[29] Loc. cit.

at an irritating fly. [30] When this pattern is "thwarted" by some means, the course of sensation nonetheless continue to seek satisfaction. It is this tendency which is the "instinct" for Mitchell. It is neither a fixed, nor necessary part of the dog's behaviour; and it doesn't *drive* the sensations as much as accommodate them. Once the sensations commence, the instinct continues its course until satisfaction. It is only when "thwarted", when say, an animal is chasing an elusive prey, that the course of sensation (the instinct) is most palpable and obvious. Were it not interrupted, it would continue unnoticed as a series of unnoticed, yet directed, sensations. Mitchell refers to this sense of "instinct" using the elliptical phrase: "the power of pursuing an infinite variety of course, directed throughout by present sensation". Both the directive sensations and the course of those sensations—the instinct—are thus intrinsic to the directed action and interdependent: Just as the sensations depend on the course, the course, in turn, depends on the instinct.

This qualification makes Mitchell's account very unlike that of the empiricists and much more like that of a present-day dynamic process theorist. Unlike the British empiricists, it wasn't a simple matter of the influx of "impressions" imprinted on the mind, and then formed by association and built up into fully-fledged "ideas". Later we shall have reasons to see Mitchell's distinction between directive sensations and instincts to be compatible with a very contemporary dynamic quasi-Piagetian account, which extends the paradigm of Fodorian cognitivism (see below **§6.2.1**).

Another important thing to note is that Mitchell thinks that the power of directive sensations on instinct is independent of the tendencies of both *habit* and *changes in personal taste* (for example, one's growing and maturational preferences for certain foods, like olives, yogurt or tobacco). On the former tendency, he notes specifically the importance of the power of habit formation for the course of experience (see Chapter 7

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[30] SGM, p. 193.

§8.1, 8.2), but claims that this plays no part in 'the power of making new thought and other experience by reason of the old' (i.e., it is a function of the course of experience and not, strictly speaking, its growth). On the latter tendency—the changes in taste—Mitchell makes a distinction between: a) 'natural ... spontaneous growth of the mind ... apart from experience, when for example, we are asleep'; and, b) 'growth by means of experience'. [31]

What he has in mind here is a distinction between a programmed pattern of growth of cognitive preferences in certain things—"mere physical growth"—as opposed to the kind of change brought on in response to receiving various sensory inputs. This distinction again stresses that Mitchell is not sympathetic to a high degree of endogenous specification and that he had in mind a more dynamic interchange between the development and growth of mind and the incoming flux of sensory impressions. Partly, one's capacity to experience is endogenously specified; partly, it is not. I shall return to this important issue later in the chapter.

4.3 Instincts and Growth

We have considered the issue of pure and impure instincts and seen the influence directive sensations have on instinctive action. We have seen that the seeking behaviour or instinct, for Mitchell, is the spur to experience. But for now let us consider two questions: 1) why do experiences grow?; and, 2) what, according to Mitchell, makes them grow?

To the first question there is a simple answer in Mitchellian epistemology: experiences grow because a) they are useful; and, b) there is a fundamental need of organisms to give *meaning* to their sensations (again, this refers not to semantic meaning, but to a notion of a power to anticipate).

It is from this growth that everything else follows: full-blown knowledge and beliefs, language, and abstract conceptual thought. Thus, in Mitchell's account, it is not the

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[31] SGM, p. 195.

ontological issue of the nature of mind and experience that is interesting, it is their *growth.* The Kantian question of how experiences are possible, and the contemporary issue of the *sui generis* nature of mental states and properties vis-á-vis brain states, is subordinated in Mitchell's account to an account of how growing experiences form the epistemological structure they do. Again, the pre-eminent question for nineteenth century metaphysicians such as Mitchell was not what experiences are, but what they do and how they do it.

As for the second question, we have already seen the answer. For Mitchell, experiences begin with a simple need to avoid painful and seek pleasant stimuli, and turns—by directive sensations and the involvement of instinct—into the rich tapestry which we know as the course and structure of our mental capacities. Moreover, these capacities are as variable as the organisms which, by degrees, are sophisticated enough to exercise them:

> The experience of every creature begins with those instinctive courses of pleasant and painful sensations of which I have spoken. From this common starting-point every creature makes some advance if, as we assumed, its experience must be of use. But it never has more knowledge of nature than is afforded by the number and acuteness of its senses. Its whole progress in knowledge is the organising of the data thus brought to it, and consists in giving them meaning. The more it gives, the better that grasp on the situation which we call knowing it. The scope of its intelligence is found in answer to the questions, What things it thinks, and How far it thinks them.[32]

As we have seen in a previous chapter, "intelligence" is understood by Mitchell as 'the means by which instinct develops at its conscious points'. [33] It does not necessarily mean the highly sophisticated ability to reason and form abstract thought, though this is one kind of "intelligence". Rather, it is used in the general sense of content at various levels of sophistication. The issue of the growth of experience and its dimensions is thus a question of the extent to which various organisms limit experience into meaningful wholes and how far these wholes can be taken in the service of each organism's needs and capacities. It is,

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[32] SGM, pp. 195-6.

[33] SGM, p. 196.

in other words, an exercise in *philosophical psychology:* i.e., mapping the extent of one's conceptual capabilities in service of the psychological requirements of the organism, as it confronts incoming sensations—the "organising of data thus brought to it".

The organisms considered in the analysis are mainly humans, of course, but the question of the growth of animal minds is also included in Mitchell's analysis, as we shall see. For Mitchell, there is not an enormous distinction to be made between the capacities of various animals. For him, it is a difference in degree, not kind. [34] This is not to say that Mitchell thought there to be no significant reason to distinguish the abilities of humans and other animals: on the contrary, he is quite clear that animals exhibit "invincible stupidity" at some levels: especially, the 'poor ability to compare, reason, have ideas of relations, or any abstract ideas'. [35] However, this is not to say that he takes this to the extremes that some contemporary theorists are prepared to take it. Contemporary theorists like Davidson, Stich, Bishop, and others essentially follow the Cartesian tradition where animals are understood as mere "automata", and unable to have beliefs or thoughts of any kind. [36] Mitchell's account of animals is rather more generous. His view is the plausible one that any difference of capacities in animals and ourselves should be understood in terms of a continuum:

> [I]n considering the intelligence of animals, our concern is not the traditional one of marking a line between it and our own. What we should like, is to examine the continuous growth of the early and simple forms of intelligence and the degrees of retardation and arrest. [37]

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[34] He states this explicitly, see SGM, p. 196.

[35] SGM, p. 196.

[36] See, P. Carruthers, (1998), 'Animal Subjectivity', *Psyche,* 4 (3); and P. Carruthers, (1996), *Language, Thought and Consciousness.* (1996). For similar Cartesian sentiments see: A. Townsend, 'Radical Vegetarians,' pp. 85-93; S. Hampshire, *Thought and Action,* esp. p. 97. For a statement of Descartes' views and an attack on them, see J. Cottingham, 'A Brute to the Brutes?: Descartes' Treatment of Animals', (1978): pp. 551-559.

[37] SGM, p. 197.

Elsewhere, Mitchell makes it clear that his analysis, while speaking of "levels" of different forms of intelligence, does not mean that the levels indicate discrete, segmented capacities with boundaries in between (again, he was not interested in a Piagetian-type approach):

> I have spoken of grades, levels, and even a ladder of intelligence, in order to mark the distinctive character of its higher achievements. But the words must not mean that there are gaps in the course. For the course is continuous from lower to higher grades for those who make it. [38]

This understanding has limits, however. Understanding that there is a continuum in nature is not the same thing as understanding different levels within it. Mitchell notes that the stages between the different levels of intelligence are 'hard to mark',[39] and this for essentially three reasons: 1) Transitions between the stages themselves are very likely to be continuum-like (as just noted above); 2) The stages of intelligence cannot be easily isolated 'from other gifts'; and 3) The stages of intellectual progress are sometimes beyond our understanding because the kinds of experiences in question are simply inaccessible to us.

This last point is especially significant. As early as 1907, it seems, Mitchell noted the importance of the point that the sense-organs used by other animals might create problems of explanatory closure (a point which puts Nagel's query—some 70 years later—about "what it is like to be a bat" in some kind of historical perspective).[40] Mitchell's view on the issue of explanatory closure clearly preempts Nagel's famous problem:

> ... it is not easy to compare different species with one another, or with ourselves, until we allow for their different interests, the difference of acuteness in their senses, the different senses on which they rely, and the difference in their organs for manipulating things. [41]

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[38] SGM , p. 219. He is insistent on this point. Elsewhere: 'The threefold division [sensation, perception, conception] ... does not imply that the end of a period puts an end to the kind of intelligence than characterises it.' SGM, p. 218.

[39] SGM, p. 197.

[40] Thomas Nagel, 'What is it like to be a Bat', in *Mortal Questions,* (1979).

[41] SGM, p. 197-8.

And, as he well understood, understanding all this is an epistemological tall order. As mentioned elsewhere, snakes apparently "see" heat, owing to the presence of pit organs which detect UV radiation. [42] How are levels of intelligence in such creatures to be reliably understood when they are so clearly physiologically different from ourselves?

Despite such difficulties, there might be a means of understanding the continuum and growth of intelligence by means of spelling out the phases of the growth of the mind. This, at least, was the optimistic approach of the nineteenth century metaphysicians. As the mind is to be understood in terms of its "capacity to experience", it is necessary to concentrate on a fine-grained phenomenology of experience in order to do the job. This can be done, even if full explanatory closure may not be achievable. But, even so, this is a useful exercise: comparisons can profitably be made between various creatures and their stages of growth, and between various stages in human intelligence, though it might not follow that we can make reliable judgements about which animals are more intellectually sophisticated. Mitchell is decidedly wary about the possibility of any objective comparison on this score. [43]

However, some comparisons and contrasts can be made, and by this means, we will best understand the capacities of the mind, and be able to infer its internal order, structures and limits. Just as we discern, with some degree of accuracy, interstellar activity and the nature of universal time-scales (the likely time of death of stars, for example) by means of reliable inferences from our own insignificant position in the Milky Way, so too we can discern the stages of growth of the mind by means of inference from present phenomenological

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42 See E. Newman and P. Hartline, 'The Infrared "Vision" of Snakes', *Scientific American,* 246, March, (1982), pp. 98-107; see also, C. Peacocke, *Sense and Content: Experience, Thought and their Relations,* (1983).

43 '[I]t is by no means to be presumed that the intelligence of different species accords with their natural kinship, and it does not follow that, the higher placed an animal on the tree of life, the more knowledge it must have, and the more wisdom to keep its estate. The hunted may have more wisdom than the hunter; ... Anyhow, no one at present would confidently arrange the different species of animals on a ladder of intelligence, far less try to make a tree of it'. SGM, p. 198.

observables—of both ourselves and other animals. It is to this task that Mitchell's opus is devoted.

Just as animal and human intelligence is to be understood as occurring along a continuum in nature, so intra-level human "intelligence" should be understood in similar terms: i.e, as a progression from one level to another: '[W]e too have to make progress from the simplest beginnings', he notes. [44] Not all human intelligence is at the same level, just as not all animals are equally "intelligent". It all depends on the stages of our "growth". One adult is more intelligent than another; one person's intelligence is more sophisticated at certain times than at others; a child is, by degrees, less intelligent than older children and adults—and so on. In words that bring recognition to most parents, Mitchell notes:

> Our intelligence passes from level to level; at every stage our young are relatively stupid compared with their later attainment, and they are often absolutely stupid to some piece of thinking or appreciation which one may expect from them, but may try in vain to make them experience. It is a familiar question in teaching animal, child, or adult: What can be done to a stupid thought to make it more intelligent? [45]

As we shall see, Mitchell's analysis of the growth of experience provides some answers to this question.

4.4 The 'Niggardly Spirit of Nature'

We need now to return to the question of experience to see where Mitchell stands on the question of innateness.

We need care in framing the issue about the importance of experience to Mitchell's analysis. Unlike most of the metaphysicians writing at the time, Mitchell did not overstress the importance of experience *qua* experience for an adequate understanding of cognition.

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[44] SGM, p. 197.
[45] SGM, p. 196.

For him, it is not the case that our experiences are so important that they are foundational to any metaphysical inquiry about mind and content. Nor, however, are they entirely inessential, as some contemporary materialists (eliminativists) believe. Phenomenological observables are an important part of answering the question about the "brain and its workings", because they are naturally part of the question of the nature of mind. But they are not *necessarily* a part of it, they are contingently a part of it only. Things might have been otherwise. Indeed, Mitchell claims that phenomenological observables are not necessary conditions of a capacity to experience things at all. We didn't have to be in possession of our *particular* sense organs, just as we didn't have to go through the process of learning and growth of intellect that we do. We might have been programmed by instinct far more than we are. Mitchell recognised this point very early:

> We might have had instincts that should require the learning of knowledge as little as the innate geometry of the bees, and the learning of morality as little as their spirit of self-sacrifice. And, even if the knowledge of principles is better than instinct, it may seem that our intelligence might have been given a better start in instinct. [46]

We need to be reminded again just what "instinct" means for Mitchell. He meant the capacity to pursue a course of experience.[47] This passage indicates that Mitchell was entirely flexible about the means by which courses of experience were to be achieved. Conscious experience itself is not a necessary carrier of this content, though it might have done so by default. It is a contingent carrier only. Were Mitchell to have taken this point through to its extremes, he might have considered the point, later made famous by P. K. Feyerabend, that experience, while useful, is not necessary, even for "courses of experience" where it seems to be essential; for example, in the practice of science. [48]

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[46] SGM, p. 198

[47] SGM, p. 194.

[48] P. K. Feyerabend, 'Science Without Experience', in *Realism, Rationalism and Scientific Method,* (1981).

But he didn't consider this as an option. Mitchell would not have followed Feyerabend's path, for a number of good reasons. If phenomenological observables were really non-necessary for experience, it would also imply that nature must have made things easy for us by other means. Ruling out the importance of phenomenological observables automatically stresses the necessity of liberal endowments from nature. Endogenous hard-wiring would become critically important if experience became unimportant or unnecessary. In these imagined conditions, we would not have needed to experience, because all intelligence required to carry on one's life would, in Mitchell's terms, be 'brought all the way'. [49] This is what is meant by the claim: 'intelligence might have been given a better start in instinct'. [50]

But patently, nature did not make things easy for us at all; it did not "bring things all the way". The argument to the conclusion that experience is inessential and non-necessary is therefore wrong-headed, according to Mitchell, because it does not apply to the biological world we live in (though, as he implies above, it might apply to another *possible* world). However, we were simply not pre-programmed with the kinds of knowledge, innate geometry and learning that are required for dealing with the course of everyday existence. This is a story that doesn't apply to us, though it may apply to less sophisticated creatures, as we shall see. Instead, the state of our minds displays what Mitchell calls 'the niggardly spirit of nature'. [51] By this he means the frugality of the way in which our biological inheritance has prepared us for living. It has given us very little to commence with. A child that is just born has very few of the "principles" required for living; it has no innate geometry, little sense of space and time; little focussed phenomenology: a "blooming, buzzing confusion", as William James put it. But why is this so?

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[49] SGM, p. 199.
[50] SGM, p. 198.
[51] SGM, p. 199.

The answer is simple, according to Mitchell. There is an *inverse* relationship between instincts and the sphere of our conscious activity. We are complex creatures, and require conscious activity to have complex, open-ended courses of experience. Were the courses of experience already presented to us by nature in the form of innate capacities, we would have fewer experiences, fewer choices, and fewer distinctions and discriminations to make; i.e., our courses would be close-ended. This is tantamount to having less, not more, phenomenological experience. As he puts it: 'Conscious distinctions would be useless, and every want of distinction is an extinction of consciousness'. [52] Were it the case that nature endowed us with everything required, there would be "want of distinction". We would have everything we need to do the job of any human activity: seeking, finding, perceiving, writing poetry, playing chess, and so on. But this would automatically bring about fewer possible courses which experience could take; it would bring about the "extinction of consciousness", of which Mitchell speaks. And, if anything is clear about the development and growth of human cognition and human phenomenology, it is that consciousness has few bounds.

Philosophy and the progress of the sciences are an instance of this. Were we endowed with an *a priori* grasp of the kinds of distinctions and subtleties needed in understanding and pursuing such activities, both of these activities would probably never be undertaken. But we are never satisfied with the distinctions and discriminations we make. And this is true of art and life as well: a poet always finds more room for interpretation; a painter always sees new colour and light combinations. All of us seek endless enhancements of sensory experience. It is the destiny of a "lavish life" that we are experientially fated (fortunately!) to pursue. And, it is nature itself which, according to Mitchell, mediates the

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[52] Loc. cit.

inverse relationship between acquired instincts and the limitless scope of our conscious experience:

> Always we find that nature is a niggard of inherited finality in faculties, in proportion as it is lavish of a fuller life for them. The wider the sphere of activity, the more need that we should form our own thoughts, and walk in understanding of the system of things. [53]

This ability to pursue a "lavish life" and "walk in understanding of the system of things" is simply a matter of the kind of creatures we are, and a function of the growth of our experience. Paradoxically, we are biologically primed to be like this, because nature has made us *less* well-endowed with instinct. Less sophisticated creatures are primed with considerably more instinct and, by the inverse rule, the growth of their experience is limited. Most other animals have immediate concerns: finding food, shelter, mating, and so on. It is to be expected that evolution primes them to deal with these needs quickly and efficiently. But the causal direction of these influences is what is in question here. Do simple survival needs bring about a simple range of experiences? Or are the simple experiences a causal result of the kinds of limited endowments allowed by nature for an organism's survival? Mitchell's claim is that the second is true: the growth of conscious phenomenal experiences is a function of the degree of endogenous specification allowed in different organisms.

Annette Karmiloff-Smith has recently made the same point in relation to her critique of Fodorian modularity theory. She puts it in terms of a challenge to innatists to explain how the rich development of cognitive processes can arise given the restricted, domain-specificity required by modules:

> Whereas ... fixed constraints provide an initial adaptive advantage, there is a tradeoff between the efficiency and the automaticity of the infant's input systems, on the one hand, and their relative inflexibility, on the other. ... *The more complex the picture we*

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[53] Loc. cit.

> *ultimately build of innate capacities of the infant mind, the more important it becomes for us to explain the flexibility of subsequent cognitive development.* [54]

The contrast in the flexibility of cognitive development between humans and other animals cannot be starker than when one considers less sophisticated creatures engaged in a simple activity. Sometimes their activities are so simple, they cannot be seen for what they are; they are often, therefore, interpreted anthropocentrically, as when, for example, we see 'sadness of reflection in the eyes of a ruminating cow'. [55] But this kind of analysis is mistaken. We must see animal experiences for what they are: unsophisticated attempts to pursue minimal experiential courses in order to satisfy simple needs. The animal has little knowledge of what it does beyond the simplest things. It doesn't understand space and distance relationships initially, but follows an instinctive course which is hard-wired. Mitchell brings out this point using the example of a chick using its beak to peck for food:

> When a chick without any experience proceeds to peck at small objects with fair exactness and the right measure of strength for the distance, we may say that it is born with a sense for its food and a sense of space, but we are apt to add a knowledge to the senses that is not there. The chick pecks at things on sight, finding the same attractiveness in, I suppose, their distinct outline and size, that is more usually felt for brightness and colour. The attraction brings it so far to its food, and at the same time presents a narrow world for intelligence to master, viz. to complete the right selection of what is to be pecked, and to complete the skill in doing it. ... [T]he chick no more feels a measurement of distance and direction at the start, than it must first have knowledge of its beak before opening it to fit the size of several objects. [56]

One final point needs to be made before turning to the stages in growth that Mitchell outlines. Mitchell says that: 'in considering the growth of intelligence we are concerned mainly with the growth in knowledge and conduct'. [57] Thus, growth is associated not just with organising one's sensory inputs or proximal data, but with *learning* to make further

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[54] A. Karmiloff-Smith, Beyond Modularity: A Developmental Perspective on Cognitive Science, (1992), p. 9.

[55] SGM, p. 14.

[56] SGM, p. 199.

[57] SGM, p. 192.

discriminations, based upon that organisation. Knowledge and conduct, of course, imply learning. Thus, in the terms of his analysis, it is not simply a matter of the scope and range of experiences *simpliciter.* It is also, importantly, a matter of conceptual advancement by means of learning. For Mitchell, experiences are only valuable to the extent that they are of use, and being "useful" is a pragmatic notion, underpinned by the organism's capacity to learn from its experiences and make intellectual advances based upon this learning. It is to this growth of knowledge and conduct, this 'growth of our power to grasp', [58] to which we shall now turn.

5. The Nature of Sensory Intelligence

According to Mitchell, the "growth of our power to grasp" is the result of three main levels or grades of intelligence: the *sensory,* the *perceptual* and the *conceptual.* He is clear that these divisions are not to be understood as entirely separate in character, although they do arise from each other in something like a linear or ordinal sequence (i.e., the perceptual arises from the sensory; the conceptual from the perceptual, etc). Nonetheless, at each level 'the lower grades are not left behind'. [59] This will be an important point to emphasise later, as it enables us to contrast Mitchell's account with that of more contemporary accounts.

The first level of growth is that of *sensory intelligence.* (We shall see the other stages in the following chapters). This is marked, according to Mitchell, by the feature of *comprehensiveness.*

5.1 Economy and Comprehensiveness

The first thing to recognise about the role of sensory intelligence is that it functions as an economiser of perceptual information received: 'every thought economises the thoughts

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[58] SGM, p. 201.
[59] Loc. cit.

that it involves'. [60] According to Mitchell, this can be seen in the way that animals can tell by means of a "sound or sight" when to anticipate an experience of some kind—perhaps, one which might have survival implications (e.g., warning of danger). There is certainly some truth in this claim. Animals, including ourselves, do not have to relive their familiarity with such experiences in order to react in appropriate ways to them. For example, we continue to undergo unconscious physiological changes in the presence of red objects, most commonly associated with biological dangers (e.g., poisonous foods).

But this anticipating role is not confined to the low-level experiences. Mitchell recognised this fact. Anticipation is also seen in the function of our common sense notions, on which we rely daily: 'Our own common sense notions anticipate things on a larger scale'. [61] According to Mitchell, this is as true of what is now known as "folk psychology" (i.e., the network of common-sense epistemological assumptions we share) as it is of the common-sense assumptions of science. In words that demonstrate a considerable Kantian influence, Mitchell notes that scientific theories function not simply to *explain* the relationships between the things we experience, but to make *manageable* what we experience. Without theory, the flux of our everyday experience is chaotic and disorganised:

> The value of a scientific theory is that it can prophesy or, if there is nothing to prophesy, that it turns a chaos of detail into the manageable grasp of a systematic connection. [62]

But it is not simply science or high-level scientific theory that achieves this end. Were this what Mitchell believed, his position might be indistinguishable—in this point at least—from a Kantian perspective. Kant, of course, stressed the importance of the *a priori* categories in bringing about the organisation of the "manifold of intuition" (i.e., sensory

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[60] SGM, p. 200.
[61] Loc. cit.
[62] Loc. cit.

experience). However, very much in the Cartesian tradition, he ignored the somewhat lesser sophistication of animals in achieving similar ends. Kant's account involved the imposition of such sophisticated categories as Euclidean geometry, and so on; but it did not consider the means by which unsophisticated animals might achieve integration of the sensory manifold.

Mitchell's view is somewhat more generous. He recognised that any means, by which an animal can achieve systematicity and comprehensiveness, is a legitimate means by which knowledge and understanding of experience can be gained. And, to some degree, every animal has this ability in varying degrees of sophistication:

> The grasp of a part is to some degree, therefore, a grasp of a whole to which it claims to belong. This is the case not merely in such distinguished parts of knowledge as, for their exactness and comprehensiveness, we call scientific; it is realised by the animal that grasps any little connection of detail, and expects it to hold good again, as well as by the metaphysician who seeks to lay his hand on the system of things as a whole. Not only scientific truth, but every *ratio cognoscendi,* down to the barest expectation of a coming sensation, is so far a knowledge of the world, and it makes it a less chaotic and incalculable place to live in. [63]

This ability to have "expectations" about one's incoming sensations is the first stage in 'the growth of our power to grasp'. [64] And, the aim of this ability is to bring sensations into comprehensive and economical alignment with our existing beliefs and anticipations: 'Every word, not merely every class name, denotes a group of some kind, every sentence a connection. Every mathematical table, every equation, principle, and rule, is but to give us an easier, and at the same time a more comprehensive grasp of the system of things in which we live'.[65] Clearly, Mitchell thought that both sophisticated and unsophisticated experiences were united by the features of economy and comprehensiveness.

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[63] Loc. cit.
[64] SGM, p. 201.
[65] Loc. cit.

Sensations thus involve the 'lowest degree of recognition and expectation'. [66] However, they are also crucial for performing more sophisticated mental feats. Mitchell's claim is that at each stage there is growth to the next in a manner which does not leave behind the earlier stages. But what are the precise stages of this process of growth?

5.2 The Stages of Growth of Sensation

At first, recognition requires stimulation of what Mitchell calls the *special sensations* and the *organic and motor sensations.* The first are 'those whose end organs are stimulated from without the body'; the second are 'those whose end organs are stimulated from within the body, e.g., the sense of balance'. [67] The special sensations clearly equate to what philosophers now call "proximal stimulations"; the organic and motor sensations are known in the physiological literature as different kinds of *proprioception.*

5.3 The Four Developments of Sensation

Mitchell isolated four clear stages in the development of sensation: Firstly, the qualities of the special sensations are 'shaken apart' [68] from each other; our organs of sense causing this to take place. This enables a distinction to be made between types of experience from different modalities (e.g., "blue" and "loud"). Secondly, differences in modality are distinguished within responses from the same sense organ (e.g., the difference between "blue" and "green"). Thirdly, aspects within each sensation are distinguished (e.g., "shape and tint and intensity"). Fourthly, there occurs an integration of the different features of the sensory information into different combinations. 'With these analyses there goes a better synthesis: new wholes of sensation are developed, e.g., the sense of balance, of space, of

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[66] SGM, p. 202.
[67] Loc. cit.
[68] SGM, p. 203.

time, of rhythm, of melody'. [69] The aim of this differentiation and synthesis of sensory intelligence is a 'greater definiteness' [70] of experience. We shall discuss the progress of higher levels of growth in the following chapters.

6. Three Central Questions about the Growth of Experience

Mitchell notes that there are three central questions, which need to be asked, regarding this process of differentiation, synthesis and growth: 1) how is sensory intelligence connected with instinct?; 2) how is sensory intelligence affected by higher intelligence?; and 3) what are the limits of sensory intelligence without higher intelligence? In light of the forgoing discussion, these questions are easily answered.

6.1 How is Sensory Intelligence Connected with Instinct?

The idea of the inverse relationship between instinct and the capacity of growth is central. Mitchell notes that there is less influence of instinct in the case of animals which have fewer of the definite movements that come from hard-wired responses. An animal which learns little through the course of its life achieves most naturally in the initial stages of life; an animal which has the capacity for learning a great deal takes initially longer to achieve simple tasks (he cites the example of being able to balance oneself, which takes far longer for mammals than for reptiles). So the first thing to note about instinct is that it is inversely proportional to the sensory feats achieved in early life.

The second thing to note is an implication of the above: namely, that the more skills which are achieved later in life arise from this initial instinctual deficit. Learning, in other words, is a result of 'completing and pointing of the imperfect instinct'.[71] Instinct is thus also part of this process of completing and directing instinct. Without the capacity to learn,

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[69] Loc. cit.

[70] Loc. cit.

[71] SGM, p. 203.

we make no progress by means of instinct; but without some degree of instinct no learning is possible.

Thirdly, the degree of inherited sensory intelligence is the foundation of later growth of experience for those organisms which have the capacity to learn. There are two important features involved in this process: the tendency to *greater definiteness* of sensations and the tendency to *avoid dissatisfaction* in sensations. The influence of instinct on sensory intelligence ensures both. Greater definiteness is brought about by the organism initially adopting 'sprawling and awkward movements' [72] and the 'vague synthesis already given in every mass of sensation'. [73] Both are gradually refined by use and practice of the sense organs (as we have seen, for example, in learning to walk, to focus, or to speak). Avoiding dissatisfaction, on the other hand, is another dimension to the process. This is achieved by means of attempts to *improve* the synthesis of one's present sensations, not merely to refine them. This improvement is brought about by the causal dependence of "satisfaction" of sensations on seeking and learning at higher epistemological levels. Mitchell clearly thinks that it is instinctual satisfaction-seeking which drives the process of sensory growth and change:

> If I turn my head to get a better look at a thing, if I take it in my hand, if I sniff at an odour, or pay attention in any way, it is always, of course, because I am dissatisfied with my present experience. An animal in pain bestirs itself with the same reason ... Every inquiry we make, all our seeking, is a token of dissatisfaction, without which there is no seeking. [74]

Seeking behaviour thus arises from sensory dissatisfaction. And seeking is made manifest in a number of ways, all of which can be seen in the way in which people conceive, plan,

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[72] Loc. cit.
[73] SGM, p. 204.
[74] Loc. cit.

conceptualise, respond and meet new challenges. Moreover, seeking can be found in the variety of practices found at all levels of human endeavour:

> We have illustrations everywhere: on the one hand, in the fixity of custom among primitive communities, in the easy assurance of superstition, in the arrogance of common sense, in our general mental sloth and willingness to rest; and on the other hand, in the shock of novelty, in the rousing force of circumstances, in the unsettling effect of unexpected problems, and in the general fact that as knowledge, taste or conduct develops, there comes a more exacting demand on the solutions or synthesis that will give satisfaction. [75]

Like us, other animals have to learn from "tumultuous effort" and by "making adjustments" in directing their sensations to various ends. One's sensations are perfected by means of practice and the involvement of instinct; in particular, seeking satisfaction and greater definiteness. Thus, sensory intelligence is connected with instinct in three main ways: a) instinct determines the nature of sensations in early life (by means of the inverse rule); b) instinct determines the potential capacities of later intellect; and c) instinct brings about this later growth by means of the organism seeking satisfaction and greater definiteness of its experiences.

6.2 How is Sensory Intelligence Affected by Higher Intelligence?

Mitchell thinks that the role of higher intelligence in this process is to 'supply a spur that would otherwise be wanting'.[76] For humans, and other sophisticated animals, every experiential process or capacity has an aim influenced in some way by higher intelligence. Even the sense of balance that we acquire has an end in view (e.g., the need to stand up), but so too do the delicate capacities and fine-grained refinements of our motor responses:

> Consider the precision which an instrument like the hand can attain as the organ of, say, a juggler's or a musician's purpose. Or consider the adjustments that control our voice,

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[75] Loc. cit.

[76] SGM, p. 205.

> how closely a child learns the intonation of the people about it, and how a singer brings her voice to something of the same delicacy as her ear. [77]

But what is the nature of these "adjustments"? How precisely do sensory experiences bring about these experiential ends? Our conscious purposes might influence how we sense things, but the exact nature of this influence is a matter of considerable debate.

Mitchell's discussion here is really a nineteenth century version of the current debate about "top-down" versus "bottom-up" perceptual processing, an issue which has received much attention recently in the cognitive science literature. The central issue here is the relationship between the fixed, endogenous and domain-specific features required for perception, and the extent of the influence of higher-level "executive" cognitive capacities on these domain-specific perceptual units. The main questions raised are these: Are perceptual capacities penetrated throughout by means of higher level cognitive capacities of the central processing unit (so-called "top-down" processing)? Or at some level does low-level *encapsulated* modular processing occur, which is "relatively permanently constrained by general features of its ... cognitive architecture" (to paraphrase Fodor's view given at the beginning of this chapter)? The latter account—*modularity theory*—is compatible with the obvious speed and accuracy with which certain responses are achieved in cases of, for example, speech tracking (or, Mitchell's own example of learning intonation patterns).[78] The former account—"top down" processing—is compatible with accounts whereby processing is achieved by means of prototype matching of the current state of an organism's sensory awareness with rules and computational routines which it may have previously stored. Both views are plausible, but which is the more accurate account?

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[77] Loc. cit.

[78] For speech tracking experiments, see Fodor (1983) op. cit., p. 61. Source of reference, W. Marslen-Wilson. 'Speech Shadowing and Speech Perception' (1973).

Mitchell clearly argues for a limited role of higher-level processing. Thus, he can be seen to be sympathetic to both the "top-down" and the "bottom-up" camps, but stressing neither has a primary role. He claims, for example, that in most cases of perceptual processing, conscious deliberation does not completely dominate, but rather merely provides a guide for later processing: 'the conscious purpose in every case only applies the spur', he claims. [79] This ensures that there is not complete saturation of sensory experience with higher-level capacities. For were there more than "only a spur", then Mitchell argues (with reference to our ability to quickly learn intonation patterns) that 'we might all be great singers ... and skill of any kind would come according to our diligence'. [80] Clearly, this doesn't happen. The ability to *sense* things is not entirely amenable to our conscious purposes. We may want to be great singers but practice clearly *doesn't* make perfect, no matter how well we control our intonation patterns. Put in contemporary terms, there is incomplete penetration of sensation by means of higher-level cognitive capacities—cognition doesn't go all the way through. There are some things which seem thoroughly impermeable to the influence of our conscious purposes. Fodor provides some clear examples of this:

> You can't help hearing an utterance of a sentence ... as an utterance of a sentence, and you can't help seeing a visual array as consisting of objects distributed in three-dimensional space. Similarly, *mutatis mutandis,* for the other perceptual modes: you can't, for instance, help feeling that what you run your fingers over is the surface of an object'.[81]

However, Mitchell was clearly less persuaded by apparently impermeable modules and drew a different conclusion about their origin. He seemed to argue for the phenomenon of hearing utterances as being a function of *learning:*

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[79] SGM, p. 205.

[80] Loc. cit.

[81] J. A. Fodor, Modularity of Mind: An Essay in Faculty Psychology, (1983), p. 53.

> Without any special expertness, every one of us perceives by seizing aspects that we could not seize without a conceptual handling of them in the past. The prominent and the typical example is our hearing voices as words and sentences, and not as the babble of sound in which we once heard them. [82]

This point shows, perhaps, where Mitchell might stand on the debate in its present form: domain-specific perceptual modules, if they exist at all (and there is substantial *prima facie* evidence they do), might be *insulated* rather than encapsulated; or encapsulated to various degrees (i.e, not permanently, but *im*permanently constrained by the modular "architecture"). On this kind of story, perceptual processing is not entirely "bottom-up", but nor is it exclusively "top-down". The information they provide consists in their being "spurs", rather than entirely executively-driven epistemic directives.

A related issue is the open-ended constructivism required in order to renew experience in response to interacting with changing environmental circumstances (see Chapter 7, **§3.2**). As we have seen, Mitchell is sympathetic to this influence on sensory experience. This account has recently been defended in detail by Annette Karmiloff-Smith.[83] Called a "developmental perspective on cognitive science", it argues that modularity theory must be supplemented by domain-general Piagetian constraints. We shall very briefly look at this account now.

6.2.1 A Modern Developmental Perspective, Karmiloff-Smith

Karmiloff-Smith presents an alternative to the Fodorian orthodoxy of innately-specified, domain-specific modules. Her account differs from Fodor's on three counts: 1) she draws a distinction between pre-specified modules and what she calls the *modularisation* of perceptual processes (the latter occurs as the product of cognitive development); 2) she claims that evidence for modularity is *consistent* with an account in which modules are,

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[82] SGM, p. 295.

[83] A. Karmiloff-Smith, op. cit; See also, 'Beyond Stupidity', T. Dartnall, *Metascience,* 11, New Series, (1997), pp. 141-147.

over time, progressively selected for different domain-specific computations; and 3) she accepts that the brain is plastic to some degree and functions to 'constrain classes of inputs that the infant mind computes'. [84]

I shall have more to say about modularisation in Chapter 10. The point for now is to note that there are different ways of reading the evidence for modularity of perceptual processes. This is fortunate, because it is not clear that an innatist theory, such as Fodor's, can capture all the facts of human cognition. But, equally, it is not clear how a domain-general, constructivist account, such as Piaget's, can do so either. Neither account, according to Karmiloff-Smith, is adequate on its own and a combined position is the only option. Her hybridised account preserves the idea that there are innate tendencies, yet rejects innatism and makes these tendencies subject to developmental and experiential constraints.

What are the problems for a strictly innatist view? One major problem for Fodor is the issue of how the brain can compute stimuli from sources other than its various domains. Fodor's innatist account does not permit cognitive development. [85] However, being limited to domain-specific inputs makes it hard to see how the brain can overcome damage to modules and selectively adapt to receive other stimuli (for example, when auditory stimuli cannot be processed in the case of the congenitally deaf, visuomanual stimulation can be processed in its place). The evident *plasticity* of the brain, in being able to respond to limitations in its hard-wiring, suggests that, though there might be innate tendencies to respond in certain ways to stimuli, this doesn't mean that the organism remains fixed to those capabilities. As noted earlier, if domain-specificity and innatism are accepted, it is unclear how the *flexibility* of cognitive processes can be explained.

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[84] Ibid., p. 4.

[85] Fodor denies the existence of cognitive development in his (1985), 'Précis of The Modularity of Mind', *The Behavioural and Brain Sciences* 8, p. 35.

What are the problems with Piaget's constructivism? In contrast to Fodor, Piaget's theory accepts very little in the way of hard-wired capacities, and certainly rejects the idea of domain-specific modules. Piaget's account turns on the construction of representations, solely by means of developmental and environmental cues in conjunction with an actively responding organism. On Piaget's account, domain-general capacities, such as assimilation and accommodation, function to aid the process of staged cognitive development. However, such processes cannot explain certain complex features, such as language development. Karmiloff-Smith explains:

> Syntax does not simply derive from exploratory problem solving with toys, as some Piagetians claim. Lining up objects does not form the basis of word order. Trying to fit one toy inside another has nothing to do with embedded clauses. General sensorimotor activity alone cannot account for specifically linguistic constraints; if it could, then it would be difficult to see why chimpanzees, which manifest rich sensorimotor and representational abilities, do not acquire anything remotely resembling human language despite extensive training. [86]

The only option, according to Karmiloff-Smith, is to combine the advantages of both accounts: domain-specific capacities which are products of the interaction with the environment. Modularity, on this account, is no longer entirely a function of the acquisition of innate abilities, but a function of *development.*

Given what we have seen of his developmental theory of the growth of the mind, Mitchell would have been in agreement with such an account. According to Mitchell, the "spur" that conscious purpose provides amounts to this: we may be able to concentrate and thus focus on certain aspects of our perceptual situation, depending on our interests and intentions (e.g., we can cup our hands to hear things, squint to see detail, follow others' speech patterns, and so on), but this doesn't amount to changing the "lower forms" of sensation to the "higher forms" of perceptual information. Instead, the lower forms of

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[86] A. Karmiloff-Smith, op. cit., p. 11.

sensory information continue abreast with the conscious purposes which the higher forms provide as "spurs" to more detailed processing. The best the conscious purpose can do is to focus or emphasise what we have already made available in sensation, rather than change it. This reinforces the previous point about the organism's need to seek satisfaction of its present experience by sniffing, holding an object closer, and so on. Mitchell has an example which brings out the important difference between *changing* experience and *emphasising* it:

> Take a simple case where there is nothing to learn but greater precision, say the learning to strike a billiard ball with the right strength for given distances. If the learner can always strike his ball in the same spot, he has only to give himself the right motor sensations. For this two things are required: he must learn to distinguish degrees of intensity in those sensations that he previously did not distinguish, and he must learn to innervate his arm for the various degrees. Practice brings both, but what is the final limit? It is not that he can no longer give himself a motor sensation that he knows to be the right one when he has it; the limit is in knowing the right one—in distinguishing between sensations of neighbouring intensity. The most expert player can only tell how far his ball will move within a fraction of the actual distance, indeed within a fairly constant fraction of the various distances. *Thus the lowest form of intelligence is not superseded by higher forms with which it may be allied, but, on the contrary, its use is emphasised.* There is example in the learning, and in the limits to the learning of all technical skill. [87]

The argument is that because there are limits to what even experts can do, there must be an incomplete penetration of sensation by "higher forms" of intellect. Even detailed theoretical and practical understanding of a task doesn't assist in knowing the precise motor innervations required for completing that task. This response too, has contemporary adherents and detractors. Fodor is famous for arguing that, contrary to claims made by P. M. Churchland, for example, we can't entirely *decide* what to see or hear or feel—even if we were theoretical experts in the matter in question.

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[87] SGM, p. 205. Italics mine. His examples of "technical skill" apply, he claims, to all sensory modalities: 'What has been said of the senses of balance and effort applies equally to the training of the ear of a musician, the eye of a painter, and the palate of an epicure; and even organic sensations have their experts in hypochondriacs'. loc. cit.

Mitchell, it seems, had a very contemporary attitude against such extravagant claims. There are, Mitchell saw, boundary conditions on perceptual capabilities to integrate experience. The spur merely 'urges to a greater discrimination'.[88] It does not bring about discrimination of other kinds entirely. As many commentators have noted—making light of Churchland's thoroughgoing "top- down" approach—we can't learn to see the Necker Cube as the Sydney Harbour Bridge or the kitchen sink. [89] There may be "more to seeing than meets the eye", in other words, but rather a lot less than some folks think. [90]

Failing complete penetration of sensations by means of intellect, what kind of influence does intellect provide? How, precisely, are sensations affected by intellect? Mitchell's view seems to be that the function of intellect is to "set up conditions", by means of which we can be aware of similarities and differences in our experience. This process is not, however, determined by an active process of seeking by which the organism *decides* what conditions are appropriate (this would be to adopt a "top-down" approach). We do not have new experiences simply by looking for them. Nor is the process, according to him, entirely passive; a function of the sense receptors themselves making experiences available (this would be to adopt a "bottom-up" approach). Rather, the process of seeking and searching for further experiences—our 'spontaneous restlessness' [91]—puts in place conditions under which we can detect distinctions and similarities. The organism is thus neither shaped by active searching, nor simply by being a passive receiver of data. This, in the context of pre-Piagetian nineteenth century metaphysical theories, is a novel account, indeed. Experiences, on Mitchell's view, are made through the effort taken in bringing about *conditions for sensing,* rather than the other way around:

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[88] SGM, p. 205.

[89] See S. G. Couvalis, *The Philosophy of Science,* (1997).

[90] The first quotation here, is from N. R. Hanson's influential *Patterns of Discovery.* The riposte is by Alan Millar (1985).

[91] SGM, p. 204.

> In all cases it is not the attentive seeking that creates the variety of sensation, but the seeking sets up the conditions by which differences may come, and strike when they do come. Think of a tea taster or a wine taster over a fine distinction. And without this special seeking, and with no sense of effort, we all achieve much in the same way. Think how an unfamiliar word on a page of print stands out and strikes your eye, and how you are arrested by some little change in the appearance of a friend, though you may be unable to say wherein it lies. [92]

Importantly, as Mitchell notes, such differences and similarities are not always consciously available to us at higher levels of discrimination. We may not be able to say, initially, what it is about an experience which makes it seem the way it is (though, he notes that this might be possible after the fact). [93]

This is further evidence that Mitchell opted for some kind of insularity account of low-level sensory processing. Our low-level detectors seem to function independently of being able to make clear discriminations at a higher cortical level. As evidence of this, he also notes that, just as a child can 'give meaning to words that he cannot spell', so we can 'learn the map of our own body as an extended surface' without being at all clear *at a conscious level* of what kind of ability this consists in. Such achievements, as mapping one's body or lifting one's little finger, are underpinned by dramatic, though often unnoticed changes in the progress of sensory intelligence. Such movements are, in fact, "complex[es] of sensation". But, as Mitchell says, in practice 'we feel and use [the complex] without knowing its composition'. [94]

The process by which such complexes of sensation are achieved is important for the thesis that Mitchell is presenting; namely, that experience develops from "conscious points". The process of learning to have an implicit map of one's bodily surface is an instance of the kind of growth of sensation he has in mind. So how does this development

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[92] SGM, p. 206.

[93] 'Sometimes these [similarities and differences] can be distinguished on reflection, as when a tea taster describes his sensations, or you analyse the total impression of your friend'. SGM, p. 206.

[94] SGM, p. 206.

from unnoticed to noticed changes occur? Mitchell explains how by means of a distinction between what he calls *extensity* and the *local quality* of sensation. I will deal with these before discussing the issue of the growth of experience.

6.2.2 Extensity and the Local Quality of Sensation

Mitchell distinguishes two kinds of capacities, or "gifts", which we need to achieve in learning to make this "map" of our bodily surface. These are *extensity* and the *local quality* of sensations. These "gifts", he says, occur in addition to the 'inherited motor nervous system for reflex and instinctive action'. [95] Together, they form the means by which we learn to notice changes in our experience.

The first capacity, *extensity,* depends on the extent to which outer sensory membranes are covered by objects with which we come in contact (be they tactile, olfactory, auditory or visual). As Mitchell says, this sensation varies 'the extent of skin that is covered by objects in contact with it'. [96] This region he calls the *extensity* of the sensation. Through repetition, and by learning to separate and distinguish its felt parts, this sensation brings about a projection of the sense of extension onto the world: Thus, 'the mere sensation of extensity becomes the sense of extension'. [97] What he seems to mean is that a retinal projection of, for example, 670 nanometres occupies a region of the sensory surface which eventually "becomes", by extension, how red looks *qua* red objects. This project has clear similarities with Smart's "topic neutral" analysis much later—in that it is an attempt to reverse-engineer from topic-neutral features of experience, to topic-neutral features of brains—except, of course, that Mitchell has a rather different ontological and epistemological agenda.

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[95] SGM, p. 207.

[96] Loc. cit. It is clear here that by explicitly mentioning "objects" (and not "sense impressions", or "sensa") Mitchell is a committed realist about the origin and basis of one's sense perceptions.

[97] SGM, p. 207.

Mitchell has a similar account of our perception of more abstract metaphysical notions such as, that of time. Time, he argues, is correlated with 'the very time of the cortical events of which we have experience'. [98] He means this quite literally: our sense of time can be altered according to our age, degree of interest, power of attending, and so on. When we hear four sounds in the course of a second, he argues, 'we carry forward not merely the sounds, but the temporal order'. This kind of anticipatory processing extends to every kind of sensory projection in any modality. Thus, 'the field at any time is bounded on the past side by the earliest sensation that has not yet disappeared, and on the future side by the expectation of a last coming sensation (as when we see a knife about to cut, and expect a series of consequences)'. [99] An analysis of this kind of account of temporality will be returned to again in Chapter 11.

The second capacity, *the local quality of sensation,* is achieved by being able to locate the point at which sensations occur in the afferent part of our sensori-motor system (i.e., the point of cutaneous sensation where we unconsciously react to sensations of light, touch, or smell). This local quality occurs entirely tacitly and by the following means. Through repetition and the continual application of inputs on surface features, such as the retina or the skin, we begin to isolate certain "points" of the sensory surface from which those sensations arose. We thus learn to "read" our local and extensional stimulations by the way they correspond to certain exterior bodily regions, regardless of how these stimulations may be projected onto the cerebral cortex. Part of this process of reading these inputs, Mitchell notes, is for the organism to be able to passively note *movement* from one region of peripheral stimulation to the next:

> All movements over the area of the skin serve to analyse it into its distinguishable points, and at the same time to associate them, so that they mean their position with reference to

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[98] SGM, p. 465.
[99] SGM, p. 469

> one another. It is the same learning that is continued by the blind, and by ourselves, when we improve our sense of contact in the service of our skill. But we take so little notice of the means we use—the movements and the local qualities—that we do not know how our power increases, and it comes as a surprise to be told, for example, that our skin is as much as two or three hundred times more sensitive to local differences, if it moves over the points of contact, than if it feels them at rest. [100]

Thus, the first developments of sensory intelligence occur by means of movement: extensity and locality being a product of these changes. Our sensory surface, our bodily "map", is thus the first point of inquiry in interpreting our sensations, and, hence, our bodies. We can't, according to Mitchell, interpret our sensations by means of understanding our brains—even though our brain also stores a projection of our sensations in neural form. The brain is too far from the sensory periphery where all the action happens. Thus, an interesting implication of his account is that cognitive science should be concentrating on the immediate sites of sensory stimulation, if it is to understand the real physical character of "phenomenal experience".

In summary, higher intelligence functions on sensation to: a) provide a "spur" to later, more detailed processing (but never to prescribe how this may happen); and b) to set up conditions for further experiences by means of effort. According to Mitchell, the role of higher intelligence in this process is limited to being a guide in this process and a source of continual spontaneous restlessness. Both of these functions, as we have seen, are achieved during the course of experience from one occasion to another.

6.3 What are the Limits of Sensory Intelligence without Higher Intelligence?

In the absence of the influence of higher intelligence, 'the course of sensation has then to rely on itself for its development. According to Mitchell, it has to find the spur in its own interest'. [101] In contemporary terms, we might call this an account wherein the architecture

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[100] SGM, pp. 207-8.

[101] SGM, pp. 210-11.

of sensory modules themselves are the basis for certain content changes of phenomenal experience. Mitchell calls this the "spur of the whole on its parts". The "whole" is the sensory unit within singular content amalgams; the "parts" are the development of sensation through its various phases of *quality, modality* and *aspect.*

As we have seen with the Unity thesis (Chapter 7, §7), Mitchell's account assumes that in every sensory complex there is structure and connection within every sensory amalgam. It is these tacit unifying features which enable an experience, deprived of higher intelligence, to work through the three developments of sensation (modality, quality and aspect), without influence from further internal or external stimuli. Mitchell takes examples for this point from "the lowest of complex creatures" but also gives examples where some of our own sensory experiences are so deprived, yet which still pass through certain developmental stages.

> At the first hearing of anything complex, as at the first look of a picture, we may not take it in at all, then we catch a glimpse without taking it all in, till, with repetition and without thinking, everything takes its place, and the parts that were distracting at first are pooled in the common whole and interest. The differences are not lost in that way. On the contrary, they are selected and made definite; every note is not merely a part, but is heard as a part of the whole. [102]

6.3.1 The Unity Argument

This is a consequence of the unity thesis discussed previously (Chapter 7). According to Mitchell, 'there is no sensation that is entirely isolated and beyond the influence of the group and the course of sensation of which it is a part'. [103] No sensation is an island; every sensation can resolve itself through its own developments, without need for the spur of higher intelligence (though, obviously, a greater range of development is possible if higher intelligence is present). He notes:

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[102] SGM, pp. 211-12.
[103] SGM, p. 211.

> Senses like those for balance, for space, and for time, all improve without the thought of those objects as any but sensory objects. In the sense of balance, e.g., of orientation or bodily attitude, the lowest of conscious creatures are likely to have a complex whole of feeling which perfects itself as a whole. [104]

This all sounds unforgivably Hegelian. However, Mitchell means nothing mystical by it, despite describing the process being an "improvement" and the "perfecting" of a "whole". As will be clear from previous comments, his view is a kind of biological naturalism, in which elements of content resolve themselves, by means of matching inputs and seeking further satisfaction. His view is closer, therefore, to a mechanism of *homeostatic equilibration,* than to mystical teleology. The language is unfortunate, but the point is that higher intelligence is not a *necessary* condition for certain sorts of sensory development. Lower animals require a homeostatic development of sensory intelligence, even if they may not be intellectually sophisticated. And, being essentially similar to other animals, so do we. The "wholes" of sensation, that can be developed, reside "within our own experience through merely sensory interests and connections".[105]

The assertion of holistic sensations among unsophisticated creatures, which "perfect themselves", is entirely supposition, of course. Noone can know what other animals sense. But it is a plausible supposition, assuming evolutionary theory to be true, and assuming certain sensory experiences have some kind of immediate survival value. It is also plausible on the assumption that there are experiential differences of degree, not kind, between ourselves and other biological creatures. One would expect that the *sense* of balance would equilibrate in cats as well as their bodies seem to do, for example. For one thing, this might be because the sensation of balance is useful for the survival of such creatures; for another, because all animals require it (cats perhaps more than most); and

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[104] Loc. cit.
[105] Loc. cit.

because cats clearly have rather less, cognitively speaking, to go on than us. There are thus *good reasons* for an upturned cat to "feel" that things aren't right and to unconsciously (i.e., without the involvement of higher intelligence) seek satisfaction of its senses in another bodily orientation. This might be considered an example of a sensation which "perfects itself' independently of the influence of higher intelligence. This is all that Mitchell seems to mean. The point of the unity argument is that there are reasons to expect some experiences to develop through a variety of stages independently of high-level cognitive interference.

Mitchell gives a number of examples of the kind of sensory interests and "wholes" he has in mind in the case of human experience. A chord, for example, is resolvable into notes, yet aurally it is the chord that we hear (unless specially trained). Our interests are usually in hearing chords, rather than what chords are comprised of (although, this said, it depends entirely on our focus of interest). It would seem that sensory experience is not only naturally grouped into unified syntheses or "wholes", but they are also composed of "parts" in which the unity consists: 'Every such unit is a simple sensation analysable, indeed, into aspects; but these are as inseparable as height from a house, and are not felt apart'.[106] It is this unity which Mitchell recognises as being crucial to the development of sensory intelligence. But it is important to note that he thinks our earliest experience begins with such wholes too, not merely ends with them. Experiences structurally consist of "parts" as well as "wholes": the parts resolve into wholes, as experience is satisfied by meeting its needs. A new experience, or a maladjusted experience, requires reconfiguring and restability, so it "seeks" a whole. Like other animals, we are confronted with experiential instability which we seek to resolve in favour of unity. It is the very nature of seeking, experiencing organisms to create experiential unities and endeavour to refine

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106 SGM, p. 212.

them by means of further experience: 'Our progress is from synthesis—from the confusion, for example, in our earliest hearing—to a better synthesis by means of the analysis that comes with more experience'. [107] It is this entirely naturalistic progressive process which Mitchell thinks constitutes the nature of the growth of the mind.

6.3.2 The Learning Argument

Mitchell also advances an argument that sensations perfect themselves independently of higher intelligence, because it is valuable for certain kinds of *learning*. He argues as follows:

> In learning a skill there are always parts where to try is a better way of learning than to think how. ... [W]hen we measure short lapses of time, we only put ourselves out if we make and think of rhythms to measure by. And there is no better illustration than the converse case where we lose a rhythm so far as we have to attend to the length of the intervals, and to the stresses into which it may be analysed. The rhythm must be its own guide, selecting its own factors; it must not be guided by separate ideas, or by rules and considerations, for these are only in the way, even when they have been necessary as a scaffolding. [108]

This point is interesting for two reasons: firstly, it substantially anticipates the work of Ryle on knowing *how* and knowing *that*. [109] Ryle made the point that there is a crucial difference between knowing *that,* for example, a steady and even pressure on bicycle pedals, while maintaining an upright position, would propel one along; and knowing *how* to ride a bicycle—as anyone new to such an activity would testify. One kind of knowledge is a *theoretical* knowledge; the other, a *practical* knowledge. One requires intellectual understanding; the other, a "feel". Mitchell seemed to be aware of this distinction long before Ryle made it popular.

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[107] Loc. cit.

[108] SGM, p. 211.

[109] See G. Ryle, *The Concept of Mind* (1949).

Secondly, Mitchell also makes the stronger claim that theoretical knowledge is not only a different kind of knowledge; it is also an *interference* in certain cases of learning. As he points out, this is the case, for example, in trying to intellectually determine the rhythm of music by means of "rules and considerations" as opposed, for example, simply "feeling" it. Using a metronome to help musicians keep time can, paradoxically, sometimes bring about as many difficulties as it was designed to solve. Conductors sometimes have to hum or otherwise indicate the rhythm of difficult passages to an orchestra, not just beat it with their baton. The same difficulties are often encountered in sport; for example, learning how to swing a bat. Rules are not always what is required—a sample or *exemplar* sometimes seems to be needed, rather than rules. It is not to be assumed, Mitchell is claiming, that the role of higher intelligence is necessarily a factor in learning certain kinds of *skill;* for, as he points out, it is sometimes a hindrance (though it may well help in other cases of knowledge). The crucial thing is that the parts and the whole of the sensation may be as easily upset as assisted when learning new things. Hence, his remark:

> The effect [of learning] on any whole of sensation is to alter it ... It may be enriched, the growing complexity of the parts accentuating, not destroying, the unity. But instead of this it may, as a whole or unity, be destroyed, as when we lose a harmony by feeling for its tones, and forget our skill by thinking of our movements in the moment of action. [110]

Learning to do or recognise something by means of the 'development of sensory wholes within our own experience' [111] is thus one very important way in which it can be argued that experience grows. This kind of growth requires little or no higher intelligence. This process of learning—by ignoring, or without input, from the "scaffolding" of an experience—is sometimes a far quicker, more accurate, reliable and efficient means of gaining new information, than by means of adopting rules and considerations.

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110 SGM, p. 216.
111 SGM, p. 211.

> [I]t is without active searching, or putting together, that we detect the same melody in all variations of instrument, of loudness, speed and complication. ... every note is not merely the part, but is heard as a part of the whole. [112]

It is tempting, again bring this issue into contemporary focus. For, on one reading, it seems similar to one of Fodor's arguments for the importance of observationally-fixed beliefs (as opposed to inferentially-fixed beliefs).[113] Fodor, of course, argues the case for domain-specific perceptual modules that activate observational beliefs which are crucial for survival. Mitchell, it might be suggested, argued for a nineteenth century version of a modular account of perception. As he seems to point out, in some specific kinds of knowledge acquisition, the quick-access phenomenological architecture of sensation (the "sensory whole") is well-suited; so suited, in fact, that specifically designed faculties might be postulated to do a number of such domain-specific jobs (face recognition modules, or—as he seems to be suggesting—'melody' detectors, for example). While not himself postulating a specific-purpose mechanism to do the job, it might be suggested that it is something like what he has in mind.

This would be to make a mistake, however. Mitchell, in fact, argued decisively *against* a fully-fledged faculty psychology and the tendency to postulate specific mechanisms to do the job of sensory analysis. The next section spells out his objections against this thesis.

7. The Case Against Faculties

There is substantial textual evidence that Mitchell did not accept the philosophical notion of faculties in either its classical or contemporary sense. He claims that the notion of faculties is flawed for three reasons: 1) that they already assume physicalism; 2) that they

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[112] SGM, pp. 211-212.

[113] Note his claims in 'Observation Reconsidered': 'For one thing, observationally-fixed beliefs, tend to be more reliable than inferentially-fixed beliefs. ... [T]he etiological route from the fact that P to the belief that P is metaphorically—and maybe literally—*shorter* in observation than in inference: less is likely to go wrong because less *can* go wrong. .... The moral, children, is approximately, Baconian: don't think, look. Try not to argue.' J. A. Fodor, 'Observation Reconsidered', *Philosophy of Science* 51, (1984), p. 24.

are a redundant notion; and 3) that they cannot be used coherently as a substitute for the notion of mental powers. Each of these objections will now be discussed.

7.1 The Notion of Faculties already assumes Physicalism

The first point Mitchell makes is that faculty psychology is question-begging. It already assumes a theory about the mind that mental states are nothing but brain states. According to Mitchell, understanding the mind in terms of faculties is tantamount to those faculties being understood as the structure of the brain and its constituent cells and their connections:

> For one thing the popular division into mental faculties treats them as if they were physical. Indeed, it seems almost a matter of course to take the structure or anatomy of the brain as a picture of the structure of the mind, the units of experience being represented by nerve cells, the connections in experience by their connecting fibres, and mental faculties by groups of cells and their connections. We shall find this notion of the picture to be wrong, but the point is that if we confine ourselves to the direct explanation, we have to do without any picture. [114]

It is not clear from this passage what is supposed to be "wrong" with this account. Certainly, Mitchell does not think that the mind is *non-physical,* as we have seen—he is no dualist, so this comment seems puzzling. His objection, I take it, is that the premise of a simple-minded *reductive* materialism (implied by the use of "faculty")—a reduction to the "common denominator"—won't do. It already takes for granted precisely what is in dispute. Thus, it is not the importance of the physical which is claimed to be "wrong", merely the *picture* of the mind simply *as a faculty of the brain* which is wrong. For this, he claims, is just another way of describing the brain and its workings. It is the simple-minded physicalist "picture", implied by the notion of faculties, which Mitchell rejects.

We have already seen Mitchell's reasoning for this conclusion elsewhere (Chapter 5). Briefly, it is not obvious that the mind is to be understood entirely in terms of parts of the

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[114] SGM, p. 53.

brain, *even if all mental states are brain states.* There are a number of other possibilities which could be considered: for example, the idea that the mind is a non-reductive emergent property; or the argument of the "new mysterians"; or even (Mitchell's preference) that it is a far more acceptable strategy to reverse the order of inquiry entirely, and to understand the capacities of the brain in terms of what the mind itself can do; that is, learn from a detailed phenomenological analysis, in order to bring about a new theory of mind entirely. As we shall see in the final chapter of this thesis, this places Mitchell in the same camp as *cognitive* neuroscience today, not reductive *biological* neuroscience of yester-year (see Conclusion **§5**).

A faculty account of the mind already stymies these efforts by limiting one's options. This seems to be Mitchell's point in the above passage. The faculty account tends to commit us, unnecessarily, to one kind of (reductive) account against others. But what makes this account seem so credible in the first place? This kind of materialism 'into which common sense is so easily led' [115] is a product of a number of assumptions. It is often supposed, for example, that because the mind grows, that, therefore, an analysis in terms of brain events is the *only* possible analysis (because the cells in the brain grow and differentiate too). However, Mitchell rejects this supposition as a *non sequitur:* 'No doubt the mind is a collection of organs that are mutually dependent and should grow in harmony. But so is the body, and no one thinks of understanding its growth as a harmonious development of limbs and other organs according to the popular list of them'[116] That is, we can't understand the growth of the body from reductively studying the tissues in its various organs, we need to supplement this with other ways of understanding.

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[115] SGM, p. 3.
[116] SGM, p. 54.

Reduction doesn't even work for physiology; why should it work for mind and consciousness?

Of course, since Smart and Place presented their account of reductive materialism, the grounds for an identity theory of mind are considerably stronger. However, the reasoning which led to this came somewhat after Mitchell, and little is gained by comparing these views.

7.2 The Use of Faculties Explains Nothing

Another complaint Mitchell has about the use of faculties is that they amount to a circular explanation, and hence, explain nothing. "Faculty" is, in fact, a redundant notion. The key passage is as follows:

> If the ordinary notion of a mind is not clear, neither of course, is the notion of its having structure, powers, or faculties. We have many names for them, e.g., memory and judgement, taste and imagination, desire, will and numberless others. But the same words are also used to name the parts of experience that the several faculties are said to produce: they name the faculties which we infer, and the facts from which we infer them. ... [T]he facts of experience are little more than rechristened by assigning them to faculties as their cause. [117]

His meaning is clear: the notion of faculty adds essentially nothing of explanatory value. Merely "rechristening" experiences as the power of various faculties does little. [118] The right way to approach the problem of experience is not to substitute the vague notion of faculty, but to look at experience "directly" and so try to understand its workings. This brings us once again to the importance Mitchell placed upon a "natural method" of understanding phenomenal experience (see Chapter 5, §8.2). He is clear that this is the strategy he prefers and not a return to the notion of faculties to which, 'every psychologist has taken exception ... since Locke', and again: 'I think, indeed, that some of the energy

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[117] SGM, p. 9.

[118] And, as he notes, doing the same with the notion of "disposition" suffers the same flaws: 'And I think it a needless penance to use the word "disposition" in the sense that every one would be willing to give to faculty if he understood'. SGM, pp. 53-4.

spent in girding at faculties might have been given to explaining how experience can be dealt with as an effect of mental factors at all'. [119]

7.3 Faculties as a Substitute for Currently Accepted Mental Powers

Just as it is wrong to use faculties as an *explanatory* notion, so too is it wrong to assume the reverse: i.e., that "faculty" can be substituted as a synonym for the nature and properties of mental powers, as we currently understand them (to mean by "faculty" simply *a power to sense pain,* for example.)

There are two things wrong with this: Firstly, to assume that the mind can be understood in this way is, in an important sense, to beg the question. It may be that we require a radical departure from such "currently understood" notions. Mitchell was very willing to concede this point. In fact, he was well-aware of the misleading character of "folk psychological" explanations long before eliminativists, like the Churchlands and S. P. Stich arrived on the philosophical scene, and even before Sellars argued persuasively that the capacity to sense can't adequately be explained in terms of *sensings* themselves. [120]

Mitchell was less dismissive of such uses of language, however, claiming that, "It was only to be expected, considering that our usual notion of the mind is modelled on our earliest view of physical things'. [121] However, neither is Mitchell implacably opposed to 'turn[ing] popular statements into technical language' [122] should the need arise and the justification be compelling. Perhaps the best way to summarise what Mitchell thought about folk psychological descriptions is in terms used by the man who eventually

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119 SGM, p. 53.

120 'To understand the structure and growth of either the mind or body there is, in fact, the same necessity to depart from the convenient classification of ordinary life, as physics has found for departing from the popular classification of properties of matter'. SGM, p. 54.

121 SGM, p. 55. He has in mind the view that 'agencies, forces or powers [are] made manifest in the processes and products of experience'.

122 SGM, p. 56.

succeeded him at Adelaide, J. J. C. Smart: 'Say what you like but *be careful.*' [123] Any sort of folk language is acceptable, as long as one's ontological commitments are clear. We have already seen how Mitchell's attempts to get the ontological question clear turns on getting the epistemological questions clear too.

The second problem with the strategy is that it involves oversimplification of the issues. Mitchell was well aware of the explanatory slide to simple-minded eliminativism that this strategy entails. Taking mental states to be "faculties" of various kinds requires only a short step to taking them, as Dennett does, to be homunculi (Mitchell calls them "lieutenants of the self") which carry out various cognitive roles. This notion of homunculi can effectively be substituted with the powers of various kinds of stupid binary switches (on Mitchell's version: "common slaves"). [124] A faculty-based account then gives rise naturally to a theory of homunculi, then to an account of mental processes, and thence to eliminativism:

> If we are told that such a one has a strong will, or is a slave to his passions, or is warped by prejudices, or fixes his attention, and exercises his judgement, we know so well what is meant that we take the expressions to be simple statements of fact about his faculties; and yet they are all metaphors, and different metaphors. Our language about the mind often peoples it like a little city in which the self is governor, or like a temple of which it is the high priest. Will, reason, emotion, instinct, memory, and others of great name are the immediate lieutenants of the self, having under them others of less note, like desires and passions, common sense and reflection, taste and imagination; these in turn control others, and so down the list to the common slaves, viz. our senses and muscles. ... Growing more drastic, we turn the agents not into things but into agencies, forces, or powers, made manifest in the processes and products of our experience. From this it is a short step to throwing out the agency with the agent. [125]

Mitchell was prescient with this warning, it seems. Present-day philosophy of mind argues that once the faculties of the mind can be substituted by unconscious structural levels

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[123] Attributed to John Wisdom. J. J. C. Smart, '"Looks Red and Dangerous Talk', *Philosophy,* 70, (244), p. 554.

[124] D. C. Dennett, *Brainstorms,* (1978)

[125] SGM, pp. 54-55.

lower down, the next step is to dispense with those "faculties" entirely. This has been Dennett's strategy in his "multiple drafts" theory of consciousness, for example.

However, it can be claimed that this strategy is not entirely original in its approach. Mitchell noted long ago that once the flaws in the popular accounts of "folk" mental descriptions were known, they would be seen to be understood simply in terms of the roles that those descriptions fulfil in a general theory of experience. They would carry no *sui generis* ontological status, only status as descriptors in an overarching theory of what *capacities* the organism has in the service of various needs and interests: '[T]he various faculties are finally seen to be merely the heads of a popular description; and if one is said to have a strong or weak faculty of a certain kind, it is only meant that he had a great or small facility in making that kind of experience'. [126]

However, while clearly sympathetic to the idea that we should not let the vagaries of common language interfere with an accurate understanding of the mind, Mitchell was not sympathetic to its wholesale elimination on these grounds alone, arguing instead that this would be a serious over-reaction:

> [I]t would be as absurd to reject this way of speaking and thinking as to refrain from speaking of the rising and setting of the sun, or of the colour of an object as inherent in it. [127]

He notes that while it should be expected that the descriptions of science will be at variance with the descriptions of common sense, we should not assume at the outset that one will supplant the other. There are several reasons for this in his view. Firstly, Mitchell thought that there is a tension between the falsity of the 'mythical elements in our common notion of things' [128] and how even scientists act and react in the world of everyday

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126 SGM, p. 55.
127 Loc. cit
128 Loc. cit

experience. The scientist knows full well that physical investigation has "outstripped" this common understanding, yet 'no embarrassment is felt, and the physicist continues to talk of things and events in the language that he used when a boy ... he does not think that ... he has only to take the purified description that remains as the best analysis of them'. [129] Were elimination genuinely possible, this tension should easily be resolved in a practical sense. It's not: therefore, eliminativism isn't possible.

We should not pre-empt the inquiry at the outset by "throwing out the agency with the agent". Nor should we assume that the crucial thing is to discover the scientific basis behind the technical use of language associated with mind. To do this would be to take the wrong order in the investigation. Consistent with his *reversal strategy* (discussed in Chapter 5, **§8.1**), Mitchell argues that we should not start with descriptions which already set the parameters of what is required, but begin by finding the functions and capacities of mind which warrant explanation, and only then seek adequate means of scientific description. To do otherwise would be putting the cart before the horse:

> We have to define the properties of mind, as we do the properties of matter, in the way that is best for explaining them. And, since we have give them familiar names, it is not to be expected that their technical will correspond with their popular use. But there is nothing to prevent both. ... [O]ur concern is not to find meanings for the given names, but first to find their functions, and so the faculties, of our mental structure, and only then to name them. ... The learner begins with definitions, but the science has ended with them, having found those that are best for dividing and mastering its province. [130]

As mentioned in an earlier chapter, this is now a strategy that contemporary theorists are just beginning to take seriously.

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[129] SGM, pp. 55-56.
[130] SGM, p. 56.

8. Conclusion

The following points about the growth of sensory intelligence have been noted in this chapter: 1) The development of sensation occurs initially through the distinction between types of modality, quality and aspect; 2) The growth of sensory intelligence exhibits an inverse proportionality with capacities and discriminations acquired later; 3) Broadly speaking, sensory intelligence grows by means of dissatisfaction in one's present experience and by means of setting up conditions for further, more detailed and unified sensory discriminations; 4) Sensory experience is influenced by the "spur" of higher level processing, but is not fully penetrated by such capacities; 5) Experience develops by means of the projection of inputs on to sensory surfaces—which register both extensity of the external objects and their local sensory character—but also by means of the constraints imposed by the nature of its own inherited sensory architecture; 6) This growth is argued for on the grounds that experience is homeostatic in character and necessary for learning in animals, even when higher intelligence is unavailable. 7) Finally, none of these points, in Mitchell's philosophical system is tantamount to reinstating a theory of faculty psychology, which he thinks is explanatorily redundant and already presupposes the acceptability of reductionism and eliminativism.

Chapter 9, The Growth of Experience: Perceptual Intelligence

> Nature insists on creatures learning very different worlds; but it is one and the same world which slays them when they fail.
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> NF, p. 31.
>
> Our perceiving is primarily in the interests of our appetites, and we are restless till they are appeased.
>
> SGM, p. 289

1. Introduction

This chapter looks at the growth of experience at the perceptual level. It will be shown how, for Mitchell, perceptual intelligence is a natural cognitive development from sensory intelligence. It will also argue the case for perception being a function of the various appetitive demands on instinct. In this chapter we shall look at Mitchell's notion of fixed and floating capital, his account of perceptual illusions, and the phenomenon of play. We will also look at the stages of perception and the levels of growth, and the relationship between inference and cognition in perception.

2. Sensation and the Power to Anticipate

We have seen, in the previous chapter, how low-level content arises in experience and is discriminated as a 'serial mass of sensations'.[1] These discriminations include not only properties such as modality, quality and aspect, but also temporality and spatiality. Another important feature in this process is what Mitchell calls the "power to anticipate". We do

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[1] SGM, p. 219.

not merely discriminate sensory aspects such as these, we also *anticipate* such sensations regularly. We note, for instance, that the experience of a sensory whole—say, an orange or the sky—is 'felt to have parts, e.g., the taste, smell, coolness and softness of an orange, or the expanse and colour of the sky'. [2] Indeed, it would be a shock to the system if experiences were merely experienced as sensory wholes, with no aspectival features which could be isolated and distinguished. This can be seen by imagining, for example, *only* being able to discriminate objects *qua* objects. In such a world, there would be no art, no culinary delights, no refined discriminations of taste and judgement. Without the power to discriminate aspects of sensations, there would be no perceptual world as we know it.

The power to anticipate should not be considered such a remarkable ability; after all, it is a form of perceptual intelligence we employ constantly. It is the process by which we learn new things about our experiences. Mitchell notes that it has practical advantages: 'for every fresh cue that it learns to take, an animal appreciates a situation better.' [3] This power to anticipate, from which learning is achieved, Mitchell calls a *meaning*. 'We no longer act on bare sensation', he says, 'but on sensation with a meaning. The meaning consists in some anticipation of sensations to come'. [4]

As mentioned previously, meaning is not used here in the sense of semantic or propositional content; rather, it consists in the ability to recognise that sensations are predictable and can be anticipated to some extent. Sensations have aspects which are part of the changing experiential amalgams. Just as the sky exhibits differences in hue depending on the time of day and one's level of concentration and attention, so an orange may, at one point, feel soft, taste sweet, and so on. Many of these changes are anticipated by perceivers as they carry out their daily business negotiating the world of real objects.

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[2] SGM, p. 220.
[3] Loc. cit.
[4] SGM, p. 219.

Such changes of recognition are considered by Mitchell as *meanings*. Used in this sense, the meaning of an object of sense changes as the aspects are recognised. "Meaning", in Mitchell's usage, is closely tied to the idea of *anticipation*.

Not every experiencing organism has the power to anticipate with equal measure. Mitchell notes that there are greater and lesser abilities in learning by such cues. Lower animals are an obvious case wherein only basic things are recognised; they seldom anticipate regular changes in aspectival shifts beyond a very limited perceptual repertoire. Even though some animals may have a heightened sense of awareness in certain modalities (for example, dogs and auditory senses; cats and visual senses; bats by means of echolocation, etc), they are mostly incapable of perceiving subtle changes in aspect shifts and anticipating such shifts in later experiences. It is this which makes animals hard to teach. They are hard to teach because they are incapable of discerning refined changes in sensory meaning:

> Not every creature that perceives can take every cue. Some are relatively stupid, taking long to learn, some absolutely so, failing altogether. The difficulty in teaching them is usually to make them seize an aspect which has no interest of its own. A simple cue like a vivid colour, an odour, or anything threatening, is easily taken, because it has a spontaneous or instinctive interest; but unemotional sounds and sights must borrow interest from the interests with which they are connected. To domestic animals, for example, certain lessons are easy, the cue being taken at once; they soon learn the meaning of a hand held out with an offering, an arm uplifted to strike, the sound of a familiar voice or footstep. But there are all degrees of hardness up to such uninteresting and artificial signs as printed words, coloured cards, and unobtrusive gestures. ... The higher the mind of an animal in the scale of intelligence, the more it is able to take interest in what originally has none. [5]

2.1 Fixed and Floating Capital

Mitchell makes a useful distinction here using an investment metaphor—a distinction between *fixed capital* and *floating capital*. Fixed capital consists of perceptual interests which are highly instinctual (a loud noise, for most primates, is instinctively interesting for

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[5] SGM, pp. 220-221.

a variety of biologically important reasons, for example). Floating capital, by contrast, consists of the ability to take interest in things which are not instinctual; which may, indeed, have little intrinsic interest for the organism concerned. Despite this lack of intrinsic interest, an organism is said to have floating capital when it can invest its interest in things 'according to the circumstances of its individual life'. [6] For example, the "corked" character of a wine can hardly be described as something of instinctual interest; however, it can be made interesting by careful investment of floating capital—that is, by learning to anticipate sensory qualia associated with drinking wine.

Other higher primates, of course, have floating capital to invest too, though rather less of it than *Homo sapiens*. For example, apes can recognise certain verbal expressions and even identify non-verbal clues associated with complex concepts, such as "selfhood" (for example, identifying themselves in mirrors). [7] They can also use limited kinds of sign language in a communicative context. However, they are usually unable to find things of interest much beyond what is important for the "circumstances of their individual lives". They cannot learn about wine character, for instance, nor about the aesthetical nuances of musical tonality and harmony. This is not to say, of course, that animals are deficient in terms of their sensory equipment (quite often their senses are far more discriminating than ours); it does mean that they are less capable of anticipating sensations of certain sorts. In particular, those which contain no *intrinsic* meaning.

2.2 Meaning and Perceptual Illusions

As another example of changes in perceptual meaning consider the case of perceptual illusions, such as the Necker Cube illusion or the Schröder Staircase (Figure 3). Some theorists consider altering perceptual cues in illusions to be simply a function of gestalt

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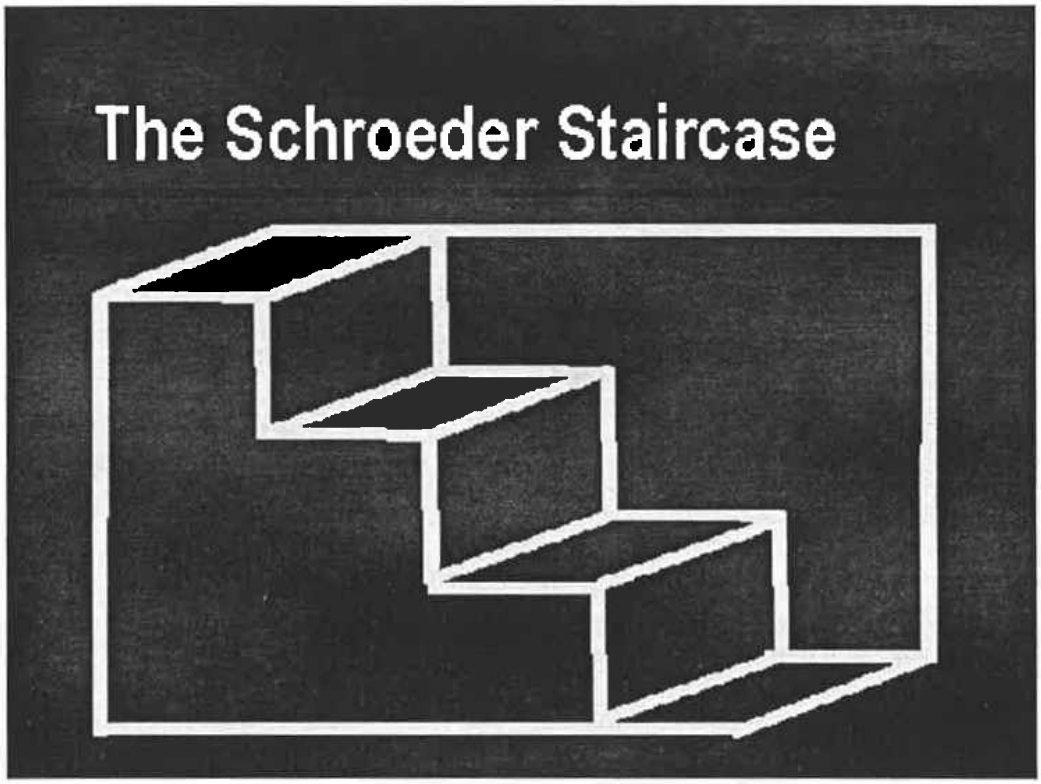
[6] SGM, p. 221.

[7] See, for example, G. Gallop Jr. (1977), 'Self-Recognition in Primates: A Comparative Approach to the Bi-Directional Properties of Consciousness', *American Psychologist*. May, pp. 329-337.

shifts (e.g., figure-ground changes). Others consider such cases to be entirely a function of cognitive capacities, such as the capacity to form hypotheses and integrate background knowledge to inform what one sees. Some theorists go further, however, and claim that the evidence suggests that perceptual *plasticity* is possible: visual cues can be *seen* differently depending on what conceptual information is brought to the perceptual situation. There is enormous debate on this issue in the current literature. [8]



[8] For the gestaltist account see: J. J. Gibson, *The Perception of the Physical World* (1950); *The Senses Considered as Perceptual Systems* (1966); G. Kanizsa, *Organisation of Vision: Essays on Gestalt Perception* (1979); for the hypothesis account, see R. L. Gregory, *Eye and Brain,* (1972); *Mind in Science,* (1981); 'Perception as hypotheses', *Philosophical Transactions of the Royal Society,* 290 (1980); for the plasticity of perception view, see P. M. Churchland (1988), 'Perceptual Plasticity and Theoretical Neutrality', *Philosophy of Science,* 55, pp. 167-187.

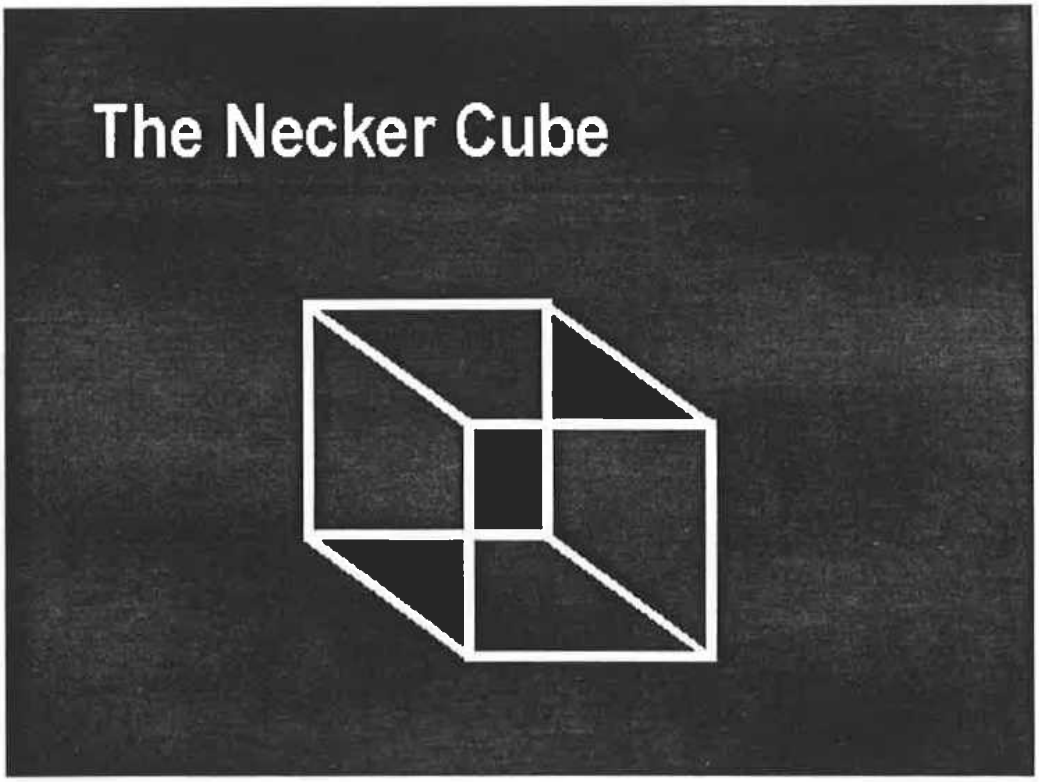


Figure 3 (cont): The Schröder Staircase and The Necker Cube

Mitchell, by contrast, sees such visual changes as a function of anticipation at the sensory level, which may result only partly from figure-ground changes and background knowledge, but can also have other causes (for example "native tendencies", i.e., the endogenous specifications supplied by our visual system). His position on this is that a number of factors are at work in perceiving visual illusions. Writing on how different sensory organs acquire their capacity to represent the world in thought in specific ways, he asserts:

> The facts tell against the notion of a rigid fixity of function ... They point to a high degree of plasticity; but the plasticity is defined in degree and direction by native tendencies; it is not a mere indifference. Doubtless the plasticity is least in the correlatives of the lowest and oldest forms of experience, as it is greatest where most may be learnt. [9]

[9] SGM, p. 459.

Mitchell explains his theory of visual illusions like this: When an anticipatory change, a meaning, "sits loose to a sensation", it is easy to predict when a sensation will change. To make a perception "definite" is, for Mitchell, to be able to learn to anticipate its various sensory cues.

A stable perception (for example, a familiar physical object in an ordinary situation), thus, has a discernible "meaning", because we can anticipate its many and varied aspect changes. Light playing on a chair, for example, does not result in unanticipated changes to the sensory experience. When, however, a meaning "sits close" to a sensation, perceivers either have trouble anticipating such shifts, or they can change the shifts at will. In the case of the Schröder staircase or the Necker Cube illusion, for example, perceivers either find it hard to tell when the sensory object will "resolve" itself into one or other configuration, or they can "flip" the perceptual object at will. The difficulty is in anticipating the sensory cues, because they sit "close" to the gestalt of the diagrams. This is the reason for the difficulty in attributing a meaning in cases of perceptual illusion. In cases like this, the perceiver has not learnt to identify the subtle perceptual cues and is unable to anticipate the changes in object. Perceptual illusions are thus due to meaning, or the capacity to *anticipate* sensations:

> Sometimes the meaning sits loose to the sensation, and then their difference [in meaning] is clear; but sometimes it sits so close that it may even remain against our better judgement. So it does in all the normal irresistible illusions. And when we have seen how all sensations are made definite by the meaning they get in the course of experience; and so far, therefore, they are learnt. Indeed, there are cases where a sensation may be changed at will by giving it a different meaning. ... [T]he difference of sensation is due to the difference of meaning. [10]

This inability to anticipate aspect changes in such examples is due to their unfamiliarity. This is to be expected. Ambiguous perceptual data rarely arise in nature. And, indeed, we

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[10] SGM, p. 271.

can learn to overcome the confusion that results from cases like this through prolonged exposure. Experimental evidence suggests that decrement occurs in the Müller-Lyre illusion, for example.[11] In such cases, we learn to see figures as less ambiguous or less illusory because exposure brings about anticipation of aspectival shifts.

2.3 The Exercise of Sensory Capacities, Playing

It is through identifying perceptual meanings that animals progress conceptually, according to Mitchell. How then do they do it? Learning is one method, and learning can be achieved in a number of ways. Mitchell claims that, for the most part, animals gain their meanings through their capacity to engage in spontaneous exercise of their acquired sensory capacities already. The phenomenon of *playing* is an example of this:

> [C]apital does not lie idle, but is invested in spontaneous exercise or frolic when the business of life is not at hand. And play ... is akin to that business, and a preparation for it. Whether in leisure and play, or in more serious living, an animal learns to guide its life by taking interest in sensations, and in aspects and groups of sensations, on account of their meaning, though they have nothing else to commend them, being neither attractive, startling, nor repellent. [12]

Playing, then, is one important means by which animals learn to grow perceptually. They do this by learning to take note of otherwise uninteresting sensations, which confront them in the act of being spontaneous. It is by such means as playing that different perceptual powers are exercised, and different patterns of sensory awareness are formed. Only recently has the importance of play been understood and appreciated by cognitive psychologists.[13] What demarcates the ability to identify higher level meanings from the ability to anticipate sensory aspects, and learn from them?

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11 D. J. Schiano and K. Jordan (1990), 'Mueller-Lyre Decrement: Practice or Prolonged Exposure?', *Perception,* 19, No. 3, pp. 307-316.

12 SGM, p. 221.

13 See, for example, C. Allen and M. Bekoff, 'Intentionality, social play and definition', *Biology and Philosophy,* 9 (1994): pp. 63-74; M. Bekoff 'Playing with play: what can we learn about evolution and cognition? in D. Cummins and C. Allen (eds) *The Evolution of Mind* (1992).

Mitchell makes it clear that different kinds of meaning are not to be understood as discrete epistemological states, but as a continuum of graded *capacities*. Thus, there is no demarcation between perceiving properly so called, or what might also be called *intentional* or propositional seeing, i.e., *seeing an X,* and simply being aware of aspects of sensations, or qualia. Perceptual capacities include: rudimentary experiences with no object content; experiences with no representational content at all (not even vague ones); and highly structured, object-laden experiences. The graded nature of these capacities, he notes, do not simply increase in sophistication with the number of different senses employed; but, instead, more sophisticated capacities are developed by turning experiences into *thoughts* of various kinds—"thought" being understood, in Mitchell's terms, as referring generally to various cognitive states. The content of an experience is, thus, a function of developmental maturation to some extent. Thus, the importance of the *growth* of the mind for Mitchell. We shall see the stages of this perceptual growth shortly (**§3** below).

In this process of growth, some thoughts become representational objects distinct from their surroundings; some merely become part of gestalt groupings; others become simple qualities of objects; yet others are given name designations and become *things*. To an important extent, the ability to do this is a function of the sophistication of the organism involved. Unsophisticated insects obviously have less ability in making transitions of this kind than humans do:

> The diabolical insistence with which a fly will return to your face on a hot day may demand no more thought of you, and of your distance away, than it has in the degrees of the simple sensation by which you fatally attract it. If its way is guided by sight as well, so that the sensations mean one another, its intelligence is very likely of the second or perceptual order; and still more likely if it has use of a third sense to inform it of your presence. But it is not the mere number of senses that guarantees the thought which we

> call perceiving a thing. In this thought we turn a sensation not merely into an object but into a quality of a thing.[14]

Mitchell clearly had in mind a process whereby experiences occur in various contents, which can be transformed through different stages of cognitive growth.

Mitchell calls the move from one sensation to another, more sophisticated, sensation, the 'motive to progress'.[15] This motive is a result of each organism seeking practical advantages by means of organising its sensations into more accessible forms: 'The motive to progress is still the practical advantage, for, with every fresh cue that it learns to take, the animal appreciates a situation better'. [16] Not all organisms are capable of this, however. Mitchell regarded some creatures as being unable to make even the simplest transitions: 'Some [creatures] are relatively stupid, taking long to learn, some absolutely so, failing altogether'.[17] It is clear from this that, while Mitchell did not overemphasise the conceptual and intellectual capacities of animals, he was no Cartesian rationalist either, preferring to think that other organisms were *by degrees* different from us, but not different in kind.

For sophisticated creatures, forming *beliefs* is an important part of this process of learning to progress. What we call "beliefs" are, for Mitchell, another means by which sophisticated creatures have a "sense of reality". Beliefs are representational forms of meaning, on Mitchell's account.

Once again, Mitchell suggests that the alternative way of thinking of how beliefs about reality are arrived at is to think that, in an important sense, *seeing is believing.* This is not meant to suggest the clearly false claim that anything seen should be believed; but that

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[14] SGM, p. 219.
[15] SGM, p. 220.
[16] Loc. cit.
[17] Loc. cit.

most believings occur without sophisticated mediation by intellect. He suggests this thesis by using the analogy of a dog seeing a bone:

> When I offer a dog a bone, he is supposed to have in mind not merely the look and the smell of it, but some sensation of its hardness, of the marrow in it, of his own teeth, of the crunching, and the old delight. Well, he may, especially if I hold it long enough, but probably most of these achievements are beyond him. Anyhow he does not need them, in order to believe that it is a real bone. His seeing is believing, without its ever having to suggest the sight of by-gone bones, or to make a comparison with them. [18]

His point here is based on a number of assumptions: firstly, the mind is more *economical* than often we suppose (we do not remember recalling the past, or do so quite unconsciously); and, secondly, it is also more *efficient* than we give it credit for ('we should be in a poor case if we had to feel over again our past experience in order to use it').[19] Thirdly, he intimates that any accurate account of experience will allow for *degrees* of conscious accessibility of perceptual data for different organisms (dogs needing rather less inferential informational content about bones than we do, for instance). This point has been noted in contemporary discussions about animals by philosophers, such as Routley. [20] Mitchell was, perhaps, the first philosopher to make this point.

3. The Stages of Perception

Just as we saw that there is growth in sensation from rudimentary to more complex forms, so there are stages in perception. These stages are driven first of all by the appetitive drives of instinct, and then by various kinds of interests; cognitive, aesthetic and so on, which themselves are driven by having *meaning* (and, thus, a source of anticipation for the organism concerned).

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18 SGM, p. 225.

19 SGM, p. 226.

20 See R. Routley, (1981), 'Alleged Problems in Attributing Beliefs and Intentionality in Animals', *Inquiry*, 24, pp. 385-417.

In all stages, the incoming sensations raise various problems for the organism, which provide a spur to the organism to seek resolution of its sensations. This resolution may be simply be a demand for 'satisfaction of sense' [21] (i.e., seeking comfort or sensory clarity; for example, overcoming blurry vision by squinting). This kind of resolution may be simply a spontaneous impulse; or it could be a more specific demand, leading to a seeking of meaning or anticipation at a higher cognitive level. Again, as in the sensory stages, none of the stages of perception are exclusive of any of the others; thus, a high-level, anticipation-seeking perceptual shift does not rule out impulses at a lower level, and so on. Some perceptual problems might firstly involve the organism's merely instinctual drives, yet bring about higher level perceptual development, which might be called aesthetic. Similarly, there is no suggestion that there are clear boundaries to each of the levels. The stages are not so much discrete as continuous:

> I have spoken of grades, levels, and even a ladder of intelligence, in order to mark the distinctive character of its higher achievements. But the words must not mean that there are gaps in the course. For the course is continuous from lower to higher grades for those who make it. [22]

By "those who make it", Mitchell means those organisms which are sufficiently biologically sophisticated to recognise changes in their environment, and changes in the course of their sensory stimulations (unsophisticated amoeba are clearly excluded here, for example). Bearing in mind Mitchell's insistence that there are no gaps in such a course, I shall discuss each of these stages in turn. The stages are not to be understood as necessarily occurring independently of the other stages.

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[21] SGM, p. 242.
[22] SGM, p. 219.

3.1 The First Stage (The "Intrinsic" or Sensory Level)

At the first level, certain sensations raise problems for the perceptual system. These sensations 'may be organic, as in hunger or cold, or they may be special sensations or their aspects, like odours and visible shapes'.[23] These "primary appetites" are quite spontaneous, and require gratification which, in effect, turns the merely sensory experiences into perceptual experiences. [24] The aim of such a level is to turn inarticulate cravings into an articulate demand for further perceptual information; in the process, it is also to 'make better use of the organ of sense'. [25] However, initially the sensory information is neither image-like nor goal-directed. There is not always conscious accessibility at this level. It is, rather, a brute, inarticulate demand requiring satisfaction. The kind of thing Mitchell has in mind is as follows:

> With organic sensations there are movements for relief or satisfaction, and the result of experience is that when hunger, let us say, recurs, it suggests a more and more definite problem. How is this problem felt? ... it is not felt as an image; the search is neither inaugurated nor directed by an idea of the end, and there is no pondering of the means. There is simply action in definite expectation, such as a workman usually has when he quits work at the sound of a bell, and betakes him by the old road to his meal without any forecast or foretaste of it. ... At first hunger drives an animal to search with no more thought of the purpose than when it drives an infant to cry. [26]

To describe this kind of sensory experience as a "problem" is, perhaps, to overstate the case, for this suggests some degree of conscious accessibility. Mitchell clearly thinks, however, that at this level, there is no "pondering of the means" at all. What occurs in such cases is simply the drives of instinct, for example, to feed (for Mitchell, the drive is for a course of sensation). The first stage is, thus, an unconscious satisfaction-seeking, driven by

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[23] SGM, p. 242.

[24] The idea of a spontaneous activity in early perceptual development—essential to Mitchell's account—was an innovation for the time. A century ago James argued that the world perceived by newborn infants was a "blooming, buzzing confusion". This account proved to be wrong once ethologists, psychologists and others turned to study infant perception. *The MIT Encyclopedia of Cognitive Science* (1999), p. 632.

[25] SGM, p. 90.

[26] SGM, p. 243.

means of primary appetites, such as hunger, but also driven by the need for further perceptual inputs of various sorts. Such seekings require no conscious deliberation, nor an understanding of ends; they are also quite automatic. It is this kind of perceptual experience which all animals share. We find this kind of seeking in cases where we wander vaguely about searching blindly, claiming we 'know ... what [w]e want [only] when [we] find it'; [27] cases when we are 'too preoccupied to think what we are about, and when we are sped by violent passions, like rage or terror'; [28] or cases when we find ourselves at the end of a long course of experience without a full understanding of the means by which we reached that point (for example, having driven a car home on "autopilot"). Such instances demonstrate satisfaction-seeking (after all, we are driven in such cases for further stimulation), but not of a form which could be described as fully cognitive, or even as a matter of interest to the organism concerned. Mitchell outlines how basic this level of perceptual intelligence is when he says:

> [Ob]serve that, at the perceptual level of seeking, there is not merely the absence of a picture of the end, but the absence, too, of any feeling of vagueness or fogginess in the thought of what we do seek at this level. For that would involve a better intelligence, and be a spur to the raising of a more definite problem prior to the practical solution. The result of a merely perceptual experience is to turn the craving and its problem into a more articulate demand, and to furnish a more direct course to its satisfaction, though there is still no picture of the end nor pondering of the means. [29]

3.2 The Second Stage (The "Perceptual" Level)

This stage is characterised by movement in response to the initial inputs at the first level. This movement might be overt or covert, conscious or unconscious. But it is usually directed to an end of some kind. It might consist simply of an unconscious rotating of the

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[27] SGM, p. 244.
[28] Loc. cit.
[29] Loc. cit.

eye in response to peripheral stimuli, for example.[30] At a perceptual level, as opposed to a merely sensational level, there is attention to more than simply *improving* sensory inputs by attending to the kind of input received. There is also attention to the form that the experience takes, and how one can seek experiences by means of other sensations. That is, there is an implicit desire to have the experience by means of other sensory modalities:

> When the thought is the perception of a thing, we seek other sensation as well, approaching, handling, and otherwise analysing a thing by actual movements. Or the thought may be a reminiscence of an absent object, and we seek further memory of it, trying, for example, to picture it. [31]

At this level, unlike the first stage, there is a *recognition* of some kind by the cognitive system—albeit sometimes unconscious—that further sensations will follow or can be expected; primary inputs begin to have a *meaning* to the organism concerned. This stage is not always "perception" proper, though it can be—it is mainly an intermediary stage. What determines whether it is perception or not is the extent to which the organism is *conscious* of the changes taking place:

> [P]erception begins when the object in a sensation is felt as a quality and that when it is felt as a quality the thought includes a warrant, meaning, or expectation that other sensations may be had of other qualities. [32]

This and the previous claim raise one of the many ambiguities that occur in Mitchell's writing, which we have seen before (Chapter 6, **§2**). When Mitchell refers to "thought", he means one of two things: "thought" in the wide sense or "thought" in a narrow sense (see glossary). The former is used to refer to any kind of cognitive state—feeling, representational or intentional—which may be a spur to action of some kind. This is how it

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[30] See Dretske in *Seeing and Knowing*, p. 15. See also R. L. Gregory, *Eye and Brain: The Psychology of Seeing*, p. 91.

[31] SGM, p. ?

[32] SGM, p. 226.

is used in this passage. The latter meaning is specifically used to refer to high-level cognitive states of various kinds which are strongly inferential, and which involve background knowledge.

At this stage, the aim is 'an organisation of this mass of meaning into the thought of things, their qualities, and connections'. [33] Differentiation of stimuli has been achieved by the first stage; in stage two, there is further refinement of stimuli into cross-modal meanings. However, that meaning is not always clear, nor unambiguous: 'The meaning consists in some anticipation of sensations to come, though it may be as vague as the most indefinite fear'. [34] Sometimes the meaning is not something of which the organism is entirely cognisant (this shows where the stages of sensory and perceptual intelligence blur and become indistinct). The phenomenon of an undirected fear is an example of this: the organism initiates movement of various kinds in response to stimuli, and is aware of changes which it anticipates, but is not always clear about the reason for the fear, or the most effective means of avoiding it. This kind of intelligence—which is sometimes merely sensory and sometimes perceptual—is common to all animals which are biologically capable of such discriminations:

> It is by an extension of this process that an animal comes to anticipate the various qualities of a thing from a look, a smell, or some other feel of it. The act of intelligence may then be perceptual, or it may remain merely sensory. [35]

3.3 The Third Stage (The "Object" Level)

From the individuation of inchoate, yet meaningful, sensations, there is a further refinement of sensation in terms of their belonging to *things*. Mitchell refers to this stage

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[33] SGM, p. 220.
[34] SGM, p. 219.
[35] Loc. cit.

when we 'turn a sensation not merely into an object but into a quality of a thing'. [36] "Object" in Mitchellian epistemology bears no necessary connection with things in the world (see Glossary). As we have seen, for Mitchell there are both subjective and objective interests, and "objects" in both. But when a sensation becomes projected onto a thing in the world, say, the sky or an orange, there is a distinct qualitative move beyond individuated feelings and sensations which may cause a response of some kind. At this third stage, it becomes clear to the organism that there is a world beyond it which contains physical objects with various intrinsic qualities.

This revelation occurs in three distinct phases: firstly sensations become associated in distinct *groupings* of various kinds; secondly, they become associated with a *perceptual whole*—for example, a thing in physical space; and finally, when grouped qualities are recognised as *belonging* together by degrees: i.e., a number of sensations frequently recur in certain situations, and are expected to thus recur (whether or not certain other sensations are present or absent). In the final phase, the mutually recurring sensations become organised 'into the thought of things, their qualities and connections': [37]

> At first a thing may be thought simply as a group, and a quality as one of its members. Least in advance of a merely sensory thought is one in which a sensory whole is felt to have parts, e.g., the taste, smell, coolness, and softness of an orange, or the expanse and colour of the sky. This is an advance to the thought of a mutual belonging. The usual case, however, is when not the whole object is present in sensation, but only one or two of its qualities, the others being meant by them. This whole is individuated, or given a subject or self ... ; and at first there may be no more thought of the absent qualities of a thing than an expectation of something or other from the same source as the present situation. [38]

Grouping is thus considered to be the first stage in perceptual advance. This stage is followed by a sense of "mutual belonging" of such parts to a whole. Finally, the whole is

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[36] SGM, p. 220.
[37] Loc. cit.
[38] Loc. cit.

individuated and given a subject or self. We shall consider examples of this process shortly.

3.4 Grouping Phenomena

One of the first stages of perceptual growth is the recognition of groupings. Recognition of groupings is the first stage beyond the mere recognition of sensory qualia. What constitutes a group, for Mitchell, is entirely a matter of convenience for the organism concerned: 'We may take this room as a thing, or the door, or even the keyhole, and to a fly on the door the unit group'. [39] The commonest groupings are size and shape, but with sufficient intellectual sophistication, one can mentally extend and extrapolate from the knowledge of perceptual groups to unseen groups: e.g., groupings of molecules and atoms and electrons. Grouping phenomena in experience is clearly an important capacity. The nature of grouping is, of course, species specific to some degree; other animals having different ways of perceiving groupings than we do, owing to differences in sensory equipment. Mitchell notes, however, that we 'feel strange with groups that have no tangible qualities and we hardly call a group a thing at all if it is not assigned a position in space'. [40] Temporal groupings (for example, relationships between long-dead ancestors) are difficult to grasp for this reason, unless they are placed within some spatial context (for example, a photo album or a genealogical tree). This indicates, perhaps, that he thought perceptual grouping to be a natural, perhaps innate, state of mind.

4. The Stages of Growth and the Functions and Forms of Experience

The important thing about the stages of perceptual growth, for Mitchell, is that they approximate the role of the functions and forms of experience, discussed earlier (Chapter 6). These were *feeling, interest* and *thought* or *action.* The growth phases and forms and

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[39] SGM, p. 231.
[40] Loc. cit.

functions of experience (the structure of experience) thus coincide in Mitchell's epistemology.

4.1 Feeling

The first stage requires the resources of feeling: the organism must be able to detect (if not always consciously) changes in light, hue, intensity, timbre, touch, taste, pleasure, pain, and so on. These are instinctive sensations on Mitchell's account. In contemporary terms, it must be able to experience *qualia.* [41] This kind of content is not merely instinctive, though it might be partly so. It can also be *reflexive*—responding to the organism's own bodily processes ("organic" sensations). Alternatively, they might be sensations resulting from *self-directed* sensations. Feeling, as we have seen, mainly sets the object before the organism for further processing at the sensory or the perceptual level. Additionally, however, its role is to enable organisms to 'enter into [the] spirit' [42] of the experience, whatever that experience may be.

Mitchell doesn't mean anything religious by this notion of "spirit": his meaning is closer to the notion of "absorption" or "simulation". Feeling is the means by which experiences come to have a personal emotional value for us simply due to their occurrence. And this occurrence is usually initiated by the experiences of others in our biological group (or by means of the representation of those experiences, for example, in art, music, or drama).

We have the feeling of simulation or absorption by the process of simply exercising the sense organs at this level (as Mitchell put it: 'An object of intrinsic interest pleases or pains us simply as an object of experience'). [43] This requires: a) that feeling has no connection with the ends of experience (i.e., those which may be eventually desired or pursued); and,

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[41] He is explicit that this is a *sui generis* felt quality, and not simply a brain state: '[P]erception begins when the object in a sensation is felt as a quality', SGM, p. 226.

[42] SGM, p. 96.

[43] Loc. cit.

b) that this exercising of sensory organs themselves yields this feeling, quite independent of what that feeling is and whether it brings pleasure or pain to us. There is evidence that Mitchell thought this ability to exercise the senses and gain feeling, and the ability to absorb or simulate the feelings of others, did not just have an important epistemological function, but was a necessary condition of being *human:*

> There is a luxury in yielding ourselves even to our woes, mental and physical. There is a pleasure in imitating apart from what is imitated, and from the pride of success. There is even a satisfaction in weeping with those that weep, as well as rejoicing with those that rejoice; and with people too, who need not be on the stage, but near and dear to us. ... Since it matters less in what they lose themselves, there is joy in the mere achieving apart from the special form of interest which they achieve. [44]

Feeling is, thus, an important function of experience for a number of reasons, according to Mitchell. Its perceptual role may be in aiding us to discriminate low-level qualia, but he also intimates here that it has a biological and/or social role in addition to the perceptual; i.e., in making us human. Learning to "lose ourselves" in feeling through simulation of the qualia of others is a vital human capacity; and a capacity which some individuals (e.g., autistics) do not seem to possess—a fact which makes them seem "less than human". [45]

This point is implicitly endorsed by a number of contemporary philosophers in rejecting arguments which suggest that qualia have no *sui generis* existence (i.e., which are, instead, reducible to brain states, or are eliminable altogether). By contrast, these philosophers—"qualiaphiles", as they are called—are persuaded that feelings *qua* feelings are essential to being human and it is this capacity which "makes life worth living". The common view

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[44] SGM, p. 97. He suggests, moreover, that this kind of absorption is a necessary condition of living a good life: 'A narrow and conventional life misses the pain or repression as well as the joy of a more reckless living; those whose habit it is to sit in judgement, rather than enjoy, have their spring of satisfaction; but the full well of life is only for those who can devote and lose themselves'. Ibid.

[45] For an account of autistics and simulation theory, see G. Currie and I. Ravenscroft, *Recreative Minds: Image and Imagination in Philosophy and Psychology* (forthcoming); see also U. Frith, *Autism: Explaining the Enigma,* (1989).

among such theorists is that 'qualia should not be quined, but fostered'. [46] The point is also endorsed by theorists working on "simulation theory" as an important model of mental development. It is clear from remarks made already that Mitchell had considerable sympathy with such approaches.

Feelings of sorrow and happiness need not require an object, of course. Not all feeling has to be gained by means of complex perceptual discriminations of objects and events in the world, let alone by means of sight. Music, for example, can make one sad or happy, and so can a memory (even, for that matter, the memory of a piece of music!) But it doesn't require a tune to evoke sadness; a minor scale or a succession of chords can do the same job. Clearly, there are biological reasons for the evocation of feeling, and perhaps specific brain spiking frequencies which elicit such responses. [47] This kind of non-representational feeling is presumably what Mitchell is concerned with here. Such feelings may be initiated in experiences at other levels of sophistication, or simply at the level of sensations. At higher levels, experience is said by Mitchell to have "aspects" which elicit feeling (suggesting again that there could be a number of ways in which the functions and forms of experience can occur).

4.2 Interest

The second stage goes beyond the "mere achieving" of intrinsic sensations (see quotation above), and requires the resources of interest. In the *narrow* sense, interest involves feelings, the exercise of specific sensory organs: e.g., sight, smell, taste, etc., which may give rise to action. In the *wide* sense, it refers to any kind of cognitive or phenomenological state which may give rise to action (see Chapter 6, and Glossary).

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[46] Both remarks are recorded in Dennett, 'Quining Qualia' in W. G. Lycan, *Mind and Cognition: A Reader.* (1990); A remark to the same effect has been made by David Chalmers recently. He refers to 'those who feel the existence of qualia in their bones'. D. Chalmers, *The Conscious Mind.* (1996).

[47] As we shall see later, Mitchell argues the case for correlating physical conditions of the brain which bring about such contents (see the concluding chapter).

As we have seen, the organism must be able, not only to detect changes in sensation, and be able to manipulate and simulate them, but use other modalities to do so, and to associate a meaning to the sensation, which guides further processing. At this point, the experience becomes more than a recognition; it becomes a *meaningful* recognition, and thus a means of *anticipating* further sensory inputs by means of actions of various kinds. In interest, organisms do not merely respond to the content of the experience as in the case of feeling; they *expect* and form considered attitudes to the experience concerned, though sometimes these attitudes are inchoate and only partly formed (consider the case of being interested in tea rather than coffee, but being unable to say precisely on what this decision was based).

A course of experience also requires interest because some organisms (of considerable cognitive resources) often appreciate manipulating experiences in a more sophisticated way than that simply involving intrinsic sensations. "Manipulating experiences" is ambiguous in the sense that it involves two quite different processes: 1) what Fodor called 'finagling the looks'; i.e., ear-cupping to accentuate auditory sensations; squinting to accentuate visual sensations; and, 2) overcoming practical *problems* in experience (i.e, "making up our minds" to have tea and not coffee, for example). The first is roughly equivalent to what Mitchell calls "feeling" and it presupposes rather less cognitive resources than the second. The first kind of manipulation is present at both "feeling" and "interest" stages of the experiential course (as noted earlier, each of the stages of growth can be "carried" over to the next).

Interest is critical for the second kind of manipulation but not the first. As we have seen, the first may simply be instinctive, as Mitchell notes: '[It] may be so instinctive as to defy us to prevent them' (cf. the example of 'rapid jerking of our eyes when we look at things

out of a railway carriage'). [48] However, the second implies a degree of voluntary decision-making. An experience which does not attract interest for an organism is soon forgotten, and has "little or no importance", while an experience which is interesting for the organism brings about responses, which raise the cognitive development of the organism to a new level (hence, the importance of play as a manifestation of interest). On this analysis, play is a means of creating perceptual problems of interest to the organism. This need to satisfy an interest is thus more than simply learning to notice and appreciate sensations of various sorts, it is also for engaging in experiences and resolving them (which may involve some degree of proto-conscious decision-making):

> There is pain in a conflict of desires, and a satisfaction in making up our minds what to do. And so it is in our practical attitude to things beyond our control. If in a question of opinion most people find it more comforting to take a side than to suspend their judgement. [49]

At this second stage of perceptual development, the organism can utilise interest to make conscious decisions of various sorts. Thus, there is a clear increase in conceptual capacity when the resources of interest are used, over of the resources of feeling. With interest, the course of experience can be a spur to action; however, when it is not, it is always a means of multi-modal anticipation and expectation.

4.3 Thought and Action

The third stage requires the further resources of thought and/or action. At this stage, the organism makes the cognitive adjustment that meaningful contents are associated with things in the world, that have independent existence and which are the source of its informational exchanges. These objects can be reflexive in nature (i.e., our own bodies). At this point, experiences become organised in the thoughts of things and their properties, be

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[48] SGM, p. 265.
[49] SGM, p. 96.

they extrinsic or intrinsic. The nature of experience becomes then a matter of directedness toward some object and an appropriate response to it.

Responses at this level can be many and varied, given that the resources of feeling and interest can be utilised, in addition to thought. Thoughts thus may give rise to practical actions (e.g., panic and fleeing); interest (e.g., manipulating objects and forming decisions); or various feelings (e.g., like and dislike). In general terms, however, at this level there is a move to greater *intellectual* satisfaction (as opposed to the instinctual satisfaction of mere feeling and the epistemological satisfaction of interest). At the level of thought, the system uses the resources of all the functions of experience, in the service of this intellectual satisfaction:

> In describing the growth of a thought from one that does not satisfy us to one that does, we are describing at the same time the growth of our satisfaction. It is an intellectual satisfaction ... Frequently it then becomes the occasion of a practical attitude towards the object, as when we are in fear and anger; and the object may be ourselves as when we are shy and remorseful. Then we seek a different feeling. But frequently it is not a new feeling that we seek. Our present feeling may not satisfy, either because we seek a fuller or merely a longer indulgence in it, or because there is a conflict of feeling, as when we like and dislike, or hope and fear, or feel sorry and angry, towards the same person and event. We resolve the conflict by thinking the object further in the interests of the disputants. [50]

Being able to think the object further in the "interests of the disputants" marks the first major difference between the cognitive resources of thought, as opposed to those of interest. The capacity to *simulate* in thought the perceptual world of others is a remarkable ability, which assists organisms in a number of ways; and, as we have seen, it is the basis for sympathetic human responses and social conditioning. We shall return to this point in a very contemporary context in Chapter 10.

The second point to note is that the entire panoply of feelings and interests are available at this level, as well as thought. But being primarily at the level of thought and action (and

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[50] SGM, p. 92.

not the level of interest), the response occurs to experiential *projections* of various sorts (i.e., those which are represented in thought as an external object or internal state of some kind). Thoughts, thus, become directed at intrinsic or extrinsic objects, whereas interest is not always so directed (the organism may be interested in simply resolving a matter, without that being necessarily object-driven).

If the main difference between interest and thought is the relationship of objects, where precisely can the boundary be drawn between *perceptual* intelligence and *cognitive* intelligence? We have already seen that perceptual intelligence can be quite sophisticated—being about objects, interests and feelings. Given this, it may not be clear what conceptual intelligence provides. Mitchell notes that the boundary is to be drawn in the capacity to use language; specifically, using language as a means to refer to what Piaget later called "formal operations" (i.e., engaging in abstract reasoning, making inferences, referring to non-existent objects, numbers, and so on). The difference between the levels of feeling, interest and action can be seen in Figure 4 below.

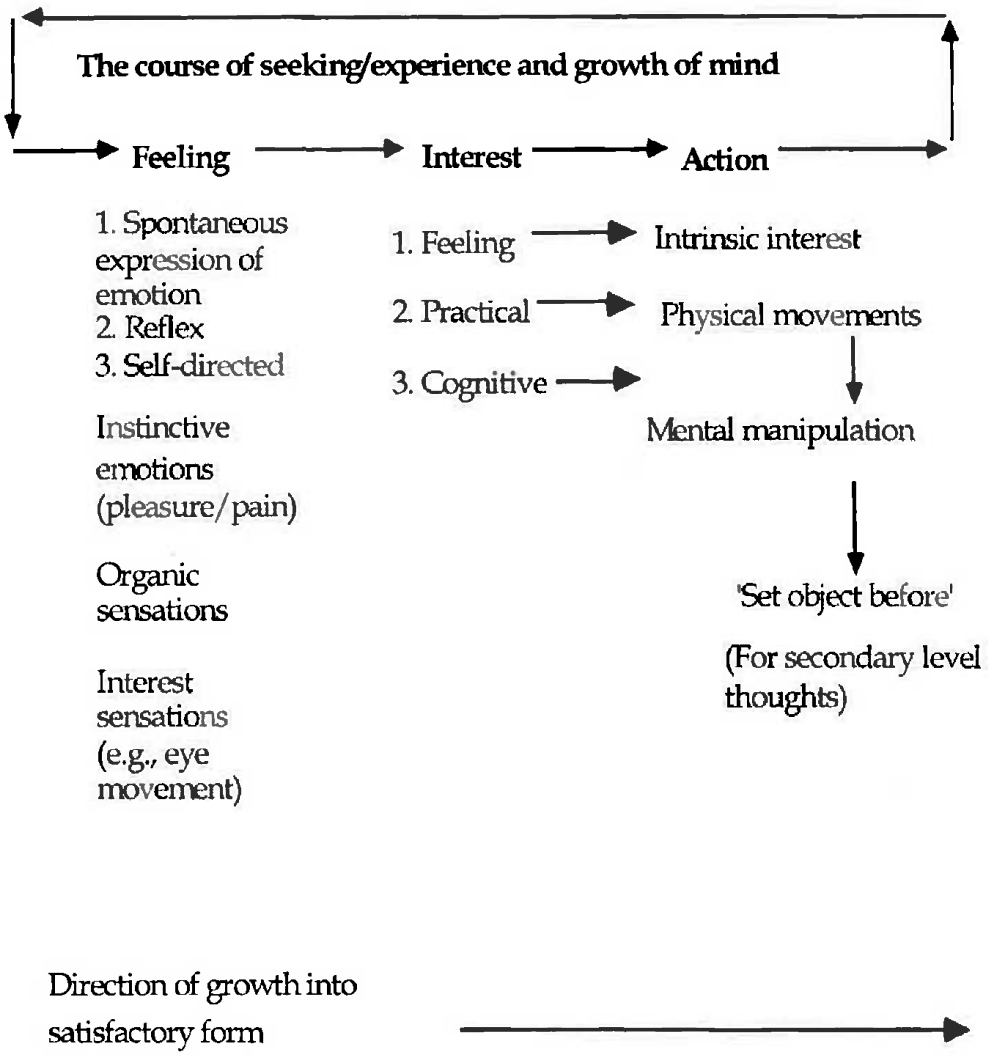

Figure 4: The Functions and Forms of Experience

The third point to note about the level of thoughts is that, when thoughts are involved, there is scope for intellectual development in novel forms, which are not dependent on external stimuli. Such forms include pure reasoning about numbers; philosophy; aesthetics, and so on. It is at this point that perceptual growth gives rise to cognitive intelligence, another level of the stages of the growth of the mind. And it is this formal reasoning which distinguishes the highest perceptual stage from the lowest conceptual stage:

> To understand the upper limit of perceptual intelligence we have to distinguish it from conceptual, or thinking. ... [A]t present we may be merely negative, and regard the line of distinction, as drawn where it is most convenient. It is most convenient to exclude from mere perceiving the power of using language, and the power of forming ideas of things in their absence. [51]

Cognitive intelligence will be discussed in detail in the following chapter.

5. Inference and Cognition

A final point of discussion, before turning to cognitive intelligence, is the relationship between inference and cognition at the perceptual level. Naturally enough, if cognitive intelligence involves the resources of language, there is a considerable amount of inference available to the cognitive system. By "inference" we shall mean the ability to draw upon the stock of concepts, background knowledge and theories, which have been stored in the organism's brain (the "central processing unit" in contemporary terms). Clearly, the ability to use high-level abstract reasoning is inferential to a considerable degree, and the use of language is crucial to this. But what about inferential resources at the perceptual level?

We have already seen (**§5.2**) that Mitchell thinks that two kinds of manipulation are involved: instinctive (involuntary) and voluntary. But he stresses that these are not the only kinds. Between these 'there are all degrees of dependence on our past experience'.[52] This indicates that he did not ignore the possibility of inferential access to cognitively stored information occurring throughout various levels of intelligence (i.e., at the sensory and perceptual levels, as well as the cognitive level). He makes this clear in several passages:

> In perceiving we do not first fix on an aspect, then make it a ground, and so find its meaning. The meaning comes with the sensation, and is necessary to make it definite. [53]

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[51] SGM, pp. 221-222.
[52] SGM, p. 265.
[53] SGM, p. 265.

> [S]ensation and meaning *grow definite together:* the further effect, the recollection, is not a perception nor necessary to it. [54]

Meaning "comes with sensation" and they "grow definite together"; recollection (i.e., inferencing) is not to be considered a perceptual adjunct (but rather an intrinsic part of sensations). It would appear from this that Mitchell was no enemy of inference and the important role it plays in cognition. His views are to be considered as an attempt to bridge the often-cited conflict between sensing and inferring.

6. Conclusion

This chapter has focused on Mitchell's notion of perceptual intelligence. This involved discussing the notion of meaning, or the power to anticipate. It was argued that this capacity was one measure by which animals are distinguished as perceptual creatures. For some animals the power to anticipate consists in low-level, vague sensations (e.g., an indefinite fear); for others, this power consists in far more discriminating capacities, associated with organising their stimuli into features of 'things, their qualities and connections'. [55] The first kind of meaning was described in the chapter on sensory intelligence. The process of perceptual organisation has been described in this chapter.

The distinction between fixed and floating capital was mentioned to demonstrate the difference between instinctive and non-instinctive interests. Mitchell's position on visual illusions was also introduced to show that he was not opposed to some degree of endogenous specification; he did not subscribe to a high degree of "plasticity", and was, thus, sympathetic to Fodor's work in this regard. However, he also thought that the ability of the organism to anticipate changes to perceptual cues was crucial to understanding perceptual illusions. Thus, while he was opposed to a high degree of plasticity, he did not

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[54] SGM, p. 266. Italics mine.
[55] SGM, p. 220.

eschew the important role of *learning*. One of the ways in which organisms learn to anticipate changes, that of playing, was discussed in this connection. The importance of playing and the notion of a developmental perspective on modular processing was attributed to Mitchell's account. This is consistent with the account developed by Karmiloff-Smith, mentioned in the previous chapter.

The three main stages of perceptual growth were then identified, beginning with the intrinsic or sensory level, then the perceptual and the object levels. It was stressed that, for Mitchell, the stages are to be understood as occurring on a continuum. Each of these was shown to be associated with the three functions and forms of experience discussed in previous chapters.

Chapter 10, The Growth of Experience: Conceptual Intelligence

> Thinking is a task; its advantage has to be learnt ... Nothing is easier than to rest satisfied with a little of it.
>
> SGM, p. 313

1. Introduction

This chapter deals with the highest level of intelligence: how it is acquired, and the function it serves in the experiential economy of the organism. It will be shown how, for Mitchell, the growth of conceptual intelligence is a natural extension of the growth of other kinds of intelligence. The notion of the "spur" of conception is discussed in relation to various levels of cognition. I conclude the chapter by looking at a number of principles related to the connection between cognition and perception.

2. Conceptual, Perceptual and Sensory Intelligence

The first question which needs to be considered is the relationship between conceiving and other kinds of intelligence, such as perceptual and sensory intelligence. In a dynamic process philosophy, such as the one on offer by Mitchell, this is essentially the same as asking about the effect of conceiving on these other forms. We have already seen the effect that perception has on sensation in previous chapters. Now we are to see the effect of conception on perception and sensation.

Mitchell claims that the effect of conceiving on perceiving 'is like that of both on our sensory intelligence'.[1] There is, thus, no essential difference at the conceptual level to what was influential at the lower levels. Like the influence of perception on orders lower down, conceiving does two things: 1) it provides a "spur" to further analysis, which is absent in sensation and perception (this enables *meanings* to be distinguished from other experiential aspects); and, 2) it provides a means by which the earlier stages of intellect can develop and grow.

3. The Spur of Conception

The spur of conception does two things, according to Mitchell: (a) it helps distinguish the aspects of experience, which have a meaning for present experiential acts; and, (b) it helps to distinguish aspects of experience, for their own sake, independent of any meaning that they may give rise to. I shall deal with each feature in turn, and then I will discuss how Mitchell's understands the notion of a "spur" of conception.

3.1 The Spur of Conception, Distinguishing Meanings

The first function acknowledges that most experiences are conceptually-filtered or *inferential* (we saw Mitchell's endorsement of the importance of inference in previous chapters). As we also saw in earlier chapters, this involves being able to anticipate and predict experiences, given other experiential cues, and given necessary background concepts. The ability to do this is what Mitchell calls the "spur of conceiving".

Mitchell gives an example which makes clear the idea of the spur of conceiving, and the importance of background concepts. He claims that all perceptual experience, from the most minimal to the most sophisticated, is a case of "seeing-as"—by this is meant a

[1] SGM, p. 294.

product of the influence of extensive background knowledge on experience. To explain the point, he takes the case of seeing an approaching trooper on horseback:

> Your attention is arrested ... by an object on the horizon. At first it is only to you a case of something or other with certain spatial relations; soon it is a case of an approaching object, then of a man on horseback, then you distinguish trotting or cantering, the horse begins to take colour, then a more specific colour, the man becomes a trooper, and so on till at last the object becomes as definite a case as your thought of this man and his horse can make it. Your perception has not merely altered, it has become more and more definite. And, in the final form, it may be said to involve the series of more indefinite perceptions which have introduced it, and somehow to take them for granted. ... At a glance you ... command a whole body of acquired knowledge. [2]

The claim that all perception requires a background of acquired knowledge was a radical suggestion for the time. However, it went largely unnoticed by the philosophical community (perhaps for the same reasons that Mitchell's work itself went largely unnoticed). It wasn't until much later, when N. R. Hanson famously argued for the importance of inference in perception, that the issue began to be taken seriously. [3]

On Mitchell's account, perception becomes "definite" (i.e., given "meaning") through inference from acquired knowledge; knowledge that perceptual agents bring to bear on a given situation.[4] In the example given, the concept of "object" enables the "something or other" to be represented (with certain spatial relations); the concept of "man" enables eventual recognition of the trooper, and so on. This process of bringing the indefinite to the definite, moreover, is not only true of humans, but also of other animals of like or similar biological sophistication, according to Mitchell. [5] Both cases are examples of the effect of the spur of conceiving on perception. Both distinguish meanings of various kinds for the

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[2] SGM, p. 266.

[3] See his Chapter 1, 'Observation', in *Patterns of Discovery*, (1975), pp. 4-30.

[4] He uses the thoroughly dated term "apperceiving" (p. 295) to identify this kind of perceptual process. I shall stick with contemporary usage with "inference" and "inferential perception".

[5] 'We can suppose the man's dog to be the observer, and its perception, though emphasising different factors, would have so far the same characters as yours'. SGM, p. 266.

organism in question. This is one sense in which the spur to conceiving is important. Like Hanson much later, Mitchell claims that experience presupposes concepts of various kinds.

3.2 Mere Perceiving

While most experiences are inferentially filtered in this way, there are degrees by which it can occur in Mitchell's view. More filtering goes on at the boundary between perceptual and sensory intelligence than at the perceptual/conceptual boundary, for instance. He notes, for example, that 'as we seldom have mere sensations, but nearly always give them a meaning, so we seldom, though not so seldom, merely perceive'. [6] The expression "though not so seldom" makes it clear that, while Mitchell generally regarded experiences as drawing on *fewer* inferential resources at the lower levels of sensory intelligence than at the higher levels of perceptual intelligence, there are occasions when we perceive *without* assigning meanings—a phenomenon he calls "mere perceiving". We sometimes "merely perceive" and we quite often "merely sense". The importance of inference grades off, according to Mitchell, the further removed we are from higher-level cognising.

The kinds of mere perceiving that he has in mind are cases when we are not attending to the perceptual inputs received (for example, cases where we are distracted or otherwise engaged). Many such "mere perceptions" occur in the course of daily experiences. However, while there are demonstrably cases of mere perceiving, many perceptual experiences still require concepts. Sensation and meaning "grow definite together" in most cases. And, as we have seen, this process requires background knowledge and prior experience. However, Mitchell does not over-emphasise the importance of inference. He makes it clear that both kinds of perceptions occur:

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[6] SGM, p. 294.

> Far the greater part of our sensations take an immediate meaning without either [thinking or imagining]; and such thoughts come within our definition of perception. But they are seldom mere perceptions, for the meaning that is given is only possible by reason of a previous thinking and imagining. Part of the meaning has been learnt and organised by mere perceiving; but part is due to our thinking in the past, and we now have the reward of it without repeating the work. [7]

Both mere sensations and mere perceptions occur but the lower-level experiences are usually "immediate" (i.e., without concepts). These kinds of perceptions are rare. The important role of the more usual non-immediate perception will be dealt with under the title "expert perception".

3.3. Expert Perception

Mitchell gives several examples of this "previous thinking and imagining" and its effect on perceiving: an astronomer's look at the sky; the soldier's perception of a landscape; and music to a musician. All are examples of the important role background knowledge has on our perceptual lives. In each case the expert "sees more" than the non-expert. But there are clearly degrees to which this occurs. Some of this background knowledge equips the perceiver to 'organise [his] whole thought of a thing under a name'.[8] (For example, a musician might hear something which immediately registers the thought: "minor key"; a physicist might see something *as* an "oscilloscope", etc.) This latter kind of approach is now called the "propositional" account because it presupposes that experiences are represented in tokened forms in either a language or a language of thought. [9]

All such cases, whether "propositional" or not, are examples of experiences being informed by a degree of background knowledge or *expertise.* And, as we have seen, all cases of expert perceiving are informed by what the expert has previously *taken for*

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[7] SGM, p. 295.

[8] SGM, p. 295.

[9] For a modern defence of the propositional approach see: M. Pendlebury, (1990), 'Sense Experiences and their Contents: A Defence of the Propositional Account', *Inquiry,* 33, pp. 215-30. For a critique of it, see Bechtel, W. and Abrahamsen, A. (1991), 'Beyond the Exclusively Propositional Era', in *Epistemology and Cognition.*

granted from previous experiences and learning, to greater or lesser degrees. The case of a name being identified when perceiving something is a case of extreme knowledge being assumed (i.e., propositional linguistic knowledge). In the case of a melody being recognised, or a landscape being recalled, rather less sophisticated processing is assumed. In the case of an object being recognised as a spatio-temporal representation—"a something or other"—even less inferencing is assumed. Sometimes an item in one's experience is represented as a thing which has a certain function, but we are quite unable to say, precisely, what the thing is (that is, the object is recognised adequately, but it is not *seen* as a given object with a certain name).[10] There are clearly greater and lesser degrees of informational content which are brought to bear on such "expertise". Nonetheless, as the trooper example demonstrates, in nearly all cases, "previous thinking", which is taken for granted, is what spurs the agent to identify the meaning of the experience under consideration.

3.4. Non-Expert Perception

Not all cases of the spur of conceptual intelligence require such expertise, however. Cases occur where no 'special expertness'[11] is required to make sense of perceptions, but where apparently innate capacities and concepts are required (though these, Mitchell claims, are really themselves learnt tacitly in the course of earlier experience). These too are important:

> [W]ithout any special expertness, every one of us perceives by seizing aspects that we could not seize without a conceptual handling of them in the past. The prominent and the typical example is our hearing voices as words and sentences, and not as the babble of sound in which we once heard them. [12]

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[10] Imagine, for example, seeing and being able to tell that a tool has a certain function, but being unable to identify the appropriate naming word, "chisel".

[11] SGM, p. 295.

[12] Loc. cit.

Certainly, no "expertise" is required to hear voices as words and sentences. We seem to do it naturally, even instinctually. Mitchell is right to make a contrast between this kind of experience and "expert" perceiving. In fact, hearing voices as words and sentences seems to be a stock example of what philosophers now call *modular* perceptions (i.e., perceptual responses which seem to be isolated in some manner from what is known or believed, etc.). I have discussed this in previous chapters.

Modularity demarcates boundaries where inferencing doesn't seem to occur. It is difficult for us, for example, to *avoid* hearing an utterance as a sentence, try as we might. We can use all the conceptual resources we like, but the words still sound like a sentence—even when we don't know the language! In a similar way, it is difficult for us not to feel an object as an object, as we run our fingers over it, or to fail to see objects in three-dimensional space. Yet Mitchell claims above that such experiences are a result of "conceptual handling". It seems clear from this passage that Mitchell contradicts the modularity interpretation, which was placed upon his views earlier (Chapter 8, **§2** passim).

I believe this would be a false interpretation, however. The important point to mention is that, while Mitchell acknowledged the importance of inferencing in experiences, he seemed equally to hold that all experience is a product of the growth of the mind, not of biological hard-wiring. Thus, he argued that some experiences are spurred not by special expertise, but simply by means of the "conceptual handling of them in the past" (i.e., in earlier childhood development). In such an account, such experiences may *seem* to be endogenously specified, but they are really non-expert perceptions, trained in the past, but which now take place virtually automatically (and thus, *seem* to be hard-wired).

In a sense, Mitchell is not opposed to modular-type perceptions of various kinds (he even uses Fodorian examples, which demonstrate that he was aware of the issue). He even changes the terms of the modularity debate in a way in which many philosophers today would find acceptable. Some experiences can occur automatically "without expertness",

according to Mitchell, yet they have been spurred by concepts earlier in the growth of the mind. This is, of course, not the same thing as modularity theory, as advocated by Fodor and others. Modularity theorists claim that some contents are *cognitively impenetrable* (i.e., a separation can be made between the processes of observation and inference). Yet there is considerable dispute in the literature as to whether psychophysical modules are in fact encapsulated, or if they are "insulated" (i.e., allow some degree of cognitive intervention, but not a great deal). Mitchell would seem to be best associated with the insularity account of perceptual modules, rather than the cognitive encapsularity view.[13]

The point is best put in these terms: while Mitchell was sympathetic to some degree of modularisation of perceptual processing, he didn't accept innatism (i.e., modularity). The difference between the two is this: *Modularity* assumes that there are a number of domain-specific, innate patterns of connectivity already available in the neonate brain; *Modularisation* assumes that a *gradual postnatal specialisation* of the brain occurs in areas where one expects to find important survivalist sensory cues (in areas associated with hearing, touch, visual acuity, and so on).[14] Mitchell thus defends modularisation but not modularity: he regarded the apparent phenomenon of modularity—or "non-expert perceptions"—to be very much a product of the developing perceptual system. Earlier we saw a similar contemporary account, which emphasised many of the same points earlier with the views of Karmiloff-Smith (see Chapter 8, **§6.2.1**).

Several ways in which the spur of conception has its influence have been discussed. These include "mere perceiving" and so-called "expert" perceiving. In each case there are different degrees in which background knowledge makes definite the data in experience.

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[13] On the "insularity" view see Philip Cam, (1990), 'Insularity and the Persistence of Perceptual Illusion', *Analysis*, 50, pp. 231-43.

[14] The distinction between modularity and modularisation is made in 'Continuing Commentary on A. Karmiloff-Smith's *Beyond Modularity* ', in *Behavioural and Brain Sciences* 20, (1997): pp. 351-369.

However, in each case the function of the spur of conception is the same: namely, to provide further anticipation of experience, or the identification of perceptual meanings.

3.5 The Spur of Conception, Distinguishing Experience for its Own Sake

Another means by which the spur of conception influences perception is by bringing about and distinguishing aspects of experience for their own sake. Some perceptions are independent of the meaning that they may or may not have for the organism. In this case, conceptual intelligence provides a setting for the growth of perception to occur, but high-level conception itself is not required in the process beyond a certain point. Conceptual spurs bring about an effect on the perceptual intelligence of the organism, 'whereby the purely perceptual analysis is carried further' [15] (i.e., further than the conceptual spur itself takes it). Mitchell gives a number of examples of this kind of exchange:

> There is the spur to distinguish aspects and groups, not for their meaning but for themselves. These are such as might be had on the purely sensory level, were the senses more acute. Flavours, tints, faint sounds, all the qualities we call delicate, are aspects of the kind; and harmonies and rhythms of sound, of colour, and of movement are groups of the kind. [16]

He has in mind cases where the organism seeks further experience, simply on the basis of sensations received. Cognition provides a spur for this kind of process when, for example, we endeavour to practise a skill (playing a musical instrument), a body movement (learning to use a cricket bat), or to follow through with an instinct (pursuing pleasurable feelings). In such cases, our conceptual resources might bring about initial conditions for the experience (i.e., an overall conceptual framework), but nothing further beyond that. From this, the experience takes on a definiteness of its own, by means of the "feel" of the experience itself.

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[15] SGM, p. 295.
[16] SGM, p. 294.

This experiential phenomenon is well-understood by musicians and other performers. It is also the basis of the preference for learning by means of practice than learning either by theory or from a book. Imagine, for example, the difficulty of becoming, say, a good batsman or tennis player by continuously conceptualising each bodily movement required for the swing. In cases like this, the conceptual background seems to be far less relevant to the experience, than the *content* of the experience itself and how it "feels"; in particular, following through with the course of feeling unencumbered by concepts as much as possible.

Care needs to be taken in how this point is understood. It is not that this kind of growth of perception may occur in the *absence* of any kind of conceptual resources at all. That is not Mitchell's point in the above passage. Indeed, we have already seen how Mitchell endorses a strong, but not exclusive, role for inferential processing in perception. His point, rather, is that such resources, while critical for instigating the experience, are not necessary for their continuance. The concepts set up the conditions for the experience, while "the purely perceptual analysis is carried further":

> When we practise to be perfect in any form of skill, the persistence is due to our higher intelligence; but the growing perfect may need no thinking, no reflection, only practice. And it is not only the skilful co-ordination of our own movements that we learn in this way, including the handling of tools; there is a keenness to detect and appreciate differences in the feel of the tools themselves, in the behaviour of opponents, in the gestures and tones of those with whom we come in contact. ... We rely on it, without being able to give any ground for our faith, except that it works. Such are an old farmer's instincts about the weather, a blind man's detecting the presence of people, the importance that our sense of smell may learn to assume in the absence of sight and sound, the reading of people's thoughts from their eyes. [17]

Mitchell's examples are a little vague, but the general point is clear enough. In this kind of experience, the spur of conception operates by setting up conditions for further experiences at the perceptual level. A blind man may know certain things about his immediate

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[17] SGM, pp. 295-6.

perceptual environment, without being about to "see" anything; he may, indeed, rely on this sense, even when it conflicts with what he "knows" (for example, he may be unwittingly self-conscious in certain situations, without knowing precisely why). Similarly, a tennis player or musician may prefer to utilise the resources of his or her conceptual knowledge, up to a certain point, but effectively "ignore" them for the actual performance or tournament (focussing too much on the theoretical basis of their performance might interfere with the fluidity of their playing, for example).

This is an example of perceiving which falls somewhere between "mere perceiving" (which occasionally involves conception) and "pure sensation" (which needs no concepts at all). It is obviously less sophisticated than "expert perceiving". It is a kind of experience which Mitchell describes as *intrinsic interest.* Intrinsic interest can be described as a growth of feeling, which has the organism's perceptual sensations as the object of the experience, rather than any meaning that the experience might have for the organism concerned. By making this distinction, Mitchell clearly regards the acquisition of concepts as necessary, but not *sufficient*, for the process of experiential growth to occur at this level (I return to this point in **§3.6** below).

In most circumstances, however, there is more than intrinsic interest involved in the growth of perception. As we have seen, most cases of perceptual intelligence require the spur of conception in distinguishing meanings of various sorts (recall the case of the approaching trooper). Perceptual analysis seldom rests satisfied with the contents of the perception itself, but aims to distinguish and "make definite". The point here is, however, that anticipatory meanings *need* not be the only means by which perceptual growth occurs; another means is by virtue of the process of perceiving itself, which is, to some degree, independent of the spur of conceiving (though it might require the spur of conceiving to initiate the experience).

3.6 The Importance of the Spurs of Conceiving, Subjective and Objective

Despite their differences, both kinds of spurs tell us something crucial about the kind of creatures we are. Mitchell suggests that the ways in which conceiving influences perception have two important consequences for the human condition: 1) it teaches the organism skills as well as concepts; and 2) it brings about a sense of the difference between "subjective" and "objective" points of view, from which further cognitive development is possible. We have just seen how concepts and skills are products of the spur of conception. Now let us look at the sense of subjective and objective.

Our sense of "objective", of course, is derived from the spur to identify further meanings and external invariants from the background of concepts that organisms bring to the perceptual situation. The case of the approaching trooper is a good example of this. In this case, we gradually learn to distinguish figure from ground firstly by means of identifying a thing, then a man, then a horse, and so on. Concepts are required in each case. The "object" of our experience becomes gradually detached from our experience of it and takes on its own identity. Hence, it could be plausibly argued that we learn the concept of "objective" in the process.

The sense of "subjective", by contrast, is derived from the organism's sense of "mere perceiving" and "intrinsic interest", according to Mitchell. He argues that because neither process requires "theory or very much reflection", we learn the conditions which generate subjective states of mind. It is these states (in conjunction with the "objective" states) which result in the subjective/objective divide in higher thoughts:

> [T]hough the observing that is expressly [sic] taught is usually conceptual, viz conceptual perceiving, there is also the aim to give skill, and subtle sense of whatever kind, by way of practice and intercourse, without the need of theory or very much reflection. Taste, manners many things have to be learnt in this way, if the higher or

> conceptual intelligence is to have object and subject (viz matter to work upon and power of dealing with it) from which to develop.[18]

This passage confirms once again that Mitchell's analysis of experience allows for a degree of independence of lower level perceiving from higher level processing. He did not consider there to be sufficient grounds for thinking that all perceptions have to be conceptually informed (nor conceptually-informed in equal measure). In this sense, his work is very much in the tradition of contemporary theorists, such as J. A. Fodor. Fodor, of course, mainly advanced biological reasons why there must be an independence of function between observation and inferencing. The two main reasons were: 1) Evolutionary constraints dictate that low-level observables should always be *causally* closer to perceptual belief systems rather than inferential belief systems ('the etiological route from the fact that P to the belief that P is ... *shorter* in observation than in inference: less is likely to go wrong because there's less that *can* go wrong'); and, 2) If there were no independence of function then observables wouldn't be able to assist in resolving problems at the level of background theory, which they regularly do ('observational fixation of beliefs plays a special role in the adjudication and resolution of clashes of opinion') [19]

However, in the passage quoted above, Mitchell also provides a further reason why the observation/theory distinction must not be collapsed. We see here that, according to Mitchell, there has to be some independence of function, because it is through this process that we learn our sense of "subjective" and "objective". Our sense of objective and subjective derives from a division between different kinds of cues in the development of our perceptual judgements (we shall return to this point in section **§3.6**).

There are two further points to note about the spurs of conceiving:

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[18] SGM, pp. 296-7.

[19] Both reasons have the common assumption that a distinction between observation and inference is *selectively* important. J. A. Fodor, 'Observation Reconsidered,' *Philosophy of Science,* 51 (1984): p. 24.

1) Mitchell claims (see note 16, page 389 above) that the kinds of perceptual experience which occur in cases of "intrinsic interest" could be achieved at the level of sensation, but the discriminatory powers of sensation are not acute enough (suggesting, perhaps, that conceptual resources are needed to "get the experience going"). This remark suggests that there should be empirical grounds for expecting such experiences to occur in organisms with greater, rather than lesser conceptual sophistication (for example, *Homo sapiens* can be fully expected to engage in experiences of intrinsic interest, but lower organisms with fewer conceptual resources to "drive" the experience will not). Equally, it might be predicted that conceptually deficient humans might have more trouble experiencing the content of their own sensory and perceptual states than conceptually "normal" individuals. While there is no direct evidence for these claims, the psycho-physical literature has some suggestive examples: some autistic individuals, for example, seem to have diminished conceptual skills in many areas, and are remarkably lacking in their emotional lives as well.

2) Another point to notice is the use of the obscure term "spur" for the influence of background knowledge, as opposed to the more conventional terminology used today. In the circumstances, this is an unusual term indeed. Why did Mitchell not use the terms which we tend to use now (or other terms of similar significance): "theory-dependence", "saturation", "penetration", and so on? Why did he not say that conception *penetrates through* perception, as some contemporary philosophers claim?

There seems to be a basis for Mitchell's choice of words which assists us in understanding his position on the issue of the theory dependence of observation. Unlike other associated terms used, the key point about cognition and perception for Mitchell is that the relationship is not a case of all perceptual processes being concept-*laden.* The precise point for Mitchell (but not Hanson, Feyerabend and others) is that, in some circumstances, the conceptual background is epistemically idle, in other cases it is not (and

when it is used, it may be either partly or fully or even imperfectly utilised). Conceptual information is, thus, best described as a "trigger" for perception, rather than a dependent variable. This is because the extent to which an experience is susceptible to background knowledge depends on the kind of experience in question, the sensory inputs received, and the degree of the growth of the mind. In other words, there's more to it than simply proximal stimulations and theory.

The relationship between the content and its trigger or "spur" is best seen as a relationship between a thing and the sufficient, non-necessary conditions which bring it about. For example, while having a heart is a *necessary* condition for blood flow through the pulmonary artery, it is not sufficient (for the heart may not be pumping). However, engaging in aerobic exercise, excitement or fear is *sufficient* but not necessary (a working heart is still required). Compare also the use of "promotion" in genetics: promotion is the sufficient, but non-necessary conditions under which an initiated cellular change develops into cancer. It might be described as a "spur" or trigger for cancerous cells to develop (though biochemists do not use this expression). DNA mutation is another example of sufficient but non-necessary condition. It, along with "promotion", is only part of a causal cluster which contributes to cancer, but is not a necessary condition for it.[20] By contrast, mutation of cells is necessary for the development of cancer but not, in itself, sufficient for the development of cancer (one can have mutated cells which are not cancerous). Only when the defective gene is read and the mutation translated into a defective, or missing, product or response, is the cancer process commenced. Without promotion, there is no necessary development of the cancer—it is just a faulty bit of DNA that lies dormant with no ill effects (in exceptional cases mutation turns to cancer when the initiation event so

[20] It has been pointed out to me that there are other mutations which do not require either DNA or RNA. Mad cow disease and scrapie, for example, are caused by prions—self-infectious proteins. I am grateful to Stephen Hardy for this point.

powerful it acts as a self-promoting agent). Normally, it is only when the gene containing that mutation is expressed or "promoted" that there is the possible, though non-necessary, realisation of that defect's potential. Conversely, promotion doesn't result in cancer, either unless a mutation is present that can be liberated as a result of the promotion process. [21]

Mitchell's views about the relationship between concepts and experiences can be viewed in similar terms. A conceptual background of inferential information is a sufficient, non-necessary for experiential content. Often it is epistemically idle (as in cases of "mere perceiving"); sometimes it is activated (as in "expert seeing"); and sometimes it is partly responsive (as in "intrinsic interest"). The point is: while it can be said that an inferential background ("promotion") is sufficient for content, it is not necessary, and is only "activated" under certain circumstances. On the other hand, the presence of perceptual inputs of various kinds ("initiation") is necessary for content but not sufficient; they may, instead, simply be "lying there", so to speak, with no effects (i.e., they need to be "turned on"). The "turning on" is a function of concepts in conjunction with other sufficient, but non-necessary cues; for example, the stage of growth of the mind, the kinds of educational practices employed, sensory inputs received, and so on.

This way of looking at the issue allows considerable subtlety in how the growth of the mind and its various influences can be understood. Thus, a growing mind might be spurred by background knowledge in some educational circumstances and not others (just as cancer cells are "promoted" in some circumstances and not others). Mitchell claims that some educational practices are unable to spur the perceptual and conceptual changes required, because they take the entirely wrong approach to presenting this background knowledge to the audience. (If the metaphor used is "penetrated" or "saturated", rather

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[21] Thus, carcinogenesis is divided into two distinct phases: "Initiation", where heritable genetic change occurs (e.g. mutations); and "Promotion", which involves no detectable change in the genetic code but where these mutations are expressed or turned on.

than "spur", clearly there is less scope for allowing this subtlety). Thus, the idea of the "spurs of conception" provides a new and interesting way of viewing the relationship between observation and inference.

This section has shown how Mitchell viewed the relationship between conceiving, perceiving and sensing. In general terms, conceiving does the same job for perceiving, as perceiving does to sensing. In fact, 'conceiving affects perceiving, as both affect the definiteness of sensation or sensory intelligence'.[22] Both conception and perception are concerned with the development of the lower level intelligence.

However, as we have seen, the influence of conceiving is also more sophisticated than that of perceiving. He regarded there to be two main kinds of influence that conceiving has on lower levels of experience: 1) as a spur to distinguishing meanings; and 2) as a spur to distinguishing experience for its own sake. This leads to the identification of a number of different kinds of experiential processes which can be grouped under 3 main heads. Under "expert perceiving", we find: (a) propositional linguistic and (b) various lower forms of "definite" perceiving. Under "mere perceiving", we find what seems to be modular-type perceiving (i.e., experiences which do not seem to be strictly dependent on higher level concepts). Under "intrinsic interest", we find cases where the organism's sensations themselves are the object of the experience. We now turn to the importance of conceiving for the growth of perception.

4. Conceiving and the Growth of Perception

Conceiving provides a spur for distinguishing meanings and experience for its own sake. There are a number of specific points which can be brought out of this. These points make it clear that, while Mitchell argued for the importance of conceiving for the development of intelligence, he did not overstate the case. The position he was putting forward was to view

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[22] SGM, p. 296.

the relationship between high-level concepts, the processes of inference, sensation and perception in relational, non-exclusive terms. Thus, while experience generally depends on conceptual resources, there are a number of ways this relationship is experientially realised.

4.1 New Experience Does Not Supersede Old Experience

Mitchell does not have in mind a situation in which lower level experience is superseded by the higher level experiences which might result from conceptualisation. Indeed, he explicitly claims that lower level experience is needed by the re-conceptualised content:

> When, in any mind, sensory grows to perceptual intelligence, it is not superseded; on the contrary, it rises in importance and the new depends on it. [23]

Content, in his view, is thus an *amalgam* of influences (conceptual, sensory, and so on) on most occasions. Indeed, he intimates here that new content is substantially *driven* by old content; thus, the "look" of something contributes substantially to how something is represented, and hence conceptualised, etc. This is, perhaps, what we should expect: simultaneous contrast of colours might make things look farther off, for example, and because of that, we represent and conceptualise them as being a certain distance away. Our cognitive expectations are disturbed when we find that things which look far away are not (i.e., in the case of distance illusions). The fact that conflict can occur between sensory and conceptual levels is, as Fodor has pointed out, a reason for a distinction to be drawn between observation and inference. However, the same point is also the basis for an argument that observational experience is not necessarily superseded by the spur of conception. We might call this *the principle of non-supercedence.* (PNS).

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[23] Loc. cit.

4.2 Not all Development of Experience is by Means of the Spur of Conception

While Mitchell's analysis is focussed on understanding the structure and growth of human experience, he is also interested in other kinds of experience, e.g., that of animals and insects. Clearly, the level of conceptual sophistication which applies at the higher levels does not apply to the lower levels. Thus, it is to be expected that in the case of some organisms the spur of conception plays a minor (or non-existent) role. Development can occur at lower levels too, however, and this is by means of the diversification of ways in which such animals receive sensory information, rather than the conceptualisation of it in new forms:

> [W]hen comparing the minds of different species, we frequently find that, instead of developing to the perceptual grade, there may be a further development of the lower grade. This consists in a multiplication of sense organs, or in a greater sensitivity. [24]

Thus, an insect's multiple eyes, a snake's visual thermal receptors, and a bat's echolocatory sense, are examples of how different and sophisticated perceptual responses can be, when the conceptual powers of the organism are biologically and physiologically limited. This point makes it clear that, while cognitive processing is generally necessary for experiences to occur, they are not by any means sufficient. There are other means by which organisms can achieve experiential sophistication. We might call this *the principle of experiential diversification* (PED).

4.3 Not all Development of Experience is Progressive

It follows from **§4.1** and **§4.2** that if experience can develop in perceptually different ways in other animals (i.e., in sensitivity and displacement to other organs) and these ways are not conceptually superseded, then these new forms of sensing are not superseded either.

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[24] Loc. cit.

Thus, although an organism may have reached its developmental limits in terms of perceptual intelligence, this does not mean that this necessarily *disadvantages* the organism. An organism might be superbly adapted; so much so that it is better suited to certain environmental situations than more sophisticated creatures:

> [I]f an animal may remain at the lower level, and be better adapted to its environment than another that has risen to the higher level, so we find a better development of perception, and even a better conduct of life, among the higher animals than we may find in man. [25]

Thus, bats are better than humans in negotiating dark caves; bees and birds are better in finding food and water sources; dogs are better in locating things in olfactory space, and so on. [26]

On Mitchell's account of experience and content, there is no reason to draw boundaries where the advantages of inferencing at the conceptual level mitigates the importance of low-level sensing. The value of each is clear, and there are no grounds upon which to assert that the one takes primacy over the other. Thus, while pointing out the advantages of the spurs of conceiving, and their importance for the development of perceptual and sensory intelligence, Mitchell presents no *inferential elitism.* On an inferential elitist view the importance of high-level content (such as language) is taken to be *necessary and sufficient* for any kind of sensing at all. But on the kind of story Mitchell is presenting, the spur of conceiving is not a guarantee that organism's progress solely by means of it. We might call this *the principle of non-progressiveness* (PNP).

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[25] SGM, p. 297.

[26] Though this is as much to do with the capacity to train the dog's selective attention as its remarkable sense of smell. See 'Pay Attention Rover', *New Scientist,* 10/5/97, pp. 30-33.

4.4 Developments of Experience Result from Prior Content

Another point to note is that content development does not occur in a vacuum. Without substantial resources at each stage of the process, there is nothing, other than the resources of "mere perception" and "mere sensation", for the spur of conception to work on. On their own, these capacities gain the organism little ground. For an animal to advance beyond this there needs to be ways of organising incoming sensory stimulations, and of bringing cognitive resources to bear upon new perceptual problems which face it. Thus, to some extent at least, the development of experience depends on prior content.

Any "advance" or "development" in perceptual content is so described because it best harnesses the resources of mind available for the purposes to which the animal puts it. As we have seen, this does not mean that it is necessarily cognitively more valuable than other forms of content (thought it might be); only that it is beneficial for the organism to use what is available. Thus, an animal with the conceptual resources to distinguish figure from ground would be expected to do so; an animal which can detect thermal sensory properties visually would be expected to take advantage of this for finding food, and so on. In particular, an organism, which has the resources to *conceptualise* its experiences in higher forms of thought, would be expected to bring the resources of concepts to sensory and perceptual content, even when there are sometimes no evolutionary advantages to doing so. On biological grounds, all organisms naturally utilise the capacities gained through selection, but these capacities are not always advantageous (thus, it may be better just to *do,* than to *think* about, some course of action). Nonetheless, all organisms invested with various capacities are, on Mitchell's view, compelled to utilise these capacities when confronted with perceptual problems which demand their deployment.

Perceptual situations also lead to perceptual disturbances; e.g., something seen far off is not clear until we try to resolve the experience by bringing concepts to bear (e.g., the approaching trooper). When confronted with a perceptual problem which creates a conflict

with prior knowledge, the organism draws upon capacities which aid in resolving the problem at an intellectual level. This general tendency to raise one's experiential intelligence to new levels might be called *the developing power to think* (DPT):

> We account ... for the developing power to think as the response of the power to think which we already possess. It is a power that we have realised in a body or system of knowledge, and, when this is challenged at any point, there is a disturbance of our satisfaction, which rights itself by some degree of development in the system. [27]

Less sophisticated organisms have such a power too, albeit their capacities draw upon different sensorimotor skills. Evolutionary strategies allow for some organisms to challenge the disturbance in the system by changing the way their perceptual organs work (bats which, contrary to popular belief, can see very well, might resolve a difficult experience by using echolocation, for example).[28] We see here how Mitchell's discussion about conceptual intelligence follows naturally from what we have already learnt about sensory and perceptual intelligence.

Each of these points: the developing power to think; the principles of non-supercedence and non-progressiveness; and the principle of experiential diversification, guarantees that there is no *unique* way in which sensation and perception lead to conception. In fact, as we have seen, sometimes it does not lead there at all. Mitchell notes that 'the path from perceiving to conceiving ... is not attempted by most animals'. [29] One reason for this is that animals do not require conception in order to survive doing the things they do (see **§4.3**); another reason is that they have biologically evolved with fewer cognitive resources. Moreover, these points do not mean either that experiential elitism of humans over animals is favoured, or that there is no value in moving beyond perception. Mitchell's stand on the issue is that a developmental theory of content can be supported, without over-

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[27] SGM, pp. 314-5.

[28] Thomas Nagel, 'What is it like to be a Bat?', *Philosophical Review,* LXXXIII, pp. 435-451.

[29] SGM, p. 297.

intellectualising the relationship between observation and inference, and without assuming too much is possible in the case of lower organisms.

5. Conclusion

This chapter has reviewed Mitchell's account of conceiving. We have looked at the function of the spur of conception and the role it plays in distinguishing meanings. These included mere perceiving, expert and non-expert perceiving. We also saw how the spur aids the organism in distinguishing meaning for its own sake and accounts for our sense of "subjective" and "objective". The various ways in which cognitive intelligence grows was also discussed. These included the developing power to think; the principles of non-supercedence and non-progressiveness; and the principle of experiential diversification. We saw that these ways account for the diversity of experiential resources available to organisms. In summary, Mitchell's account of conception is a sophisticated early attempt at accounting for the relationship of thought to the mechanisms of perceptual processing.

VI: The Indirect Explanation

Conclusion, Neuroscience and Mind

> Our own mind and its experiences we may know ... as the brain and its processes, and in this way other people can know us equally well, or better than we know ourselves. But we also know our mind and its experience directly, and this no one can do but ourselves, who are our mind and have its experience.
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> SGM pp. 22-23.

1. Introduction

In this final chapter, we will look at Mitchell's account of the "indirect" explanation; that is, the scientific basis of mind. As we have seen, Mitchell subordinates this account to the "direct" explanation of the mind by means of experience. Now we shall see the extent to which Mitchell regards the indirect account as valuable, and the specific neurological view that he supports.

2. Neuroscience: The "Indirect" Explanation

The aim of the indirect explanation of experience is to look at the neurological evidence, as it reinforces the account of mind already developed. Mitchell claims that 'the physical account is mainly a translation of the mental account'. [1] But he also states that he is concerned with determining the extent to which the translation is legitimate. I shall summarise Mitchell's arguments and later evaluate them.

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[1] SGM, pp. 450-451.

2.1 Müller's Law of Specific Energies

Mitchell's first analysis is of Johannes Müller's law of specific energies. Müller's law (perhaps best called the law of "specific qualities") is this: "in whatever way a terminal organ of sense may be stimulated the result in consciousness is always of the same kind". Various sensations are given not by different nerve signals but according to which part of the "sensory" brain is stimulated, leading to specific localised sites in the cortex. [2] In other words, 'every fibre from an organ of sense produces a different sensation or "element of sensation" from every other'.[3]

Besides making useful testable predictions, there are a number of consequences of Müller's Law for the cognitive sciences: one is that the immediate objects of perception are 'particular states induced in the nerves, and felt as sensations either by the nerves themselves or by the sensorium'.[4] Another is that the philosophical problem of the mind's access to the external world is, according to this view, necessarily restricted to access by means of the organism's sensory nerves.

Drawing on both experience and the empirical evidence available in his day, Mitchell notes that this account needs to be modified. This is so for a number of reasons. To start with, he notes that the view amounts to the claim that there is no distinction between the organs of sense with respect to the law: each detection organ will be seen as the same as other detection organs, with respect to their ability to produce sensations. However, this is clearly not true. The ear assigns simple tones to many different parts of the basilar membrane; whereas, the retina assigns colour to as few as three structures. Nor is it the case that sensations of contact on the skin is equally discriminate: 'there is even a sensation

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[2] R. L. Gregory, 'Helmholtz', in R. A. Wilson and F. C. Keil (eds), *The MIT Encyclopedia of the Cognitive Sciences*, (1999), p. lvi and p. 368.

[3] SGM, p. 455.

[4] Wilson and Keil, op. cit., p. lvii

of cold when a "cold spot" in the skin is touched by a hot wire'. [5] Thus, there cannot be a simple equation of sensation with stimulation on sensory surfaces.

If Müller's law was true, then it would be expected that sensory discrimination would be most acute where sensory surfaces have the best nerve supply. However, Mitchell notes that this does not seem to be true in the case of the visual cortex, which is more sensitive than it should be on the basis of the nerve-endings supplied to it. Moreover, the discriminatory capacities are highly responsive to change: when a piece of skin from one area is transplanted to another, it takes on the sensory capacities of the new area. [6] This suggests, two things: 1) local sensations depend on larger sensations of which they are a part; and 2) there are as many sensory differences as there are local differences in sensations. Moreover, it shows a learning mechanism of the brain in response to local discriminations. How are all these objections to be met by a modified account of Müller's law?

Mitchell moves to consider a more plausible interpretation of the Müllerian law, in the form of the neuronal *path* that is followed, rather than the sensory sites themselves. This would account for changes in sensory capacities from one site to another, because the path of the stimulation might involve different neuronal weightings and connections from another experience of the same sensory type. Thus: 'the taste of sweet from one part of the tongue may feel quite the same as it does from another, but it is not due to stimulation of the same cortical cells as the other'. [7]

However, while there must be different ways in which sensation arises through neural stimulation, it does not follow that any part of the brain can do the job of any other. Mitchell argues that in dreams and hallucinations we receive 'the same sort of sensation as

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[5] SGM, p. 455.

[6] Or where an area, such as a speech centre, develops in the contralateral right hemisphere when the left has been destroyed. SGM, p. 459.

[7] SGM, p. 458.

if the stimulus had been external'. [8] This suggests to Mitchell that there must be "native tendencies" internal to the brain. However, admitting the possibility that sensory content arises from different weightings of neuronal paths, allows Mitchell to draw the fascinating corollary that there might be a high degree of *plasticity* to the brain's capacities; in particular, greater plasticity where learning is required, and less where it is not:

> [The facts] point to a high degree of plasticity; but the plasticity is defined in degree and direction of native tendencies; it is not mere indifference. Doubtless the plasticity is least in the correlatives of the lowest and oldest forms of experience, as it is the greatest where most may be learnt. [9]

This anticipates a good deal of contemporary work in cognitive science. Much work has been done on the extent of neurological plasticity and the critical period in which the brain can adapt to changes by making compensating neural pathways. An example of this is Hubel's and Wiesel's work on visual processing which demonstrates that closing one optical pathway shifts the balance to the other.[10] Mitchell's reference here is possibly the earliest assertion of some kind of plasticity at the level of brain mechanisms (in earlier chapters, we have seen that Mitchell admits a degree of *perceptual* plasticity). Clearly, he thought the idea sufficiently important to emphasise at the neural level as well.

It has long been thought that there must be *some* measure of plasticity in the higher cortical centres—i.e., areas associated with object memory (such as the temporal lobe)—to allow for the ability to acquire and store new information throughout life. However, it has not been recognised until very recently, that primary sensory areas throughout the cortex have experience-dependent plasticity to some degree. Once again, clearly, Mitchell was arguing for a position which anticipates later experimental research. Very recently, brain

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[8] Loc. cit.

[9] SGM, p. 459.

[10] D. H. Hubel, and T. N. Wiesel, 'Functional architecture of macaque monkey visual cortex', *Proc. R. Society London B. Biological Science,* 198 (1977), pp. 1-59.

science has confirmed neural plasticity in a variety of areas, including ocular-motor, spatial, auditory and orientation and memory functions. [11]

Contemporary discussions do not doubt neurological plasticity; however, they do dispute the extent of it. Some theorists argue for a high degree of plasticity from sensations through to one's conceptual knowledge; others suggest that plasticity is much more limited.[12] It is clear from the above quotation that Mitchell thinks that there are limits to plasticity along the lines of our most ingrained, innate tendencies. Allowing for these adjustments to the principle of Müller's law, Mitchell notes that there can be "no objection" to it on experiential grounds.[13]

Another conclusion drawn from these points is that the metaphor of the brain must not be one in which the neurons are a 'single line of rails [with] every station ... a junction'. [14] Sensory experience shows that movement between neighbouring points on the skin gives a remarkable increase in discriminatory power. If the neurons were like single relays from the peripheral sites of stimulation to the cortex this would not occur. Mitchell objects that if stimulation messages were simply repeated, at higher levels, it would be a "purposeless

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11 For empirical work on neural plasticity, see C. D. Gilbert, 'Early perceptual learning', *Proc. Natl Academy of Science USA,* 91, (1994), pp. 1195-1197; Gilbert, et. al., 'Spatial integration and cortical dynamics', *Proc. Natl Academy of Science USA,* 93, (1996), pp. 615-622; E. I. Knudsen, an M. S. Brainard, 'Creating a unified representation of visual and auditory space in the brain', *Annu. Rev. Neuroscience,* 18 (1995), pp. 19-43; R. Linsker, 'From basic network principles to neural architecture, III: Emergence of orientation columns'. *Proc. Natl. Acad. Sci. USA,* 83 (1986): pp. 8779-8783; G. Melville-Jones and A. Gonshor, 'Goal-directed flexibility in the vestibulo-ocular reflex arc', in G. Lennerstrand and P. Bach-y-Rita (eds), *Basic mechanisms of Ocular Motility and their Clinical Implications* (1975); M. M. Merzenich and K. Sameshima, 'Cortical plasticity and memory', *Current Opinion in Neurobiology,* 3 (1993): pp. 187-196; N. M. Weinberger, 'Dynamic regulation of receptive fields and maps in the adult sensory cortex', *Annu. Rev. Neuroscience,* 18 (1995): pp. 129-158.

12 A useful contemporary debate about the degree of plasticity can be found in: J. A. Fodor, (1984), 'Observation Reconsidered', *Philosophy of Science* 51, pp. 23-43. P. M. Churchland, (1988), 'Perceptual Plasticity and Theoretical Neutrality', *Philosophy of Science,* 55, pp. 167-187. J. A. Fodor, (1988), 'A Reply to Churchland's 'Perceptual Plasticity and Theoretical Neutrality', *Philosophy of Science,* 55, pp. 188-198.

13 SGM, p. 459

14 SGM, p. 460.

arrangement" and would not cater for the evident development of minds which is one of their distinguishing features. [15]

An alternative account is what Mitchell describes as the "army" view. Here the lower cells operate as members of an army giving reports to those above. This account demands that the system is governed by higher levels: 'the captain giving unity to his company and receiving reports of them; the colonel representing the captains and so on'. [16] By analogy, this requires that 'aspects [of] sensation [are] effected by a higher neurone to which a variety of lower neurones report themselves, and that the higher neurones in turn report themselves to others of still higher rank'. [17] Mitchell objects to this view on the grounds that it predicts that lower messages should be represented at higher levels and that 'there ought to be abundant witness of it in the structure of the cortex'.[18] However, if anything is clear from brain structure, it is that information is represented very diffusely indeed: 'there is no evidence that fibres from a group of lower cells seek and discharge into a common superior cell, as the theory requires'. [19]

The metaphor should not be a single train track from source to cortical site, nor an army; but rather, an account where, at each level higher than the source of stimulation, excitations occur among neighbouring neurons, until 'at the arrival platform in the cortex, the peripheral fibre is represented by many, and is thus able to excite not one but a group of cells'. [20] Mitchell refers to this as the "avalanche" view. He describes it by citing Foster:

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[15] SGM, p. 476.
[16] Loc. cit.
[17] Loc. cit.
[18] Loc. cit.
[19] SGM, pp. 476-7
[20] SGM, p. 460.

'The impression taken up at the periphery by a single sensory cell spreads like an avalanche through an increasing number of cells up to the brain'. [21]

Again, this account has support on experiential grounds. According to Mitchell, this metaphor explains why 'indefinite sensory whole[s] become definite, and how the whole gives value and prominence to some parts, ignoring others. [A]nd it helps us to understand how very different qualities from the same sense organ feel alike, while, those from different sense organs do not'. [22]

The other metaphor which this account helps us debunk is that where what is stimulated on peripheral surfaces is 'projected like a copy on the cortex'. [23] This is implausible, according to Mitchell, on the grounds that there is no "point-to-point correspondence" between cortex and peripheral area, and the cortex is not arranged in patterns. Rather, experience must be represented by *groups* of neurons. What we may assume, given the account of stimulation developed, is that there is 'repeated differentiation and elaboration in passing from unit to unit'. [24] This is again fascinating because, as we shall see, it leads Mitchell—on experiential grounds alone—to consider some kind of connectionist account of mind long before it was fashionable for philosophers to do so.

It also follows from this that the site and nature of the correlate of sensation in cortical processes is a matter of some dispute. If the correlate of sensation is groups of cells (not single cells), and the path followed (rather than the cell body itself), then it does not confine an account of the correlate of experience to cortical cells in the brain. Mitchell considers the 'grey matter in which the bodies of neurones are embedded ... [and] the

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21 SGM, p. 462. The reference occurs in Foster's *Text-book of Physiology,* p. 1316.

22 SGM, p. 461. Whereas the alternative account—an 'isolated conduction along a single track to a single cortical cell would leave the other anatomical routes meaningless'. Loc. cit. Mitchell briefly discusses the alternative of a single route account in which 'the opening of one route closes another', but rejects it on the grounds that it requires a difference in stimulation to work it.

23 SGM, p. 461.

24 SGM, p. 462.

intervals across which neurones have to excite one another'[25] as a possible locus; an account which was very new for the time. [26] Taking stock, we see that Mitchell has opted for an account in which sensation is a function of groups of neurones working in parallel, with excitation occurring among groups, an account not dissimilar to parallel distributed processing (PDP) accounts popular today. [27] We shall see further evidence for this conclusion in what follows.

3. Accounting for Experience

There are several kinds of experiential content which an adequate account of neuroscience must describe. These include local sensations, mere sensation and higher levels of experience involving interest and thought. Can the kind of direct account Mitchell advocates support these experiential phenomena? Mitchell discusses different features of experiential content from the perspective of the neurological account. I will discuss three: our sense of space, our sense of time, and our mental development.

3.1 Our Sense of Space

Local sensations (e.g., from skin and joints) are likely processed close to the site of stimulation, involving the use of reflex arcs. [28] Mere sensation—i.e., experience with no "meaning" (such as a sense of space or extensity)—is often associated with the corresponding extent of the cortex directly affected from skin, joints or retina. However, as we have already seen, Mitchell rejects this kind of account. An experiential sense of extensity can vary enormously, but it does not follow that the same sensation can excite different extensities of the cortex:

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[25] SGM, p. 463.

[26] He cites McDougall as one of the pioneers of this approach. See *Physiological Psychology,* p. 31.

[27] See, McClelland, J., D. E. Rumelhart et al., *Parallel Distributed Processing: Explorations in the Microstructure of Cognition,* (1986).

[28] SGM, pp. 264-5.

> No one can have courage enough to say that when a hole in the tooth appears one size to the tip of the tongue, another to the tip of the finger, and a third in the mirror, the differences are according to the three extents of area giving the three sensations. [29]

Rather, he argues, it is far more plausible to say that the correlate of the sense of extensity in the cortex is only *one element* in the neurological explanation, but not the only element. We shall see how this contributes to a neurological story below.

3.2 Our Sense of Time

In a similar fashion, Mitchell rejects any identification between our sense of time and the time taken by cortical events. He does so on the grounds that there are all kinds of physical delays in the sensation being processed (depending on the cells and the route that stimulations take); and secondly, that it is incoherent to suppose that our sense of time can be mirrored in the cortex. For one thing, the cortical time would have to be a timeless "present moment" in which varied temporal experiences occur (this would defeat the purpose of the explanation); and we would beg the question about what time is by identifying time with the passing of successive sensory processes. But our sense of time is notoriously variable: 'speculations about a moment feeling like an age and a thousand years as one day are quite as legitimate about time as a microscope makes the corresponding truth about space'. [30] For Mitchell, this means: 1) that there is no absolute unit of time; and, 2) whatever time is, it is not to be understood nor explained as an experience mirrored in a cortical process. We shall shortly see his suggested solution to this problem.

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[29] SGM, p. 465.
[30] SGM, p. 468.

3.3 The Growth of the Mind

Another problem is an adequate neurological account which caters for the growth of the mind. Mitchell poses the problem thus:

> The question is the same, viz, how the nervous system, which at first presents the world as a blur of sensation, is able under a systematic course of stimulation to take a corresponding system ... [which corresponds] to the intellectual or apperceptive system whose structure, action and growth we followed in considering the growth of intelligence from mere sensation to a ready comprehension of the system of things. [31]

He notes in response that the key to understanding this phenomenon is to note two things: 1) that the strength of stimulus is less important than the kind of stimulus needed; [32] and 2) while we perceive by means of individual detection areas from peripheral sources, it doesn't follow that we experience 'wholes from parts'. In an early reference to what would become later known as the gestalt approach to cognition, Mitchell notes that we 'have a single thought of a complex object by the excitement of areas distant from one another'. [33] However, we do not have any experience of the actual neural connections needed to complete this task. [34] But the ability of the mind to grow relies on there being connections which activate and combine with one another in response to complex, changing experiential wholes. He sketches a neurological account which might support this requirement:

> No doubt the connection is effected by the nerve fibres running from one to the other, with or without the aid of intermediate neurones. And we have to suppose that when two areas, no matter how distant, are excited and give experience together (simultaneously or successively), a path between them is opened by that event alone, and so far remains open that the re-excitement of one tends to pass from it to the other as well. ... the usual case requires the connection of a system in the one with a system in the other; and the more definite the systems the more easy and effective their connection. ... The action

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31 SGM, p. 479.

32 '[A]dequacy lies not in the intensity of a stimulus but in its ability to challenge'. SGM, p. 480.

33 SGM, p. 478.

34 'And we have no feeling of connection between the areas; there is nothing in an experience to indicate that its parts come from near or far, or that they need connecting'. Loc. cit.

> within action, the organic connection of the whole movement and its factors ... takes an increasing complexity. [35]

Networks of brain systems responding to experiential wholes do the work. These are activated and re-activated depending on changing environmental stimuli. More stimulation leads to increasing complexity of the neural connections. But what prompts the brain to make the connections at all? This is achieved by a dynamic balance between an occasion disturbing the system and the stability of what the system takes for granted:

> The growth of the system is entirely in making adjustments to the system of things in which we live, as this is represented by a present occasion offering a challenge. The adjustment is to what is new in the occasion. Every occasion is so far new, but the greater part of it is always familiar as well; and this part we have to picture as the occasion of only so much disturbance as corresponds to our immediate thoughts and to our taking for granted. ... [W]e may represent all kinds of intellectual satisfaction as the system, having been disturbed coming into equilibrium. [36]

> The corresponding neural correlate [of an experience] we can picture as a process in which a state of things is being adjusted to the demands of a whole system to which it belongs. [37]

4. The Positive Account

Drawn to offer a positive account on the basis of these conjectures, Mitchell then engages in some fascinating speculations about time, as corresponding to the nature of seeing by means of "the retinal field of vision": '[Just as] we can increase our retinal field or diminish it by opening our eyes wider, or not so wide, according ... to the interest of the field', so time is a function of our power of experiential attending. Time is an experience which is bound by our power to attend (just as our visual capacities are bound by our retinal field of vision). This helps to explain why the 'sensory or specious present is different for different creatures, and in ourselves according to age, power of attending, and

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[35] SGM, pp. 478-479.
[36] SGM, p. 480.
[37] SGM, p. 484.

the interest of the field'. [38] Using the analogy of the retinal field, Mitchell also notes how it explains various temporal phenomena in our experience:

> When the field narrows, as when we have no outlook, or when the sensation of a second ago is blotted out by a present shock, there is an obvious parallel to the effect of half-closing our eyes when falling asleep, and of narrowing them for a better look. [39]

Explaining what it is about the cortical events we undergo, which gives rise to our sense of time, is a research program for a future neuroscience, according to Mitchell. [40] However, he is prepared for evidence which might be very different to the experience itself: 'just as the correlate of our feeling of cold is not cold, nor of space a space, so the correlate of the sense of time is not a time'. [41] In fact, Mitchell recognises that the likely neurophysiological account will be vastly different from the experience as given by the "direct" explanation of experience. He uses an analogy with the varieties of representational media of our senses to make the point:

> [T]here need be no more likeness between a feeling and its correlate than between two utterly different languages when they say the same thing, or between one of them and its meaning. Between the vibrations of a string and the hearing of the note there is a series of events, one after the other. Each occurs in a different physical medium, viz, in air, in liquid, and in several different solids, some with mechanical, other with electro-chemical action. The events of the series correspond but they are very unlike one another; and there is no more reason why the cortical events should be like the note than why either they or the note should be like the vibrations of the string or the air. [42]

The conclusion Mitchell draws about such sensations and their neurological basis is this: whatever the sensation, its neurological correlate must exhibit two features: firstly, it must have a point to point correspondence with the dynamic properties of the relevant sensation

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[38] SGM, p. 469.

[39] SGM, p. 470.

[40] 'It is doubtless to be found in the most fundamental properties of nervous action'. SGM, p. 472.

[41] SGM, p. 471.

[42] SGM, p. 474.

(such that, for example, our changing sense of time is represented) [43]; and, secondly, it must correlate with what we know of the developing neurosciences. However, there is a third constraint. On Mitchell's direct account, it must also be true that the correlate is a of an already organised experience, not merely 'the parts and then the whole'. [44] As we have seen, Mitchell's account of the mind allows for the organism's experiential capacities to *grow*. Experiential capacities would not grow if they were focussed on parts and not wholes. Our experience begins as an undifferentiated mass of sensation but it is then quickly experienced as 'definite wholes, parts and aspects'.[45] The previous chapters of this thesis have outlined this developmental account in some detail.

Given the objections to Müller's law, we cannot assume that single cells or varieties of cells can fulfil all these constraints. Nor can we assume that the brain represents phenomenologically diffuse elements in distinctly separate regions, for this goes against the experiential facts. How experience strikes us is as an undifferentiated whole, and it is not obvious how an account, which stresses cells and varieties of cells, can do the job. [46]

The requirement to satisfy all constraints suggests the following account. Neurons play a part in the overall physical explanation of mental phenomena, but not on their own. Such cells are marked by their ability to work in overlapping groups or clusters. Excitation begins by peripheral stimulation, whereupon—on the avalanche model—energy is transferred to higher and higher levels of processing. At each stage, more and more groups of neurons are involved, and they operate in 'concerted action', [47] activating and inhibiting

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[43] 'We assume that two empirical series correspond, viz, a brain change for every change in experience'. SGM, p. 474.

[44] SGM, p. 473.

[45] SGM, pp. 472-3.

[46] 'The tint of a colour enters into one whole e.g., in a harmony or a clashing of colours; the extent of it into another , e.g., in a design; its time into another, e.g., in a flicker; and its intensity into still another, e.g., in the feeling of its dying away ... [T]he question of the correlate of attention is not really lightened by assuming a specific variety of cell for the several aspects'. SGM, p. 475.

[47] SGM, p. 475.

one another as required: a 'superposition of new systems of neurones, so that the peripheral stimulation is projected from level to level'. [48]. In this manner, cells in one group overlap and play a role in other groups. Each cell might have its own pattern of excitation from peripheral cues, but they operate in concert, bringing about all the endless variety of sensation in our experiential lives. [49]

How does this kind of account work on Mitchell's theory? The idea is that systems of neuron clusters in the brain operate on stimulus properties occurring in systematic experiential wholes. Mitchell argues that single neurons or groups of cell bodies would not be able to carry this experiential load, because they would always be underdetermined by sensory arrays.[50] However, neural clusters are formed to be triggered by peripheral stimulations with 'systematic character'. Biologically-speaking, we are wired to be responsive to such systematic stimulations and to begin to make sense of them in their component features:

> The blur of an unfamiliar landscape becomes a definite picture, a confusion of sound familiar music, so that a glimpse or a hint can excite the neural systems that are formed to see and hear them, and what is strange, or inconsistent with them, gets the prominence and the irritating quality of an obvious error. The number of such systems that may be formed is so far unlimited that the formation of one does not prevent the formation of others involving the same elements. [51]

It is only this kind of account, Mitchell reasons, which comprises all the phenomenological elements of our experience. No other account would do the job:

> Looking, then, to the general question of the localization of sensation and intelligence, we find, as far as our knowledge goes, that they together are spread over the entire

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[48] SGM, p. 476.

[49] He give examples such as when 'we cannot see the colour of a small spot, but can see it if the spot is large, and cannot see to read with one eye in bad light when we can see with two ... [It explains] how very different sensations from the same sense-organ are yet felt to have a likeness which we do not have between sensations from difference senses'. SGM, p. 475.

[50] 'Consider how many fibres or collaterals a cell would need to have in order to make the infinite number of connections that a unit of sensation can make'. SGM, p. 477.

[51] SGM, p. 477.

> cortex. The arrival platforms, or projection areas of mere sensation, extend each to an indefinite margin, which includes, without a definite dividing line, the parts that are concerned with organising the sensory elements into definite wholes and parts. [52]

This kind of account should be familiar. Indeed, it is not dissimilar to a very contemporary account in the cognitive science literature which is described in very similar terms: on this model, 'a percept is a pattern of activation over a set of processing units which takes place via the propagation of activation among units via weighted connections'. [53]

This was a remarkable *a priori* conjecture. Almost a century before his time, Mitchell managed to hit upon an account of the brain, which would satisfy the experiential demands of our folk psychological descriptions. Putting his "reversal" strategy to work (see Chapter 5, **§8**), Mitchell attempted to find a neurological account which was sympathetic to "direct" evidence from our phenomenological experiences. The solution Mitchell arrived at was essentially a simplified version of what we now call a "connectionist" account of the mind.

5. Final Reflections

What are we to make of Mitchell's account of mind? The empirical details have clearly changed since Mitchell was working out his ideas. There is little to gain, *scientifically* speaking, from a detailed study of his work now, even though there is much to learn from other aspects of Mitchell's work. Although Mitchell developed an account of mind which is consistent with some of the ideas being developed in present-day cognitive science, it is true that, in both a literal and figurative sense, things have moved on.

Despite this, the historical dimension to Mitchell's work is worth emphasising. It should be surprising to contemporary thinkers that an Australian philosopher, working in Adelaide at the

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[52] SGM, p. 483.

[53] J. McClelland, 'Cognitive Modelling, Connectionist' in R. A. Wilson and F. C. Keil (eds) (1999) op. cit., p. 137.

turn of the century, anticipated views which are now common currency in the cognitive sciences. It might also be interesting how, isolated from the philosophical mainstream, he developed these ideas in such detail. As we have seen, he seemed to have anticipated the claims of the "new mysterians" and their emphasis on subjective experience. If I am right in the claims made in this thesis, he also seemed to have prefigured themes associated with perceptual plasticity, developmental accounts of modularity, and connectionism.

These points are interesting in themselves. From a historical perspective, however, they are monumentally important. As we have seen, the work of early Australian philosophers was concerned with nineteenth century idealist themes; and, in Anderson's case, attacking idealism with a radical empiricism. In this context, Mitchell's work must be seen as an important, and highly idiosyncratic, solitary achievement. It demonstrates that work in South Australia in the nineteenth century took a radically new trajectory from work done in the eastern states, and overseas. Even if the empirical details discussed in Mitchell's work are now dated, it must be granted that unique views were being developed in Adelaide. These views stand in need of historical recognition. In this thesis I have taken some steps to giving this contribution the recognition that it has been denied over the past century.

What is the philosophical value of Mitchell's achievements? It might be argued that Mitchell's achievements are merely of historical interest. It might be said that, while he made a contribution to philosophical psychology, it doesn't follow that Mitchell made any useful contributions to the *science* of the mind. In support of this, a challenge might also be made against Mitchell's subordination of the "indirect" account to the "direct" account. This challenge might be made on the ground that he inverts the real story, and thus devalues empirical work.

This seems a reasonable assumption. It could be argued, for example, that detailed neurological studies are far more important to the science of the mind today, than Mitchell's speculations about direct experiences. Hence, it might be claimed that his account of the structure and growth of the mind is a mere historical curiosity; not something which can be of use to contemporary theorists working in the area. This response assumes, however, that the

only successful theory of the science of the mind is not likely to be an *experiential* story of the kind Mitchell valued, but a *neurological* story of the kind currently being developed in scientific laboratories around the world.

But which neurological story are we to assume? It turns out that there is more than one. Are we to assume a neurological account which focuses on the function of individual neurons, neuronal ensembles and neuronal structures (a view called *biological neuroscience*)? Or are we to assume a story which integrates neurological work in the brain sciences with work done in psychology, linguistics, the physical sciences, and allied disciplines (an account called *cognitive neuroscience*)? For this objection against Mitchell's work to stand, we need an answer to this question.

Because Mitchell's account was a substantial contribution to philosophical psychology, it clearly cannot be claimed that he neglected cognitive neuroscience (though his was nineteenth century cognitive neuroscience, of course). As we have seen, Mitchell's account does not pursue the indirect account on its own; in fact, he integrates work in psychology with his philosophical account of the mind. Indeed, for Mitchell, "psychology was a proper introduction to philosophy". Were Mitchell working today, he would undoubtedly be interested in work in linguistics, AI, computer science and other areas, in so far as they aided in an understanding of experience *qua* experience. We can therefore draw the following conclusion: If Mitchell's account is an account which is consistent with cognitive neuroscience, it cannot be claimed that he neglected this area. This cannot be the objection being raised here. Rather, the likely objection is this: the only serious account of the mind is a neurological account of the first type (biological neuroscience). Mitchell neglected this area and, therefore, his account is of little value.

Is this response to Mitchell's work reasonable? Just recently, Gold and Stoljar have argued

that there is a conflation of views in support of the neurological sciences. [54] They argue that scientists and philosophers regularly confuse two doctrines by amalgamating them into one, an account they call "the neuron doctrine". The two doctrines are: the *radical neuron doctrine* and *the trivial neuron doctrine.* The former—the radical doctrine—argues that the only successful science of the mind turns on *biological* neuroscience. The latter—the trivial doctrine—assumes that a successful science of the mind turns on *cognitive* neuroscience.

While the two doctrines are compatible in some respects—both are naturalist and materialist accounts of mind—they have very different commitments. The *trivial* doctrine is committed to an account of the mind in which 'any successful theory of the mind will be a cognitive neuroscientific theory ... involv[ing] any one of a very large number of possible combinations of scientific concepts'. [55] These include psychological, functional, linguistic and mechanistic factors, as well as other explanations.

The latter, the *radical* doctrine, assumes that the only successful account of the mind 'is solely a biological neuroscientific theory ... which holds that only neurophysiology, neuroanatomy and neurochemistry will by themselves have the conceptual resources to understand the mind and, as a consequence, a successful theory of the mind will make no reference to anything like the concepts of linguistics or the psychological sciences as we currently understand them'. [56]

Why is one considered trivial and the other radical? For a start, cognitive neuroscience *includes* the resources of biological neuroscience, as an important part of its explanation of the mind, but the relationship is not symmetrical: biological neuroscience does not include cognitive neuroscience. Gold and Stoljar argue that those who hold the *trivial* doctrine include anyone prepared to claim that neurological evidence is important for understanding the mind

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[54] I. Gold and D. Stoljar, 'A Neuron Doctrine in the Philosophy of Mind', *Behavioural and Brain Sciences,* 22 (1999): pp. 809-869.
[55] Ibid., p. 813.
[56] Ibid., p. 814.

(that is, virtually everyone). Smart money, in other words, is on the cognitive neuroscience story. Not surprisingly, this account has much support in the scientific literature and there is plenty of evidence to back it up. However, while this view has the "smart money", it is also a doctrine which seems trivially true. Because it is so well-supported, 'it is not a bet that any rational bookie would make'. [57]

By contrast, those who hold the *radical* doctrine include those who think that a biological neuroscience story will *exhaust* an understanding of the mind—that is, no further explanation will be required. They assume that the explanations of psychologists, linguists and physicists will eventually yield to detailed, reductive neurological descriptions of all "mental" phenomena—even subjective experience. (Patricia and Paul Churchland and David Hubel are cited as defenders of this view). The problems with these excessive views are well-known. The problem is that, while this account might be radical and interesting, there is very little evidence—scientific or otherwise—that it is true.

Gold and Stoljar persuasively argue that these very different accounts are readily conflated in the literature into a single "neuron doctrine". Many cognitive scientists often claim that they defend one doctrine with the advantages of both: i.e., the scientific support of the *trivial* doctrine, with the radical and interesting claims of the *radical* doctrine. However, this amalgam story is insupportable and confuses several issues. Any "neuron doctrine" which asserts the empirical and philosophical advantages of cognitive neuroscience, but offers an account of the mind which assumes biological neuroscience goes beyond the evidence and takes for granted what is in dispute. Hence, Gold and Stoljar argue that cognitive neuroscience faces a constructive dilemma: 'either to hold a view for which no scientific defence has been given, or defend a view that requires no defence'. [58]

Where might Mitchell's views stand in relation to this debate? Clearly, he held to the

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[57] Ibid., p. 816.
[58] Ibid., p. 817.

cognitive neuroscience story, as I have mentioned. He wanted an "indirect" account of mind which substantially supported the phenomenological evidence from psychology. Mitchell therefore saw himself as defending that which needed no defence. He clearly did not see the philosophical merit of defending an account for which there was no evidence (and which, for him, was both counterintuitive and false). If materialism is understood as supporting the radical doctrine, it is insupportable for the reasons he has mentioned.

Thus, any criticism that Mitchell's work falls short of the mark, by not including considerations suitable to *biological* neuroscience, is seriously flawed. The very criticism assumes that the only real evidence worth considering is evidence which supports the *radical* neuron doctrine. But, as we have seen in this thesis, in Mitchellian metaphysics, the only serious account of the mind is *not* a neurological account of this type. It is consistent to support a neurological story which is far more subtle (that is, cognitive neuroscience). And this is, in fact, what Mitchell does. It is interesting that contemporary cognitive science seems to be taking Mitchell's version of the neuron doctrine seriously. Philosophical psychology, of the kind Mitchell was attempting a century ago, is finally making a come-back—perhaps not before time.

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Glossary of Terms

Some of Mitchell's less orthodox terminological distinctions are listed here. Unless otherwise indicated, page references are to *Structure and Growth of the Mind.*

Aim of experience: The aim of experience is the aim of learning and the progress of intelligence: 'toward greater definiteness' (p. 203).

Aspect: A difference in the shape, tint or intensity of a sensation (p. 203). What Katz (1935) refers to as the "mode of appearance" of a colour comes under this description. More recently philosophers have regained interest in "aspects" given the qualia debates. Peacocke (1983) refers to aspects as "sensational properties".

Attention (See also "Setting before"): The process of noticing and being involved in an experience, and thereby bringing it to conscious awareness.

Attitudes: a generic noun for the functions and forms of experience (i.e., feeling, interest, action) (qv. "Functions and forms of experience").

Cognitive Interest: The interest in the object as real (p. 95). Truth applies to this object as part of its theoretical or cognitive value.

Extrinsic Interest: A species of "feeling" with external objects as the source (e.g., the look of a red patch). (See also: "Intrinsic interest".)

Explicit Thought: 'It is only at higher levels of intelligence that the warrant is examined and turned into a reason' (p. 248). When we perceive things we have grounds or 'warrants' for our expectations about things. Some of these are implicit, some are taken for granted, others are explicit. When we take those grounds and turn them into reasons for our perceptual beliefs, then the grounds are called 'explicit'. For example, chairs can be sat on because they are solid, this thing is a chair, therefore I can sit on it. Explicit thoughts thereby become inferences (qv: inferences).

Feeling: The lowest level of conscious experience which is not merely instinctive. It is used by Mitchell in two senses:

1. In the *narrow sense,* it refers to phenomenological experiences arising from the exercise of specific sensory organs: e.g., sight, smell, taste, etc. (See also "mere sensations" and "special sensations".)

2. In the *wide sense,* it refers to phenomenological states which arise from the exercise of one's interests in relation to certain objects (for example, seeing buses; falling in love). (See "intrinsic interest"

Fixed capital: Perceptual interests which are highly instinctual (a loud noise, for most primates, is instinctively interesting for a variety of biologically important reasons).

Floating capital: The ability to take interest in things which are not fixed or instinctual; which may, indeed, have little intrinsic interest for the organism concerned (for example, the ability to notice the corked character of wine).

Functions and forms of experience: the three levels of experience, feeling, interest and action.

Growth of experience: Growth occurs in several ways: spontaneously and instinctively.

1. *Spontaneous growth* (p. 195) refers to 'merely physical growth' or that growth of cognition which occurs as part of the organism's natural physical development. It is completely involuntary (for example, it may occur during sleep) and not subject to the experiences received by the organism. Examples include: changes in taste preferences (e.g., preferences for 'olives and tobacco', p. 195); changes during puberty; changes in conceptual ability (e.g., Piagetian-type abilities to conceptualise number and abstract thought, and so on).

2. *Instinctive growth* (see "Instinctive experience/instinctive action") is the ability of the organism to react spontaneously to seek favourable and avoid unfavourable experiences. This may be as simple as a dog snapping at a persistent fly, or as complex as a mathematician devising some formula.

Implicit thought: A child trundling a hoop takes for granted the acceleration and velocity of the hoop he is moving (p. 252). Implicit precedes explicit thought, from which inferences are derived.

Inference: This can be of two main types: sensory inference and perceptual inference. It refers to the ability to move from one kind of experiential level to another.

Instinctive experience/instinctive action: Instinct can be considered a 'spontaneous restlessness' of some kind, or 'the growth of our power to grasp' (p. 201). More clearly: 'the power of pursuing an infinite variety of course, directed throughout by present sensation' (p. 194). Strictly speaking, it is not an experience as much as an organic and instantaneous reaction to stimuli either: a) to avoid unpleasantness; or b) to obtain a better experience (for example, blinking one's eyes to see better, or straightening one's body in order to balance). Instinctive experience "grades into" intelligent action so one may bring about a course of experience, insofar as interest depends on instinct and vice-versa. ('Instinctive action is the course of sensation necessary to directing the action', p. 194; and 'interest depends on instinct', p. 193.).

Intelligence: 'Intelligence is the means by which instinct develops at its conscious points' (p. 196). Intelligence applies to all levels of experience: sensory, perceptual and conceptual. Its role is 'greater definiteness' (p. 203) of experience. We may put this in contemporary terms by saying that intelligence describes *content* at various levels of sophistication: sensory, perceptual and cognitive.

Interest: The most general and usual kind of experience which is not merely instinctive (see also "feeling", "thought" and "action"). Interest is used by Mitchell in two senses:

1. In the *narrow sense,* it refers to a cognitive state which may give rise to action (e.g., a *belief* that one's house is on fire). (see "cognitive interests")

2. In the *wide sense,* it refers to each and every kind of experience: thoughts, feelings and cognitive states (representational, intentional, phenomenological, etc.) This term covers all mental states *simpliciter* and may be a spur to action. (see "Practical interests")(See also Intrinsic and Extrinsic interests)

Intrinsic interest: A species of "feeling", albeit experienced with ourselves as the object (i.e., the feeling of pain or happiness). (See also "Extrinsic interest")

Meaning: Aside from its normal usage as semantic content of expressions, Mitchell uses the term to mean the *power to anticipate* features of sensations (for example, modality). "We ... act on sensation with a meaning. The meaning consists in some anticipation of sensations to come, though it may be as vague as in the most indefinite fear"(p. 219).

Mere sensations: (or "bare" sensation,) are sensations which in themselves have no meaning. Examples are a sense of space, extensity or time. (p. 465).

Mere perception: a perception which has little explicit meaning, but nonetheless has a ground when we have expectations about it. All mere perceptions have grounds, but they are not always present. The ground would 'not be felt unless its cause was felt ... as a warranting' (p. 248). An example of a mere perception which does have a ground is seeing a chair and believing it is solid, and that therefore we can sit on it. The meaning is thus derived from our expectations which bring into play grounds for our beliefs. The grounds (qv: "warrant") are the cause of the belief when it is claimed to be true by our expectation (e.g., that we can sit on the chair). If we did not wish to sit on the chair, then there would be no meaning and no ground (pp. 247-8). This is in contrast to cases when we explicitly think of the cause of experiences as 'a because, a reason, law or ground' (p. 247), but these cases are not cases of mere perception.

Other examples of mere perception are called cases of 'modular' perception now (Fodor, 1983). Mitchell notes that mere perception is processed but not at higher levels: 'In mere perception we feel and use [cues] but fail to make explicit. Can you say how you distinguish the multitude of voices that you recognise, how tones of grief from those of anger, joy, sarcasm, and indifference, and how you read emotions in every eye' (p. 248).

Modality: A difference between *types* of sensation from the different sense organs (e.g., blue and loud).

Occasion: The moment and conditions under which an experience happens and the content that such conditions bring about. The occasion is a *stimulus property* (either mental or physical). The mind can start the occasion and the action of the mind is always an action on an occasion (for example, 'physical stimulus on an organ of sense; then sensation is the reaction of our mind upon that', p. 107). The occasion is a function of different levels of experience and their course at any given moment, thus it is not to be understood in foundational terms. ('Every part of the course [of experience] is the occasion for the next', p.108). The notion of an occasion can be understood in contemporary terms as a *machine state* or *computational state,* and even—with qualifications (see Chapter 8)—a *module.*

Practical Interest: The interest in achieving, of overcoming, of getting something done.

Quality: A difference in kinds of sensations from different sense organs (e.g., colour, taste, sound). p. 203.

Sensation: Any lower order experience, either inherited or acquired. Thus, an instinct to blink one's eyes in response to rapid motion is a sensation, as is the forming of distinctions within one sensory modality (e.g., discerning shades of blue).

Sensory object: The setting before of any special sensation as either a real object or an object of thought. A sensory object can be, for example, 'blue, melody, effort, balance, nausea' (p. 202).

Setting before: When a real object or an object of thought is made the subject of an experience by means of attention to that object.

Singular conception: the grasping of a perceptual aspect, a "small perception" as Armstrong calls it: a flash of light, a colour hue, and so on.

Special sensations: 'The special sensations are those whose end-organs are stimulated from without [or] within the body' (p. 202). There are two types of special sensation:

1. *Within the body:* (also known as "organic and motor sensations) stimulations arising from internal workings of the body (proprioception; sense of balance; visceral sensations, such as nausea; etc).

2. *Without the body:* "nerve impingings" (in W. V. O. Quine's terminology) on the surfaces of the sense organs (e.g., organic and motor sensations). Known as "proximal stimuli" in contemporary philosophy.

When the special sensations are used in the experience of objects (either as real objects or objects of thought), they are known as *sensory objects.*

Spur: A sufficient and non-necessary condition under which a lower level experience gives rise or contributes in some manner to a higher level experience; an inferential influence which aids in recognition of meaning or distinguishing qualities (for example, a spur might aid in the recognition of sounds as coming from an object).

Taking for granted: A type of quasi-implicit thought, which can be recalled without access to the cognitive processes that originally gave rise to it. Taking for granted is neither "implicit" nor "explicit", properly speaking. It is sometimes called "implicit" because it is tacit in the thoughts that we have about objects (the cup we are holding is green, for example). However, it is also potentially explicit because it is accessible and can be recalled at will. Being implicit, it is not necessary for acting on the thought in question, although it is sometimes brought to the fore. These "thoughts" can be of a number of kinds: sensory, perceptual or conceptual (qv. thought). Taking for granted is 'the general fact of economising in consciousness' (p. 254). It depends on the capacities of the organism: for example, unsophisticated organisms cannot always take for granted, for there may be nothing that they are thinking beyond the content of their present thought.

Thought: 'A thought is a belief which claims to be true' (p. 247). Thoughts are the most sophisticated component to experiences. It is used by Mitchell in two senses:

1. In the *narrow sense,* it refers to high-level cognitive states which need not give rise to action (for example, appreciation of the elegance of a mathematical formula).

2. In the *wide sense,* it refers to all and every kind of experience: feelings and cognitive states (representational, intentional, phenomenological, etc.) This term covers all mental states *simpliciter* and may be a spur to action.

Warrant: The cause or ground of a claim, which is in turn a basis for our beliefs and (qv: meanings) or expectations that we bring to experiences. When we perceive things, the warrant or ground is the system of inferences about the experience (for example, that a chair is solid and we can sit on it). A warrant may be present at all levels of experience but is not always explicit (qv: explicit thought). 'It is only at higher levels of intelligence that the warrant is examined and turned into a reason' (p. 248).