

The same principles as had kept Australia free from small pox might with great advantage be applied to keeping such isolated areas free from the diseases of stock and plants. The question was one not only of State, but also of Federal importance, and the principle was especially applicable to the cattle tick.

The authors also indicated briefly some of the chief means of dispersal of organisms of disease in the plant world.

Rational and Natural Selection.

Professor G. C. Henderson delivered his presidential address to the biology section on rational and natural selection. "I do not believe," he said, "that there will be more people on this earth than the earth is able to support, provided our farmers, orchardists, and gardeners turn available scientific knowledge to practical account, and provided also that we attain to something like an equitable system in the distribution of wealth."

Next Meeting of the Congress.

The next meeting is to be held at Hobart. The general council agreed that, in view of the fact that the British Science Congress was being held in August of next year, the date of the Hobart congress should be January, 1916. There was friendly rivalry between New Zealand and Perth for the place of meeting to follow Hobart. The invitation from Western Australia, after a little skirmishing, was withdrawn in favor of Wellington.

SCIENCE CONGRESS.

NEXT MEETING IN HOBART.

MELBOURNE, January 10.

To-day saw the end of what, perhaps, was the least important phase of the Congress of the Australasian Association for the Advancement of Science, and that in spite of the many important and admirable papers read before the various sections. The period which, it is hoped, will be the more fruitful in results, will commence tomorrow, when a number of excursions into the country will be made. The next meeting of the association was fixed to be held at Hobart in January, 1915. Professor Spencer was appointed President. It was decided that the meeting after 1915 should be at Wellington, New Zealand.

—"Natural and Rational Selection."

Professor G. C. Henderson read before the biology section an interesting paper upon "Natural and rational selection." He said there was no reason why life should not go on confidently and cheerfully, with the substitution of rational for natural selection, provided they did not sacrifice, either as individuals or as nations, those qualities that were necessary alike for the maintenance of rational ideals and moral fibre.

—Wastefulness of Armaments.—

An address on the much-vexed question, "The wastefulness of armaments" was read by Mr. W. Siebenhaar (Deputy Government Statistician of Western Australia). He said that the constant maintenance of large armaments, which most countries alleged was necessary for self-defence, might more correctly be charged to national vanity and aggressiveness. The manly spirit of nation had throughout history been shown to afford a safer guarantee of self-defence than expensive war preparations. It would be a most regrettable step of retrogression if Britain, with her traditions which made for personal freedom, were to adopt the coercive system of conscription at a time when the most progressive minds on the Continent of Europe were more and more clearly realizing the desirability of its abolition. Forty-six millions of starving people could be kept out of the European war expenditure. This wealth, if applied to the organization of a scheme for making the poor and indigent self-supporting, would suffice to solve the greatest of all social problems.

—Soil Fertility.—

A very important discussion on "General problems of soil fertility in Australia" had, up to to-day, occupied the attention of the Section of Agriculture for three days. Besides the Presidential address by Mr. F. B. Guthrie, there were six papers on various aspects of this question and the discussion was carried on by nearly a score of speakers representing every portion of the Commonwealth. The general opinion seemed to be that fertilizers in Australia were seldom worked out of cultivated land, and that practically the whole of their substances, which were not used by the crop, remained as permanent additions to the soil within 9 in. of the surface.

—Isolated Areas.—

The advantages of isolated areas to Australian agricultural communities were reviewed before the agriculture section by Mr. J. Burton Cleland, M.D., C.M., Acting Director of the Government Bureau of Microbiology, and Mr. G. P. Darnell Smith, B.Sc., F.I.C., Assistant Microbiologist at the Government Bureau of Microbiology. The object was to emphasize the advantages of isolation in Australia to the stockowner and agriculturist.

—Infantile Mortality.—

Mr. C. H. Wickens, of the Commonwealth Bureau of Census and Statistics, contributed to the Social and Statistical Science Section a paper entitled "Investigations concerning a law of infantile mortality," in which he urged that statistics relative to infantile mortality should in all cases be computed as far as the age of 5, instead of, as is usually the case, ceasing at the age of 1.

—Astronomical Observations.—

Mr. G. F. Dodwell, B.A., F.R.A.S., Government Astronomer of South Australia, sent a paper before the Astronomy Section describing a very accurate method of making astronomical observations, which was introduced by Professor S. C. Chandler, of Harvard Observatory, U.S.A., about 30 years ago. It consisted in observing the passages of stars across an imaginary horizontal line in the sky passing through the celestial pole. Professor Chandler used a special instrument, but the method was adopted for use with a surveyor's theodolite in 1902 by Mr. W. E. Cooke, now Government Astronomer of New South Wales. This method was followed by the author in February, 1911, for determination of longitude near the boundary obelisk, erected in 1869 by Sir Charles Todd, on behalf of South Australia, and Mr. G. R. Smalley, on behalf of New South Wales, to mark the 141st meridian, a few miles north of the spot where it crossed the River Murray, near the telegraph line to Sydney via Wentworth. Some details of recent determinations were given, and the opinion was expressed that the system of observation in question, if used with astronomical instruments of first-class quality, might be profitably adopted in the operations of fundamental astronomical work.

ANTHROPOLOGY.

THE AUSTRALIAN RACE.

PAPER BY DR. RAMSAY SMITH.

EUGENICS AND ENVIRONMENT.

MARRIAGE OF COUSINS.

Among all the valuable papers delivered at the sessions of the Australian Science Congress, now being held in Melbourne, that delivered by Dr. Ramsay Smith, as chairman of the ethnological section, on Friday, must stand as one of the most vitally interesting. The title was "Australian Conditions and Problems, from the Standpoint of Present Anthropological Knowledge." Dr. Smith said—Till within a few years ago anthropology, or, as it was called, the natural history of man, was little else than an enumeration of the physical characters of the various peoples of the earth, with some reference to extinct races and the specific characters of men. There was but little known; and there seemed to be no idea that the comparative study of races, or the practice of comparative anatomy, could possibly possess a vital interest for man. But just as alchemy made place for chemistry; just as astrology developed into astronomy, just as galvanism, which was merely a medical curiosity, expanded as the science of electricity, to influence the whole sphere of human activities, so anthropology became a science; in fact, the one science universally considered to be worthy of study, not only by experts, but by every thoughtful human individual. Anthropology comes into touch with all things human, for it deals with man's body and mind and all that these include and imply; with his physical structure and bodily functions, with his intellect, emotions, and will; with his languages, religions, customs, social conditions, habits, instincts, appetites, and activities. It deals with all human peoples past and present, with everything in the universe that is related to man or that influence him in any way, and with the manner and the extent of the influence. As a result of careful observation it finds that there is not in man one thing, physical, mental, or moral, that is not capable of being elucidated by comparative study; that the world is all of a piece, warp and woof; and that man has an important place in the scheme of Nature.

The Origin of Man.

Three theories have been advanced at different times to explain the condition of the universe—(1) That the universe never had a beginning, and that things have always been as they are now; (2) that the universe came into existence by an act of special creation; (3) that the present is the outcome of all the past, by a process of gradual change, and that, as part of this process, from an original homogeneous nebula our earth with all its diverse mineral, vegetable, and animal forms, has been evolved by causes acting in sequences of such a sort as can be traced and formulated, the formulae being called laws of Nature. This last is the evolution theory and it is almost as old as human thought. It means that every organism, every plant and animal, is the sum of the product of its heredity and its environment, that every human being is at any given time the sum or product of what he originally received, actively or potentially, from all his various ancestors, and what his environment has made him. Every organism is the resultant or product of two sets of forces—heredity and environment. Heredity is the influence of parents on offspring; in other words, it is the tendency manifested by an organism to develop in the likeness of its progenitor. Environment is the aggregate or sum total of surrounding conditions in which a man, other animal, or organism develops, as distinguished from own inherent properties or forces.

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