**ADRIALE UNIVERSITY.**

**A VALUABLE GIFT.**

**LIQUID AIR MACHINE.**

The University of Adelaide has lately entered into possession of a valuable machine for making liquid air. It is a large model of a known South Australian philanthropic and has been presented to the University with a view to assisting Professors Bragg and Bence in the experiments which they are making with respect to the properties of radium. It appears that in studying the effect of radium in gases it is essential that the gases should be pure, and liquid air ensures purification.

The new machine has been installed in one of the laboratories, and on Thursday morning several scientific people assembled to see it in action. Professor Bragg was in charge of the apparatus, and Professor Rennie was experimenting in an adjoining laboratory with the liquid air produced. Methane was the gas used, and it was shown how by immersing the vessels containing gas in liquid air the impurities could be removed. The machine produces liquid air at the rate of a pint and a half an hour, and the temperature of it is 300 deg. F. below zero. So cold is the air when drawn off into cramps that large accumulates thinly in the vessels. By means of a Whitehead torpedo compressor the atmosphere is compressed 800 times, or over a ton to the square inch. After purification the air is allowed to emerge through a very fine aperture, and in emerging it is chilled. The outgoing air rises up past the pipe which conducted it, and so chills the interior of the apparatus. The air continues to issue forth the temperature of it goes on decreasing until it reaches a length of liquid. Liquid air can be produced about a quarter of an hour after the machine has started, and when produced it is drawn off into double-walled glass vessels, with a vacuum in between, in appearance the liquid air is like water, except that it has a slight bluish tinge. The effects of the liquid air on certain substances is remarkable. A glowing stick, if plunged into it, will burst into flame, while an object immersed in it becomes cold to the touch, and a piece of indiarubber, when immersed in the liquid air, becomes as hard as a steel circle. In a good vessel the air will remain in a liquid state for a week.

**THE AIR WE BREATHE.**

**LIQUIDIFYING THE ATMOSPHERE.**

An interested audience gathered in the experimenting rooms at the Adelaide University on Thursday morning, when Professors Rennie and Bragg were manufacturing liquid air and conducting experiments with it. The liquid, delicately built with machine with which the atmosphere was being transformed into a visible liquid like hissing and dripping over the plates sent to the University by a philanthropic resident of the State, in order that it should be used in the hospital for the benefit of staff in radium research. Liquid air has its value in that direction by absolutely purifying the air and suppressing all carbonic acid, which is conducted in the researches. If any but pure gases were employed, the experiments would be no more than an instantaneous effect upon the scientific world, there being otherwise no definite standard of purity.

Professor Bragg explained that the machine had been producing the liquid at the rate of one pint an hour and a half an hour and a half. The machine had been connected with the engine early in the morning, and the produced vessels contained the liquid, which had been reduced to 300 deg. Fair. below zero. The tubes which held the air were of special construction, having been made of double-walled glass, with a vacuum between the two walls, and the outer wall sealed over to prevent the ingress of light. Professor Bragg pointed out, that the gas was compressed with cotton wool (upon which a thick frost had formed), after being compressed by a Whitehead torque compressor, which was very small in size, or, perhaps, or well over a ten to the square inch.

To give an idea of the density of the liquid element, Professor Bragg stated that one square inch of it would contain only the space of a small table at the base.

**MUSICAL EXAMINATIONS.**

**To the Editor.**

Sir—As I have read Mr. Montague's letter and his former articles, I find them curious. Trinity College is not a limited company, and therefore its name is not a trade mark as Mr. Montague and his friends would have it. The college was established in London for the education of the sons of the university, and it is the public to, with the help of the college, and the college to its credit again. I can find no record of the name of the college in England without authority. Will they secure kindly for me a copy of the prospectus, which I will send them on the authority of the college? I do not believe the articles of the Beef Emulsion.

**Adviser 1™ 17 May, 1907**

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**Adviser 2™ 26 May, 1907**

Professor Bragg will represent the Adelaide University at the conference of State officials for the consideration of the procedure regulations. Mr. Hunt (Commonwealth meteorologist) will preside. The Secretary to the Department of Higher Education (Coloured Miller) will open the proceedings on behalf of the Minister (Senator East), this afternoon, at the Hotel Metropole.
THE CALL OF THE YEARS

LECTURE BY PROFESSOR JORDAN.

DEMANDS OF THE TWENTIETH CENTURY.

It was an expatiate audience that filled the Great Hall of the University last night on the occasion of the first of a series of Boyce lectures. Professor Jordan, of the Leland Stanford, Junior, University, one of the greatest authorities on education in the United States of America, delivered his lecture on 'The CALL OF THE YEARS.'

The audience, consisting of students, faculty members, and guests from the University of California, listened attentively as Professor Jordan presented his ideas on the challenges and demands of the twentieth century.

Professor Jordan began his lecture by stating, "The twentieth century is a century of great change. The world is undergoing a transformation that is unprecedented in human history." He emphasized the importance of education in preparing individuals for the demands of this new century.

He further stated, "The demands of the twentieth century are not just for the individual to excel in their chosen field, but for them to understand and contribute to the larger society. Education is not just for the individual, but for the community." He concluded his lecture by urging the audience to be proactive in shaping the future and to embrace the challenges that come with it.

The lecture was well-received by the audience, who appreciated the depth of Professor Jordan's insights and the relevance of his message for the current times.

The lecture was the first in a series of Boyce lectures, which aim to bring together experts from various fields to discuss the issues that define the twentieth century. The next lecture is scheduled for next week, and it promises to be equally enlightening.

The lecture was a success, and the audience thanked Professor Jordan for his insightful and thought-provoking talk. They look forward to the upcoming lectures and the ongoing dialogue that will take place as part of the Boyce series.
AMERICAN UNIVERSITIES

THE WORK THEY ARE DOING

DEVELOPING ALL THE TALENTS OF THE COMMUNITY.

In his second lecture in the Great-hall of the Sydney University last night, Professor Jordan kept up the high level of his previous address. He talked in his quaint, original way, with flashes of dry humor, about the progress of American Universities. He spoke of the influence of the University system in the United States, and the influence of MacDonald (Chancellor of the Sydney University in America). His method of presentation was of the highest order, and his audiences were captivated. In this regard, the platform were Professors David, MacCallum, and Mr. James Graham, and Mr. Daniel Levy, M.L.A.

Dr. Jordan pointed out that the keynote of the American system was not the so-called "Higher Education," but the development of the individual. He said: "The higher education of the country was complete, and the community should be made to utilize the various lines in which it might be developed. In the individual development, the individual was the effective and competent only in proportion to the individual units were effective and capable of self-government. The idea was that the most precious property of the State was found in the State's institutions. It was admitted that one of the existing defects in America was the carelessness and neglect in the use of the term "University" and "college," which were used almost interchangeably. A University was an institution which went beyond the limits of the collegiate and into graduate courses. The four years' leading to a degree was a college, not a university. No American university was without an undergraduate department, and in most of the great institutions was a graduate school. Exceptions to this were the Johns Hopkins, and Columbia Universities.

The habit of America was to leave its institutions to the development of the State, and so among them were found every class from the best to the worst. The matter of degrees was also of great importance. The degree of doctor of laws was not a degree of the individual institution. The degree in America was not recognized by the nation itself, and the degrees were not degrees of the institution as to what work was done in that institution. It was necessary to have some guarantee that the degrees in England and German were degrees of a certain class belonging to the infamy of culture. The degrees of the inferior schools were not recognized by the nation, and were not recognized by them with any special privileges; but in the University of Maryland, and in the University of Wisconsin, California, Pennsylvania, and Virginia. The State of Virginia had a greater wealth of talent than that of New South Wales. A State which had a greater wealth of talent than that of New South Wales. The State of Virginia had a greater wealth of talent than that of New South Wales. The State of Virginia had a greater wealth of talent than that of New South Wales.

The American Universities might be divided into State, municipal, private, and denominational. The State universities were also roughly divided into Universities of the first rank, those comprising the Association of American Universities. Of these there were 29: Harvard, Columbia, Cornell, Johns Hopkins, Tulane, Princeton, Rice Institute, Catholic University at Washington, and the University of California at Los Angeles. Pennsylvania, Michigan, Illinois, Georgia, and California. The State of New South Wales had a wealth of talent greater than that of New South Wales.

The plan adopted in Sydney, by which the second course in the college around the University as branches, had been maintained. It was the method of Professor Jordan, and he believed this method would be ultimately adopted. He said that the Sydney University was already in advance of his country. In the second course, the granting degrees, 207 institutions were recorded. He said that the definition of "college" laid down by the late President, President of the Carnegie Foundation. To meet this...
In the American theory knowledge was the basis of action. Wisdom was knowing what one ought to do next. For Peter the American University maintained an open door to all who could use its advantages. Nowhere else in the world, not even Scotland itself, was there from the farmhouses of the college so well trodden. To this end the universities and the secondary schools stood in close relation—a relation which grew closer each year, and the low fees made it possible for the youth of promise to pay his own way as he went, if he cared to work hard enough. On the other hand, it was part of the American plan to treat rich and poor alike, the general feeling was that free scholarships and special bursaries were undesirable, or at best a choice of evils. The element of choice in relation to subjects made for high scholarship. To deal only with students interested in their work made better teachers out of the professors. In the English universities of the past the rule hath sought had been social. Culture placed a man in a higher class than he would otherwise reach. The gentleman and the clergyman were needed in society, and those Oxford produced, together with the scholars necessary to keep the old learning alive. The college at Oxford taught, but it did not make. Hence, examining rather than teaching became the function of English Universities. To this day, for the most part, the teacher was not the examiner. No matter how broad his view of the subject or how fresh his material, his work was largely lost on the student. For the student must look out for the examination; the examination was, to say the least, an occasional line by someone else. It was this chasm between teaching and examination which marked the divergence of the English and American Universities. It was this fact of the English method that made Harvard, and Harvard only, a great university. For a great university is a serious, standardizing system, and of a degree based on individuality of memory and not on breadth of view or efficiency in action. The English University system had been that of personal culture. It was an element of the gentleman. That of the German Universities had been that of training, that of France and Italy largely the preparation for ready-made careers. The ideal of America was America, and America largely the preparation for ready-made careers. The idea of individual efficiency. It that be based on erudition and the more, the better; but for culture which was ineffective in the conduct of life, the American people had very little respect. "Culture in the form of useless knowledge," said Mr. Justice Holmes, "I utterly abhor." Mr. Hoge stated that the addresses of the professor must be welcome to this community, which was so deeply interested in education. The universities in this and other countries were becoming more democratic, and Australians must be interested in In the American Universities opened to them by Professor Jordan.

THE HUMAN HARVEST.

EFFECT OF WAR.

PROFESSOR JORDAN'S LECTURES.

Prefacing his lecture at the Sydney University with the subject of "Evolution," Professor Jordan observed that we did not know absolutely that there was a single form in the beginning, and when there was no life there as they knew it to-day, but there was no scientific or any other man who did not believe that we were evolved. They could put him down as a believer in the general principles of orthodoxy, but then they did not believe that no organisms were exactly alike; (2) he believed, for they had been worked out in the form cells and other cells of the same species, (3) he believed which heredity was accomplished; (4) the generation of the whole was the change in the same species. The great merit of Darwin was that he did not believe in evolution, that our bodies were made, but at the same time evolution remained the theory. So far as Jordan left it, with a great many scientists, Jordan believed that they had to face-to-day were the problems of the world. They in England and the Americans, and in the animals or plants were just alike? Why was it that the animals and plants were just like the world? What was the cause of it all? Next (to the particular subject of his lecture, Professor Jordan was going to say some severe things about war, but only in the spirit of the general proposition that the people of Australia were to the people of England very much the same as the people of America were the people of the world in seeing to the security of their own country, and in the spirit of the saying of early Romans saying that the "human heart was bad," when there was a shortage of good men. "Man is my business," he said, "and the history of Europe that the destruction of nations was the destruction of human beings. A generation from those that were left, was injurious to the world. When Rome fell it was because the great Romans had gone, and the great country filled up like a marsh with odds and ends. The British Empire was anxious to know not necessarily, with the right kind of people, such as the people of Australia, and the idea of England was the saving of the world that hindered. Unfortunately the man who was least determined was the most involved, and so the man who had been cornered. He referred to the history of France and Italy when the influence of the great nation of the old age. Lastly the commission had been appointed to the cause of the British Empire. He did not believe that England was a degenerate nation. A great many of the best and chief people would have made her stronger if they had recognized the word, but he did not think that a strong man ever died or did and left no descendants. Go through the catalogues of the best men, and one finds the record of the tall. Some perhaps were sorry scapegoats of the great men of England. America had had a similar story except that was what a nation's loss of her best and bravest men, and what a nation's loss of her best and bravest men, and what a nation's loss of her best and bravest men, and what a nation's loss of her best and bravest men. The best political institutions had not existed in the world, and then at Christmas of "peace on earth, good will toward men."