

Advertiser 3<sup>rd</sup> July '07.

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PROFESSOR RENNIE ON LIQUID AIR.

Professor Rennie delivered an address dealing with the methods of producing low temperatures and the liquefaction of air. He showed how cold may be produced by the rapid evaporation of a liquid, and discussed the various methods by which such rapid evaporation may be brought about. The more rapid it was, other things being equal, the greater was the intensity of the cold produced. If, therefore, excessively volatile liquids could be procured, and they could be rapidly evaporated without applying heat, intense cold would result. Such liquids were now articles of commerce, as, for example, liquid carbon dioxide, and they could be volatilised very rapidly by reducing the pressure upon them. By the application of this method a degree of cold could be attained, by successive stages, nearly, but not quite, sufficient to liquefy air. A further step towards the object aimed at could be reached by bringing into play another principle, namely, that if air was allowed to expand in such a way as to do external work it became cooled. By first cooling the air, therefore, as far as possible in the manner already indicated under pressure and allowing it to expand suddenly under atmospheric pressure, the necessary amount of cooling could be obtained and the air liquefied. The most modern method, however, consisted in allowing compressed air to expand in such a way that internal work was done in separating the molecules from one another, and in that way a slight cooling was produced, which, by suitable apparatus, might be made cumulative, so that in 20 minutes after starting the compressing pumps liquid air was obtained. Experiments were shown by the aid of a quantity of liquid air, such as the freezing of mercury, alcohol, and ether, the solidification of liquid air on a slab of ice, the solidification of carbon dioxide, the hardening and rendering brittle of india-rubber, and the burning of a splinter of wood under the surface of liquid air.

LAW AND LIBERTY.

In his lecture at the University on Tuesday evening, Professor Jethro Brown, in dealing with the question of whether State intervention was really or only apparently in conflict with the liberty of the subject, submitted the proposition that liberty implied law, illustrating what he meant by referring to the Adelaide trams. If a man's liberty, he said, was curtailed in some respects by law, it was enlarged in others. "For instance," he remarked, "if by reason of the new tramway regulations a person is prevented from boarding a crowded car, he has the chance of not being sat upon in another. I hear that suburban residents are now called 'strap-hangers.' The reason, it would appear, is that when cars are crowded most of the passengers are hanging on to straps, and it is said that people prefer to put up with the discomforts of living in the city rather than to be swayed about in the trams travelling to the suburbs." The professor went on to say that eight hours' legislation prevented a man from working long hours, even when he wanted to do so. That was clearly an infringement of the liberty of the subject from one point of view, but it ensured that he would have hours of leisure in which he could develop his character on sides likely to be neglected if he worked too long. The dipsomaniac who was confined to an asylum was not free to get drunk, but he had a higher freedom than that. Then there was the unemployable person, who no doubt thought it nice to be free. But the time would come when the State would tell him he must find work. The State would thus rob him of some of his freedom, but give him a higher liberty.

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PRINCIPLES OF MODERN LEGISLATION.

UNIVERSITY EXTENSION LECTURE.

Professor Jethro Brown began a series of three extension lectures at the University of Adelaide on Tuesday evening on "The underlying principles of modern legislation." The initial address was of a highly instructive nature, and the lecturer's audience was a large and appreciative one. The subject dealt with was "Liberty, old and new." The interpretation of liberty, he said, had varied much in the course of the nineteenth century. It was first identified with political freedom in the sense of possession of the franchise, and it was thought that once the people were given the franchise all good things would follow. The faith which was exercised with regard to this must strike one as surprising, and it was only necessary to look back over the century to see how misplaced that faith had been. The second doctrine of liberty was much more nearly the doctrine of the true sense. Briefly it could be expressed as the doctrine of absence of restraint, and its character might be judged from two points of view. From the point of view of the individual it meant free play of individual interest, emancipation from thralldom, and the working out of one's own salvation. From the point of view of the Government it meant the minimising of State interference, freedom among workmen to combine and clear the ground of feudal wreckage, and to ensure a fair field and no favor. This second doctrine of liberty had been associated with democracy at different periods of the world's history. The course of legislation was an eternal compromise between the conflicting interests of different classes, but the State in its anxiety to help the masses might overshoot the mark. There was the danger of substituting for the old fetishism of self-help a new fetishism of State aid, and the avoidance of both extremes was the great problem of twentieth century politics. The doctrine of modern democracy was self-realisation—freedom to do as one ought, and not as one would like.

THE TEACHERS' CONFERENCE.

One high purpose of the State teachers' annual conference is to mark the progress of popular education. A broad democratic basis renders it imperative that the union should never allow the question to be narrowed from a national to a party or a pedagogic one. Education, like politics, is an empirical science. It is a personal equation. Its aims and methods change with times and moods. Every practical reform, such as the new departmental regime, must not only originate in a sense of pressing need, but justify itself afterwards in actual experience. Education will never cease to be experimental, because (like the quest of the Holy Grail) it is at best the effort to realize a vision glorious—a social ideal whose end is not achievement, but achieving. Under democracy, administration is for the experts; policy is for the people. The Teachers' Conference is an experience meeting of administrators whose privilege is to inform the public how far the educational policy is successful in daily practice. From their report the community can determine what improvements are desirable. If any lack of harmony, deficiency of tone, or waste of energy shall appear, the duty of the Minister as the people's representative will be to provide an effective remedy. Although the school exists for the child—not for the teacher—the school could not exist