

PERTH SOCIETY CONGRESS.

The following supplementary list contains the names of South Australian who will attend the forthcoming Science Congress in Perth, and whose names were not included among those previously published in the Register. Sir William R. B. Sowerden, Professor T. Braiford Robertson, Dr. W. A. Hargreaves, Rev. N. B. Lowrey, Messrs. W. Burdett, W. J. Burnett, E. Great, and Geoffrey Sumner, Messames T. Braiford Robertson, Mrs. M. Synnons Clark, and Misses M. Austin and Reynell. The total number...

Prof. E. Harold Davies, Mrs. Doe, will celebrate his fifty-ninth birthday on Sunday. Born at Ory in Victoria, Australia, a brother of Sir Walford Davies, Mrs. Doe, who distinguished himself in the war, arrived in Australia in 1887 from Britain where he studied under Joseph Bridge, of Chester Cathedral. In 1888 he received his Bachelor of Music from the University of Adelaide. Six years later he took the degree of Doctor of Music, being the first student in Aus-an Australian representative. For, on his return to Adelaide, he has acquired a great reputation in Adelaide as a teacher of music. In 1919 he was appointed Professor of Music at the University of Adelaide and Director of the Elder Conservatorium. The Adelaide Bach Society, founded more than 29 years ago, stands at the head of his musical work. For many years Prof. Davies was organist of Kent Town Methodist Church.

WOMEN IN CONFERENCE

International Gathering in Paris

The tenth congress of the International Woman Suffrage Alliance has been held in Paris for a number of days. The meetings have been held in the Sorbonne itself, both the opening meeting and the ordinary daily sessions taking place in the Amphitheatre. The arrangement was made by a raised ground floor, galleries, and a spacious platform. The reception accorded by the Government, the gracious hospitality of the municipality, the publicity given to all the proceedings by the press, and the delightful cordiality of the French hostesses, have greatly encouraged the efforts of French women to obtain the franchise, and their success in the near future seems certain.

SCIENCE

...of ascertaining seems to be the roughest way, the time for the star to pass through the different stages of its life. They had reason to believe that the life of a star is measured in thousands of millions of years at least. He recalled a remark of Professor Jeans that was a large order of magnitude. It was almost too much to hope that any way would be found of estimating such vast intervals of time more accurately, yet such a way had been found. The greatest difficulty with which the advocates of an extensive time scale for the life of stars, a distasteful explanation of the source of solar or stellar radiation. The sun had continuously poured out to space an enormous flood of radiant heat and light. The energy output was at the rate of 140,000 horse-power per square yard, or 350,000 trillion horse-power to the whole sun. It was estimated that some of the giant stars were ten thousand times as powerful as the sun. The surface temperature of a 20 million degree centigrade would not increase its store of heat to an amount sufficient to last more than a few thousand years and the solar system must be at least 100 million years old, and the solar system must be at least 100 million years old. The sun was made of pure coal and oxygen supplied from its combustion, the heat obtained would be sufficient for only 1,000 years. Lord Kelvin's calculation of the age of the earth, on the hypothesis of Helmholtz, the greatest German scientist, was that the sun had cooled to 20 million and an upper limit of 200 million years to the past. The sun's surface has had attended the application of Einstein's views of space and time to astronomical problems. That scientists have discovered that the energy equivalent to a given quantity of energy; thus, 1 lb. of matter of any kind was equivalent to the thousand million electrical units of energy, and its value in money would be something like 250 million pounds sterling. Conversely, the radiant energy pouring out of the sun carried with it four million tons of the sun's mass every second. They might well feel concern at this colossal wastage, but even the rate of diminution continued it would still be 15 billion years before that sun was nearly annihilated. Matter does not disappear as means of converting the mass of bodies into energy, and perhaps never would, but Nature had, and therein lies the great mystery of the universe, of radiation poured out by the stars. If only a per cent of the sun's mass continues to be radiated under the conditions prevailing in the sun's interior that were gradually converted into helium, the supply would be sufficient to last the sun for 600 million years. An hypothesis, first advanced by Jeans and now adopted both by him and by Eddington, involves the possibility of a matter, the mechanism suggested being the combination of a proton and an electron, according to Eddington's view, the mass determined by the speed of the electron, expressed enough mass to belong to the hottest type of star, its mass must have been increased by the action of the star. After referring to the views of Jeans and Russell concerning elements in the stars, the lecturer proposed the view that the stars or the central parts at least, were cosmic crucibles in which matter, as they knew it, was created. Could matter even in its most primitive form of protons and electrons, arise from something which was not matter? If so, only two ultimate hypotheses are known to exist for physical science to-day—matter and radiation.

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HISTORY OF STARS.

Lecture by Professor Grant.

There was a large and attentive audience at the Prince of Wales Theatre, Adelaide University, on Tuesday evening, for the first of a course of three lectures on "The new physics and the new astronomy," by Professor Kerr Grant, who dealt with the life history of stars; the source of the solar and stellar radiance; the nature of the nebulae; and Professor H. Darnley Naylor occupied the chair.

Professor Grant said he hoped his brief recital in the lectures had told them sufficiently of the triumphs of the science of observation, of ancient failures, and of that vast amount of knowledge which had advanced into the unknown. History showed that the course of human thought had been downwardly influenced by the views that had prevailed concerning the nature of that small planet they inhabited, the earth. He believed that that influence would continue to operate for the good of mankind. The question of the future of the world is a question of a deep philosophical and religious interest. He found it impossible to recommend a rational basis for the future of the world into which they had been with much that apparently was held for truth was not so. He thought that every department of human thought they must learn to think more broadly, scientifically, and universally, and of all the sciences there was no more surely that to the community, none was surely greater than that it should help people in their thinking, eliminating from their thinking not merely the bias of personal interest, but also the bias of nationalism, sectarianism, and even of their humanness.

Continuing, he said, not until Copernicus, Kepler, and Galileo had revealed the real relation that existed between sun and planets, the first step was taken, which established the universality of physical law for the solar system at least, was it considered that the planets were not a mere body by action of centrifugal force only, was rejected by the most competent authorities in dynamical cosmogony. Of other theories, the first step forward by the American astronomer Chamberlain and his strongly supported view, that tidal forces were the passing star caused disruption of the original diffuse sun, and the planets were the products. Now there was no star that immediately vicinity, measuring distance on the astronomical scale, and the knowledge now available is that the mass of the stars in space allowed that such an event would be very unlikely to happen more than three or four times in a million years. Under the influence of astronomers ruled tidal action out as a general factor in solar or stellar evolution. The first step forward by the American astronomer Chamberlain and his strongly supported view, that tidal forces were the passing star caused disruption of the original diffuse sun, and the planets were the products. Now there was no star that immediately vicinity, measuring distance on the astronomical scale, and the knowledge now available is that the mass of the stars in space allowed that such an event would be very unlikely to happen more than three or four times in a million years. Under the influence of astronomers ruled tidal action out as a general factor in solar or stellar evolution.

THE SCIENCE CONGRESS.

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Our London correspondent advised on Wednesday, 17th, that the success of the 1926 Exhibition have awarded several overseas scholarships to the following:—Mr. J. R. Vickery, University of Melbourne, bio-chemistry; Mr. E. P. Bowden, Tasmanian; and Mr. R. N. Nimmo, New Zealand, physics.