

The Register.

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EDUCATION PROPOSALS.

Doubtless, at the instance of the Director of Education, the Minister of that department has indicated important centralizing movements; but the practical value of these contemplated changes cannot be fully assessed without further details. The proposal to place the rural schools on a basis of greater efficiency is not new, nor is its official endorsement unexpected. One reason which influenced The Register in urging upon the present Government the wisdom of reorganizing the department in the manner which was eventually effected by the appointment of the Director of Education concerned the need relating to the training of provincial teachers and the establishment of high-grade central rural schools. A good beginning has been made in connection with the former matter, through the inauguration of vacation schools, and the instruction therein imparted will be supplemented in the interim by the friendly counsel of the inspectors on their periodical visits to the somewhat isolated teachers. Regarding the other reform, Mr. Jamieson, M.P., directed the attention of Parliament five years ago to the desirability of conveying children to school in certain cases. The Minister of Education has now associated with these questions another proposal—the creation of a continuation school in the metropolis—which opens to controversy the whole education problem. Mr. Pfannm's endorsement of the Government proposals, on the ground that "they would enable the children of the country to be on an equal footing with those living in the city," suggests an enquiry touching the real aims of the Ministry. Does the Premier intend to duplicate the indicated metropolitan continuation school in every rural centre? If he does, even with the most liberal definition of what constitutes a rural centre, all the children of the country cannot possibly receive the most favoured treatment. Rural residence has its drawbacks as well as its more than compensating advantages. The Premier states that it costs the taxpayers annually from £7 to £8 to teach each of the children on the backblocks, while the city schools run into 30/ only. For the lower amount the educational equipment is far superior. The discrepancy is due to the smallness of the bush school, a difficulty which can be only partly removed by the erection of high-grade central schools, for these can be alone established in suitable centres. Where the bush schools happen to be separated by long distances, the conveyance of the scholars to a common point must be impracticable.

It is interesting to note the grounds on which the Premier rests his claims for educational improvement. They are personal and national. The former are quite individualistic. "He wanted every boy to feel that he was going to be something more than animated clay." Each lad should develop decision of character, desire to excel, and possess a vocational sense; otherwise he would make a miserable husband and produce unhappiness and poverty. From the national standpoint, "the great battle of the future was for supremacy in trade. If the British people were not equipped with the best possible technical and other education, they would go down in the struggle." Evidently Mr. Price has no faith in the idea that his socialism will ever prevail to reduce the competition of the future, but believes that the best national investment is to train the children on the good old-fashioned time-tested individualistic lines of self-help and vigorous personality. That is, at any rate, a commonsense foundation for a rational system of State education. The most valuable assets of a na-

tion are the children, and it is profitable for the community to develop the potential talent and character in the rising generation, no matter in what station of life these may be latent. Industrial expansion and commercial wealth are due in a last analysis to men of original ideas and great determination—men most frequently reared in the rough school of hardship, and the university of practical experience. How does the Minister propose to "get the best out of the children?" The aim is laudable, but the point is the mode of reaching it. Does he intend to compel all the young people within the radius of a continuation school to attend it? What will be the function of a continuation school? To duplicate the collegiate course, or to teach the prospective market gardener how to grow prodigious pumpkins, or the inevitable stonecracker the philosophic art of putting two yards of metal through the screen within the time taken now to pass one? In no other field of effort have more costly and painful mistakes been made than in that of education, and it will be well to have clear ideas of the results before any extension shall be sanctioned.

The Premier states that the "time has come for a change. Their fathers and mothers were satisfied with the three R's, but the present generation wanted more than that." The three R's well taught constitute usually unsuspectedly good education—an introduction to the highest self-culture, the only culture worth having. It is an infinite pity when these are so incanted as not to become the seed of a passion for self-improvement. To add "falderals" and miss that potency is no gain upon the old custom of leaving the wits to sharpen themselves in Nature's larger and not ineffective school. Mere change in the way of lengthening the curriculum or increasing its cost will serve no useful end. Only a small fraction of the community can profit by a purely academic course; and, except through such agencies as the School of Mines, the State cannot instruct in trades. The Japanese, who have made a science of the subject of conserving the talent of the nation, have rendered the highest training and culture possible to the humblest and poorest children, by proceeding on the principle that it shall be accessible to all who show capacity to improve upon opportunity. After a certain minimum of education (say the three R's) only those pupils are retained in the schools who prove on examination qualified to proceed with their studies; and at certain stages the latter are distributed for special instruction in trade, commerce, agriculture, classics, or other branches according to evidences of individual bent. The continuation schools, the technical schools, and the university are accessible to all, but are opened to the fit alone. In some respects we have a similar system here. By means of bursaries and exhibitions offered by the Education Department, any bright pupil may be carried through the secondary schools, and by scholarships record at the University through a graduate and post-graduate course. Before precise judgment can be passed upon the latest scheme of the Government more must be known about it.

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RADIO-ACTIVE MINERALS

PAPERS AT THE ROYAL SOCIETY.

At the meeting of the Royal Society in the Institute, North terrace, on Tuesday evening, several members contributed information on the radio-active minerals of South Australia. Dr. J. C. Verco (President) presided over a good attendance.

Mr. D. Mawson read a paper on certain new radio-active mineral species associated with carnotite near Olary. He exhibited samples of five distinct types from Radium Hill, in that locality, and said that carnotite appeared to be the result of the decomposition of two of the heavy black minerals of the type of ore body which carried tin and wolfram. In quantity and quality the radio-active ore at Olary appeared to be the best yet discovered in Australia.

Professor Rennie described the results of analytical experiments made by Dr. Cooke and himself on the minerals exhibited by Mr. Mawson. These confirmed Mr. Chapman's contention that the yellow incrustation was carnotite. The dark-coloured mineral, which, so far as they were aware, had been hitherto described as ilmenite or magnetite, was found to contain—in addition to oxide of iron and titanium—dravium, vanadium, cerium, and probably thorium, chromium, and manganese. Probably, therefore, the carnotite arose from the decomposition of that mineral.

Professor Bragg presented a paper on the subject of radio-active minerals from Wallaroo and Moonta, detailing experiments he had made to determine the source and strength of their radio-active quality. The deposits at Moonta and Wallaroo, he said, presented features of great interest, occurred in rocks of extreme antiquity, and contained a wide range of mineral species, as well as traces of the rare elements. It had therefore seemed possible that one of the radio-active minerals might be present in them. In testing for these he had used a goldleaf electroscope, sufficiently sensitive to detect anything possessing an activity of one one-hundredth of that of uranium oxide. After a deal of work yielding negative results he had detected faint signs of radio activity in by-products from one of the smelting works. The sample had been traced back to Moonta, and experiments on concentrates had indicated that the radio-active mineral was of rather low specific gravity, and would pulverize readily. Further search had resulted in the discovery of a few specimens yielding an activity of one-twelfth the power of uranium oxide in a heap of rough ore. Following up the clue, small deposits of active ore were found in Treuer's and Taylor's shafts. These differed in appearance and composition, but had the common feature that both appeared in cross courses. The radio-active material was apparently of secondary origin, and so far only a few pounds of ore showing marked activity had been found. That in Treuer's shaft was of moderately high specific gravity, nearly black, and generally considerably decomposed, of high copper content, and mostly characterized by crystals of smoky quartz. The active ore in Taylor's shaft resembled brown coal as much as anything, and broke readily with a lustrous conchoidal fracture. Some specimens were of low specific gravity (1.55), and remarkable for the large amount of carbon they contained. All the specimens so far examined had been found to contain a little lead, less than 1 per cent. A specimen from Treuer's shaft, apparently ordinary copper pyrites, with an incrustation resembling carnotite, gave 1.91 per cent. of diuranium pentoxide. Carbon also occurred invariably in the active ores, usually to the extent of several per cent. He alluded to the facility with which radium might be extracted from the Moonta ores, and the extent to which the activity could be concentrated without having to resort to fractional crystallizations. The best specimens possessed an activity of about one-twelfth of that of uranium oxide. His first product had a radio activity of 120 times that of the original ore, and his second product over 2,000 times the original activity. In considering the concentration of activity the extremely small amount of radium present in the ore must be taken into account—roughly, 1 part in 20,000,000. It was questionable whether the usual methods of separation could be applied to low-grade material at Moonta with any prospect of profit.