

THE LISTER ORATION.

INDIVIDUALS AND DISEASE.

AN ADDRESS BY PROFESSOR WOOD JONES.

At a meeting of the South Australian branch of the British Medical Association held in the Lister Hall, Hindmarsh-square, on Thursday night, Dr. F. Wood Jones, Professor of Anatomy at the University of Adelaide, delivered the annual Lister Oration, taking "Disease and individuality" as his subject. Dr. H. E. Russell, the local president, occupied the chair, and there was a good attendance. The South Australian branch has now over 300 members.

Professor Wood Jones said it was not always sufficiently impressed on the medical student that his first concern in dealing with humanity was to ascertain whether the individuals with whom he was brought into professional contact were in a state of ease or disease. A psychic trauma might produce no apparent impression upon one, but for another it might mean a disturbance so profound as to result in a lifelong mental alienation. A definite amount of any given chemical substance, administered under exactly similar conditions to two individuals, might produce profound effects in one case and none whatever in another. The day had not yet come, despite the contributions towards exact diagnoses made by the physicist and chemist, when they could apply their methods and hope to achieve their results. Until it came, it was vain to expect that students would be able to learn from a series of routine tests the answer to the question most urgently in the mind of the patient—"Is he really ill, will he shortly die, or may he live to be a hundred despite his present indisposition?" However much might be learned from chemical and physical tests, it must ever rank in second place to that ancient lore of the fathers of medicine; it must be preceded by a knowledge which might make it possible to know if a patient was really sick or not. He had come to believe that it was the absence of that knowledge, and of the teaching of that lore, that constituted the greatest failure in the present medical curricula and presented the greatest difficulties for young medical men. In truth it was not unlikely that a man might die to-day before his highly trained medical attendant had become aware of the fact that he was ill.

Factors in Diagnosis.

There were two factors in diagnosis underlying the whole of medicine. There was the knowledge of the physical and chemical reactions of the constituent parts of the human body under varying normal and pathological conditions, and there was the knowledge of the patient as a human individual in some phase of ease or disease. The one factor absorbed almost all the activities of research and of teaching, and the other was in great danger of complete neglect. The reason for such a state of affairs was writ large in the history of the art. How were they to regard disease? What, in essence, was illness? In all ages, and with all people's opinions not being alike, the differences in the views had naturally affected the dual aspect of the question, for disease had a seat and a cause. What was affected, and what was the agent producing the effect? With all primitive peoples the answers to both questions had been natural and simple. There was no question in the primitive mind that it was the patient himself, as an individual entity, that was the seat of the disease. The illness of an aborigine must, almost necessarily, be caused by the agency of one of his fellows; the illness of some people, even to-day was caused by witches or their kin; and the illness of a very large section of humanity was still caused by evil spirits of one sort or another. The idea of illness of the individual was not by any means confined to backward or primitive races; it was the keynote of the medical lore of all the classical fathers of medicine. It was the more precise knowledge of gross anatomy that produced the next phase in the evolution of ideas concerning disease. It was the sick cell that made the sick tissue; the sick tissue that was responsible for the sickness of the organ, and the latter manifested itself by the disease of the individual. Was it, therefore, any wonder that the study of the individual in ease or disease was a subject that had become rather pushed into the background with the passage of five centuries of medical research?

The Seat of Disease.

In the final tracking down of the seat of disease it was obvious that there was a great gain of scientific accuracy; the knowledge had become more precise. They might the more easily extinguish a fire if the source were known, and the more easily deal with a pathological process if they knew precisely where it originated. With all those comfortable words they did not take care not to be lulled into the belief that all was now solved. One might be certain in this evolution of knowledge. They might be sure since man had conceived that the equality was a product of the whole

bodily entity, he would set about the task of ordering his knowledge by classifying his fellows into different types of bodily entities. He would card index all mankind with regard to their bodily make-up, and on the label of each he would be able to write what would be his idiosyncrasy, his proclivity, his temperament, or his diathesis. That was an ancient weakness, and one that was fortunately not dead even now. But as with disease, so with individuality. Matters were not to rest even with the tissues, and they all knew, from the findings of the modern geneticists, that it was in the cell itself that individuality found its home. Maybe, medical men had been somewhat overawed by the modern findings of the advancing science of genetics, and that they had all been over-inclined to attach too narrow an interpretation to those findings. It was even possible that the great pioneers of the science had created, all unwittingly, such an impression, but surely there was justification for the present-day reliance upon chemical and microscopical tests and laboratory findings. Again they were driven back to the cell. What then was the concern with the individual? It was enough to examine and test his cells and apply treatment regardless of anything that might appear peculiar or significant in the general condition or make-up of the patient himself. But they must not forget that whatever powers they might delegate to the chromosomes and to the cell, the human body itself was but a complex of cells, all of which had been developed from the original unit that inherited the individuality. They also knew that whatever there was of individuality inherent in the original cell would be shared in some manner by the whole of the vast progeny of the fertilised ovum. That point of view was, at times, lost sight of by those devoting attention to the more practical branches of medical science.

Cells of the Body.

When inheritance was regarded from the wider point of view, it would be seen that it was not unlikely that the medical profession in general had taken the findings of the geneticists too narrowly. In assigning the seat of individuality to the chromosomes and to the originating cell they did not rob the whole complex completed adult body of any opportunities of manifesting diathesis, or temperament, or individuality. Rather they enlarged its scope, for they might truly say that every cell of the body was thoroughly steeped in their own inborn, inherent individuality. When a man could be imagined fanciful in thinking he could recognise diathesis or temperament in one or two obvious structural peculiarities in his patient, it must be remembered that what he could see was only a very small fraction of the myriad entities in which it was present. It was, in reality, no more fanciful for an experienced physician to look to see a certain proclivity to disease in a patient whose external peculiarities he had noted, than for an animal dealer to assume that a cat was a female because he had remarked that it had black and yellow and white in its coat colors. What the fathers of medicine believed was not wrong. Their fault was that their knowledge was incomplete, and it was the great shortcoming to-day that they had in no way enlarged that knowledge, or even attempted to do so. That every living being was a cellular individuality which manifested itself now in one, now in another, visible and obvious stigma was certainly true. They had yet to link the often obscure and inconspicuous manifestation with the deeper, less obvious, and more widespread phenomena that were prone to accompany it. The study of diathesis had not been ended; truly it had not yet been begun. In all branches of science it was the primary phenomena that were bewildering, and which, as they could not be taught dogmatically, since knowledge was so scant, were apt to be passed over lightly in the educational courses. It was in the primary concepts of all natural phenomena that they took so much for granted. It was in the terminal ramifications of knowledge, based on the assumed mastery of those primary phenomena, that they demanded so vigorous a proof and so minute an analysis of results.

The Nervous Systems.

Much of the mystery of the unfolding of the early stages of embryonic development remained unsolved, but as to the meaning of certain processes they might make at least a reasonable guess. There was a cellular mass consisting of a certain developing embryo of any living creature proportion of cells that were exposed on the surface of the embryo, and others that were not exposed on the surface. It mattered not if the sinking in of surface cells was more or less haphazard; the purpose was always the same. Some knowing cells were translated from the surface to the depths of the body in order to keep up communication between the surface and the deeper tissues, which reacted in response to stimuli derived from the environment. Such, in essence, was the central nervous system. He believed they would gain in teaching if they dwelt upon the existence of two nervous systems, the one consisting of the sense organs and the skin exposed on the surface of the body—an external nervous system; and the other buried beneath the surface as the internal nervous system. It was by no means fanciful to say that the wise physician should seek to see in the common exterior of his patient many suggestions as to the conditions prevailing in his hidden central nervous system. The external nervous system was the exterior of the individual, and appearance—what he looked like; the internal system was the hidden portion that noted his reactions and behaviour—

just what he was. In dealing with the lower animals they were accustomed to recognise that appearance and behaviour were correlated; in patients the same fundamental truth held good. A knowledge of ontogeny should not lead them to despise that type of knowledge which, often stigmatised as "womanly intuition," enabled some people to diagnose very accurately the proclivities of conduct of their fellows by regard to their external characters. "We may at least claim," said Professor Wood Jones in closing, "that the whole study of the question of human diathesis is in its infancy. We may justly ask that the physician should lay the solid foundation of this science by recording those findings, which, no better than generalised impressions to-day, may make the permanent basis of a new science to-morrow." Professor Wood Jones was accorded a hearty vote of thanks, and was presented with a bronze medal, the frontispiece being a portrait of Lord Lister, 1827-1912, and on the back the inscription—"British Medical Association, South Australian branch, Lister Oration."

IMPROVING OUR WOOL YIELDS

also advertisement
B.A.W.R.A. Scientific Research.

To the Editor.

Sir—The members of the Australian National Research Council were delighted to notice the proposal of the directors of the British Australian Wool Realization Association to appropriate from its surplus a sum of £250,000 for the investigation of problems of the pastoral industry by the establishment of a Capt. Macarthur laboratory for research, and at the same time to commemorate the name of the founder of the great wool industry of Australia. Although the proposal has met with some opposition, it is thought, and most fervently hoped, that a way may be found to give effect to the suggestion. It is purely a matter for the shareholders to decide, but the research council feels that it may be pardoned for pointing to some of the possible benefits which may accrue to the shareholders should they adopt the scheme or some modification of it. The case of investors who purchased shares, but are not woolgrowers, would no doubt receive full consideration. In making the contribution suggested towards the above object, woolgrowers would really be investing the money in a manner which might be expected to improve their future returns, by giving them yields of either increased quantity or quality or possibly both.

The National Research Council, which represents every branch of scientific research in Australia, is of opinion that such an independent organization would do an immense amount of good to the pastoral industry, and indirectly to the whole community, without any over-lapping with the work of the various State Departments of Agriculture or the Commonwealth Institute of Science and Industry.

Besides the study of stock diseases, their causes and treatment, there are many other lines of investigation which such a laboratory could undertake. It is a serious matter, for instance, that the greatest wool-producing country in the world should not possess facilities for research work in the higher branches of wool technology. Again, our leading breeders have been very successful in improving the merino sheep, but there is reason to believe that further advances could be made by a close application of the science of genetics to many of the breeding problems which still remain unsolved. Scientific investigation has revealed methods of dealing with many of the pastoralists' enemies like the rabbit and the blowfly, but these methods are only partially successful. Further research could hardly fail to suggest new modes of attack and refinements of present methods. Then there are questions of improvement of grasses and of soils, all with the ultimate object of securing better returns.

There are plenty of examples of privately endowed institutions of this kind in all the progressive countries of the world which are working alongside State organizations without any clashing of interests or over-lapping of work. The Rothamsted Experiment Station, founded and endowed by Sir John Lawes, has done more for the advancement of agriculture in Britain and the world than most State Departments of Agriculture; the Cawthron Institute in New Zealand, also privately endowed, has in a few years carried out work which already benefits the Nelson Province to an extent far exceeding the cost of its endowment, and we may confidently expect similar results from the Waite Institute for Agricultural Research near Adelaide. In view, therefore, of the great need for further research on the many problems of the pastoral industry, and the great prospective benefits to be derived from such research, and in view of the desirability of perpetuating the memory of the founder of the sheep and wool industry which has meant so much to Australia, it is strongly urged that the suggestion of the directors of Bawra be further considered. I am, Sir, &c.

R. H. CAMBAGE, President, Australian National Research Council.
Royal Society, Sydney, May 26.

LISTER ORATION. 131

"Disease and Individuality."

Lecture by Professor Wood-Jones.

Before a large attendance of members of the South Australian branch of the British Medical Association at Lister Hall, Hindmarsh square, on Thursday evening, Professor F. Wood-Jones, F.R.S., of the Adelaide University, was heard with close attention during his lecture on "Disease and individuality." The lecture was the Lister Oration for 1926, and was written in Honolulu and board ship during March and April. Dr. H. H. E. Russell presided.

"It is not always the simplest and most obvious facts that are fully appreciated," began the lecturer. "When we say that it is the main business of the physician to know if his fellow-men are well or unwell, we make a statement the truth of which is so obvious that it is apparently valueless. Nevertheless, it is not always sufficiently impressed upon the medical student that his first concern in dealing with humanity is to ascertain whether the individual is really ill." There was a tendency, proceeded the lecturer, to rely so far upon the abundant tests that might be applied to the organs, tissues, or fluids, of the body that it was not impossible for the student, equipped with all the great advantages of modern teaching, to fail to know whether he was dealing with a sick man or not until the full ritual of tests had been conducted. When they dealt with things purely physical, they might make exact diagnosis for physical data, and physicist and chemist might ever hold them in contempt; since to them it was simple to give an apparently easy solution of many problems. The chemist might predict precisely what would be the result of the addition of some known quantity of a chemical reagent to the contents of his crucible. They were striving to realize the dreams of the physicist and the chemist, but they must not hope for a complete fulfilment. A physical trauma of definite intensity and applied in a definite manner did not produce the same result in all humanity. The scratch of a needle in the simple process of vaccination might cause a robust man to faint and yet leave a delicate girl unmoved. A definite amount of chemical substance administered similarly to two individuals might produce profound effects in one case and none in the other.

Factors in Diagnosis.
Two factors in diagnosis underlay the whole of medicine—the knowledge of the physical and chemical reactions of the constituent parts of the human body under varying normal and pathological conditions, and the knowledge of the patient as a human individual in some phase of ease or disease. The one factor absorbed almost all their activities of research and teaching; the other was in danger of complete neglect. The reason for that state of affairs was written largely in the history of their art. Disease, to adopt the title of Morgagni's great work, had a seat and a cause. There were two questions evolved—What was affected? and What was the agent that produced the effect? With all primitive peoples the answers to both had been natural and simple—the human individual was affected and an agency akin to human identity caused the conditions manifested in the illness. There was no question in the primitive mind that it was the patient himself, that was the seat of the disease; and it might be another human individuality, or an individuality somewhat more or less normally human, or an individuality completely unhuman that was the cause. The illness of the Australian aborigine must, almost necessarily, be caused by the agency of one of his fellows; the illness of some people even to-day was caused by witches of their kin; and the illness of a large section of humanity was still caused by evil spirits of some sort. Whatever the human, semi-human, or spirit cause, there was no doubt that it was the individual patient, as a human entity, that was affected.

Cellular Pathology.
The idea of the illness of the individual, proceeded the lecturer, was not by any means confined to the primitive or backward races; it was the keynote of the medical lore of all the classical fathers of medicine. For them it was still the man who was ill; but that which caused his disease was no longer the malign influence of his fellows or of the creatures of his spirit world; it was rather an upset of the regulation of some of his bodily functions, or what we should now term a pathological process. What these pathological processes might be—a derangement of the "elements" or the "humours," or "the vital spirits" or what not—need not detain them. It was essen-

Continued.