

is very marked. In certain neighbourhoods cancerous disease is responsible for one in every hundred deaths, whereas in others one in every thirty-three deaths is due to this cause.

Concerning the—from the public standpoint—most interesting question whether or not cancer is on the increase, there seems to be some difficulty in giving an unequivocal answer. That the mortality statistics show an increase is certain, but increased longevity and increased accuracy of diagnosis are disturbing factors in the drawing of inferences and have led many statisticians to regard this increase as more apparent than real. So far as the United Kingdom is concerned, the class of cancerous disease showing the most marked increase is that of the digestive organs, and this has led to the formulation of hypotheses with regard to the relation between the increase of meat-eating and the increase of cancer. The greatest note of alarm with regard to the future of cancer comes from America. It is estimated that in Buffalo during the last fifty years the death rate from cancer has increased five-fold, and that if this increment is maintained, at no very distant date this disease will be responsible for more deaths than tuberculosis, typhoid fever and small-pox all put together.

From the above paragraphs, which must be regarded rather in the sense of jottings of facts, the interest and the importance of this subject will be evident. It seems, further, that the mere microscopic examination of malignant growths has already yielded up to the observer almost all the information it can do, and that it is in the direction of pathological experiment that new and important truths should be sought for, and will probably be found. With the history of the recent progress of the treatment of zymotic diseases before us, doubtless the factors possibly concerned in cancer immunity will not escape the attention of investigators. It is sincerely to be hoped that the public will respond liberally to the call which is being made upon them for funds to defray the expenses necessarily required for an investigation at once so time-consuming and so important.

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THE OWENS COLLEGE JUBILEE.

THE series of functions at the Owens College, Manchester, last week, in celebration of the jubilee of the foundation of the College, was carried out with complete success. Prof. S. Hickson was master of the ceremonies, and to him, assisted doubtless by the harmonious cooperation of many others, the greatest credit is due.

The programme on March 12 commenced with the opening of the beautiful Whitworth Hall by the Prince of Wales. The Duke of Devonshire, as president of the College, eulogised the high aims and ideals of John Owens, the founder, in eloquent terms. The Prince of Wales urged on the citizens of Manchester not to be content with the magnificent results of the past liberality of such benefactors as Owens, Beyer, Christie, and Whitworth, but to follow them in liberal support and extension of the College. He pointed out that "the work of an institution of this nature must continually expand; and it must not be forgotten that its material resources must also expand as the work grows." He appealed most forcibly to the generous municipal life and patriotism to enable the College "to keep abreast of the ever-growing demands of modern life."

Sir Richard Jebb and Principal Rucker delivered admirable addresses upon the influence which the College has exerted upon progress in literature and science. The ceremony showed convincingly that the Whitworth Hall justified its dignified beauty of design, by conveniences of access and arrangement and most favourable acoustic qualities. The conversazione in the evening

afforded the foreign delegates an opportunity of seeing the Manchester Museum, the whole of the Arts and Science Departments, and the new Christie Library opened four years ago.

On March 13 the actual jubilee celebration was held. Nearly one hundred delegates from academies, universities, colleges and learned societies at home and abroad came forward to present the congratulations entrusted to them and to receive the grip of greeting from the president of the College. The principal proposed the vote of thanks to the delegates, and dwelt on the regretted absence from their number, through illness, of his predecessor, Dr. Adolphus Ward, master of Peterhouse, and of Sir Henry Roscoe, to whom the College is deeply indebted in every way. Prof. Harold Dixon, in seconding the motion, confined himself to the followers of his own science, chemistry, and its sister, physics, and noted with pride the attainments of such as were present as delegates.

Earl Spencer, Chancellor of the Victoria University, then took the chair and admitted the distinguished recipients of honorary degrees. The public orators were the principal. Profs. Wilkins, Schuster, Young, Tout, and Lamb, and Dr. Hiles. Prof. Schuster's presentations were notable for their epigrammatic terseness and point; we may cite his presentation of Dr. Glaisher: "His mind was raised to infinite heights by his mathematical genius; it was brought back to earth by his love of the stars."

An informal "physics colloquium" in the laboratory afforded Prof. Becquerel the opportunity of demonstrating some of the remarkable properties of radium and showing, by shadow-photographs the analysis of the various kinds of rays it emits. Profs. Voigt and Nernst also gave interesting communications.

In the evening the court, the teaching staff and the delegates dined together in the Whitworth Hall. This function was a private one.

The students who had assisted as spectators on Wednesday and Thursday organised a torchlight procession followed by a smoking concert on Friday evening. Since then the shadows of the terminal examination have fallen on the College.

The following extracts from the complete reports of the ceremony given in the *Manchester Guardian* are of interest:—

The Duke of Devonshire, president of the College, in the course of his opening remarks, said that the idea of the founder was to provide higher education in such branches of learning and science as are usually taught in the English universities. The original idea was thus education of the university type, such as that which had prevailed at the old Universities of Cambridge and Oxford.

The foundation of the College coincided nearly in time with great discoveries in science, and at the same time with inventions which provided the means of using those discoveries for the purpose of industry, and it is these discoveries which have stimulated interest in those studies of natural science in which Owens College has been preeminently distinguished. This is the interest to which, in the main, Owens College has been indebted for its success. Students have no doubt been attracted by the eminence of some of its teachers from all parts of the country, but, in the main, those students have been drawn from Manchester and its immediate neighbourhood. They have come here doubtless with the desire, with the hope, of acquiring knowledge, that knowledge and training which would be of practical use to them in the future occupations of life. But; at the same time, Owens College has never been content to limit the range of its teaching to one or two subjects or one set of subjects. It has never been content to be merely a medical or a legal or a technical college, but it has set before itself the aim of teaching—of a true university type of teaching—which shall embrace all branches of knowledge.

The address from the College to the Prince of Wales was then read by the principal, and in his reply His Royal Highness remarked:—

"On this first jubilee-day of your College the question may be fairly asked whether it has fulfilled the object of the founder. We are told that his idea was to provide, in a great centre of population, commerce and industry, 'higher education in such branches of learning and science as were usually taught in the English universities.' Those who joined with Mr. Owens in this scheme recognised that in the great commercial centres there was both the opportunity for and the need of something in the nature of real university life. Perhaps the best proof of the wisdom of the policy adopted in the case of Owens College is the fact that in nearly all the largest towns of the country there have been founded during the last thirty years colleges to a very large extent on similar lines. Owens College has sent many teachers, not only to these, but to the old Universities of Oxford and Cambridge. And we may also, on this jubilee-day, take stock of those influences which have been instrumental in thus successfully developing and carrying out the original scheme of the founders. Will Owens College ever cease to venerate the names of Owens, Beyer, Christie, Whitworth, and other noble benefactors to whose munificence is chiefly due her creation, endowment and material prosperity? Can she ever be sufficiently grateful to those great teachers and students who have not only by their genius and force of intellect maintained in the College a high standard of learning, but also by their personal example have helped to form the characters and guide the lives of those who have been so fortunate as to come under their influence? Amongst these former eminent leaders, two—Dr. Ward and Sir Henry Roscoe—are, I am sorry to say, prevented by illness from taking part in to-day's ceremony. But great as have been these different forces in building up this vast and important educational machinery, they would not be sufficient without the strength and sustenance which has been secured by local patriotism and local enthusiasm. I feel sure that Owens College may always count with confidence upon a generous local municipal support to enable it to keep abreast of the ever-growing demands of modern life, whether it be in the arts, in science, or other departments of a liberal education."

In connection with the celebration, the honorary degree of D.Sc. was conferred by the Victoria University upon the following distinguished men of science:—Presented by Prof. Young, Dean of the Medical Department: Sir Thomas Barlow, Sir J. S. Burdon Sanderson, Sir W. S. Church, Mr. H. G. Howes and Prof. Simpson. Presented by Prof. Schuster: Prof. Becquerel (Paris), Prof. Chodat (Geneva), Prof. G. Carey Foster, Dr. J. W. L. Glaisher, Principal E. H. Griffiths, Principal Hicks, Dr. E. W. Hobson, Prof. G. B. Howes, Prof. W. Jack, Principal Lodge, Prof. Nernst (Göttingen), Prof. Poynting, Prof. Tilden, Prof. Voigt (Göttingen), and Prof. Marshall Ward. The honorary degree of M.Sc. was conferred upon Mr. C. Bailey, Mr. Francis Jones and Mr. J. H. Reynolds.

CELEBRATION OF THE TWENTY-FIFTH ANNIVERSARY OF THE JOHNS HOPKINS UNIVERSITY.

THE twenty-fifth anniversary of the foundation of the Johns Hopkins University was celebrated at Baltimore last month. The commemorative address delivered by Dr. D. C. Gilman, for twenty-five years president of the University, and now president of the Carnegie Institution, is published in *Science*, together with the address delivered by Prof. Remsen upon his inauguration as president of the University. The assembly was one of the most noteworthy that has been gathered together in America, being composed of leaders in many branches of intellectual activity. In the course of the ceremonies an address, signed by more than one thousand alumni of the university and others, was presented to Dr. Gilman. We give extracts from the addresses delivered by Dr. Gilman and Prof. Remsen.

In the course of his address Dr. Gilman said:—

When this university began, it was a common complaint, still uttered in many places, that the ablest teachers were absorbed in routine and were forced to spend their strength in

the discipline of tyros, so that they had no time for carrying forward their studies or for adding to human knowledge. Here the position was taken at the outset that the chief professors should have ample time to carry on the higher work for which they had shown themselves qualified, and also that younger men, as they have evidence of uncommon qualities, should likewise be encouraged to devote themselves to study. Even those who were candidates for degrees were taught what was meant by profitable investigation. They were shown how to discover the limits of the known; how to extend, even by minute accretions, the realm of knowledge; how to cooperate with other men in the prosecution of inquiry; and how to record in exact language, and on the printed page, the results attained. Investigation has thus been among us the duty of every leading professor, and he has been the guide and inspirer of fellows and pupils, whose work may not bear his name, but whose results are truly products of the inspiration and guidance which he has truly bestowed.

The biological laboratory, the first establishment of its kind in the United States, has carried forward for many years the study of marine life at various points on the Atlantic and has published many important memoirs, while it has trained many able investigators now at work in every part of the land. Experimental psychology was here introduced. Bacteriology early found a home among us. The contributions to chemistry have been numerous and important. Here was the cradle of saccharine, that wisely diffused and invaluable concentration of sweetness, whose manufacturers unfortunately do not acknowledge the source to which it is due. In the physical laboratory, light has been thrown upon three fundamental subjects—the mechanical equivalent of heat, the exact value of the standard ohm, and the elucidation of the nature of the solar spectrum. For many years this place was the chief seat in this country for pure and advanced mathematics.

I cannot sit down without bringing to your minds the memories of those who have been with us and have gone out from us to be seen no more: Sylvester, that profound thinker devoted to abstractions, the illustrious geometer whose seven prolific years were spent among us and who gave an impulse to mathematical researches in every part of this country; Morris, the Oxford graduate, the well-trained classicist, devout, learned, enthusiastic and helpful, most of all in the education of the young; accomplished Martin, who brought to this country new methods of physiological inquiry, led the way in the elucidation of many problems of profound importance, and trained up those who have carried his methods to every part of the land; Adams, suggestive, industrious, inspiring, versatile, beneficent, who promoted, as none had done before, systematic studies of the civil, ecclesiastical and educational resources of this country; and Rowland, cut down like Adams in his prime, honoured in every land, peer of the greatest physicists of our day, never to be forgotten in the history of physical science. I remind you also of the early student of mathematics, Thomas Craig, and of George Huntington Williams, the geologist, whose memory is cherished with admiration and love. Nor do I forget those who have here been trained to become leaders in their various departments throughout the country. One must be named, who has gone from their number, Keeler, the gifted astronomer, who died as the chief of the Lick Observatory in California, whose contributions to astronomical science place him among the foremost investigators of our day; and another, the martyr Lazear, who, in order that the pestilence of yellow fever might be subdued, gave up his life for humanity.

Prof. Remsen chiefly dealt in his address with the development of the university idea in America, and showed that the noteworthy characteristic of educational work in recent years is the philosophical faculty in the universities and the surprisingly rapid increase in the attendance upon the courses in such faculties. He remarked:—

In 1850 there were 8 graduate students in all the colleges of America. Of these, 3 were enrolled at Harvard, 3 at Yale, 1 at the University of Virginia and 1 at Trinity College. In 1875 the number had increased to 399. In 1900 the number was 5668. At present the number cannot be far from 6000.

In order that these facts may be properly interpreted, we should know how many Americans are studying in foreign