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WILLIAM STOKES

A SKETCH

BY

Dr. ACLAND.

With the Author's compliments.

F. W. Burton fecit. West, Newman & Co. autotyp.

W. Stokes

WILLIAM STOKES,

REGIUS PROFESSOR OF PHYSIC IN THE UNIVERSITY OF DUBLIN,
PHYSICIAN TO THE QUEEN IN IRELAND,
F.R.S., D.C.L. OXON.

A SKETCH

DRAWN FOR

THE NEW SYDENHAM SOCIETY,

BY

HENRY W. ACLAND,
REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD.

London:
THE NEW SYDENHAM SOCIETY.

MDCCCLXXXII.

On the death of Dr. Stokes, and in compliance with his request, Dr. Hudson, the valued friend of many years, undertook to prepare, as an historical landmark in medicine, a reprint of Dr. Stokes's Diseases of the Chest, with additions, which Dr. Stokes had himself prepared and put in Dr. Hudson's hands. Dr. Hudson made me promise that if he edited the book, I would write a brief memoir of our common friend as a prefix to the work. Death has now removed Dr. Hudson also, and what I write cannot, alas! be revised by him. Had I foreseen this, I probably should not have undertaken the difficult duty. As it is, the few pages that follow are poor offerings placed by me on the grave of a beloved teacher, at the dying request of his comrade, who fell while erecting a monument to his friend. For the love of both would that my offering were more worthy. I pray the members of the New Sydenham Society, for whom it is written, and any other readers, to accept the tribute, such as it is, not for the deed but for the will.

No words of mine can thoroughly describe a man who possessed in an eminent degree the finest qualities of the Irish race—qualities which in their fulness call out at once admiration, respect, and affection.

The Reader should take note that the aim of the Memoir is to represent Stokes as a Man rather than to describe in detail his work as Physician and Author. The reprint of his work on the Chest, for which this short notice was prepared, tells its own tale. What like man was he who wrote it?

Henry W. Acland.

Oxford, *January* 6, 1882.

WILLIAM STOKES.

A SKETCH.

The Author of the work to which this brief Sketch was originally prefixed, Dr. William Stokes, was born in July of the year 1804, in the City of Dublin. His father, Whitley Stokes, was Regius Professor of Medicine in the University and Senior Fellow of Trinity College. He was a man of lofty aims and untiring energy, and employed these not only in the work of his profession, but in promoting by various methods the welfare of his country. He was a successful teacher of medicine in the University of Dublin and in the Meath Hospital. By his exertions the Botanical Gardens and Museum of Trinity College were established. He was the first University Lecturer on Natural History, at a time when the conditions of society in Ireland were unfavourable to intellectual progress. Indeed, he sought to develop the resources of Ireland in many ways, and to further the education and religious instruction of the people through their native language.

The early life of William Stokes was much influenced by his father. The boy was his assistant in his laboratory; the companion of his botanical and geological walks among the Dublin hills. This companionship was of the more value because the tone of Irish society, notwithstanding the brilliant talent and energy of the people, had not recovered the misfortunes, excitement, and depression consequent on the revolutionary movement which closed the 18th century. Trinity College had no adequate museum, lecture-rooms, or laboratories, such as were to be found in Edinburgh, Paris, Vienna, Leyden, or Berlin. No journal of medical science existed in Ireland before 1800. It was no doubt from these causes that Whitley Stokes, the father, sought his degree in Edinburgh in 1793, as did William Stokes in 1825;

hence it was that Robert Graves spent several years working in the continental schools. Whitley Stokes, after his Edinburgh degree, obtained a fellowship at Trinity College, which, however, religious scruples led him to resign. He decided, probably in consequence of these scruples, that his sons should go neither to school nor college. William received, however, a thorough classical education from John Walker, also an ex-Fellow of Trinity College, and a learned scholar and mathematician. It was a source of regret to William Stokes in after life that he had not been allowed to enter College, but this circumstance was compensated in his case to some extent by the intimate personal relations into which he was led thereby with his father. This early intercourse with so able and active a man led him, no doubt, to appreciate the great opportunities which he had on arriving in Edinburgh, at that time the most active scientific University in the kingdom. He left his home at the age of nineteen for Glasgow, where he remained some months, passing on to Edinburgh in the spring of 1823. There the circumstance occurred which exercised the deepest influence on his future life. He became the pupil of William Alison, the Professor of Medicine, whose name no pupil or friend can write without feelings of the deepest admiration, affection, and gratitude. Later in life, Dr. Stokes wrote of this remarkable man : " Alison was the best man I ever knew. I wonder how it has happened that men should forget what reverence is due to his memory—whether we look on him personally as a man of science and a teacher, or at his life as that of an exemplar of a soldier of Christ. It was my good fortune to be very closely connected with him during my student days in Edinburgh, and to attend him by day, and more often far into the night, in his visits of mercy to the sick poor of that city, to whom he was for many a year physician, counsel, and support." William Stokes had, indeed, just the nature to be led captive by that noble man. He followed him by day and by night in his wanderings through the wretched wynds and the then miserable haunts of Edinburgh ; he saw the acute observer investigating

every form of the severest disease, whether in the homes of the poor or in the wards of the great Infirmary; and he watched the workings of the tender spirit whose goodness surpassed even its great scientific knowledge, and drew in the lessons to be derived from one, in whom the pursuit of intellectual truth in things material or physiological was a passion, but who yet never seemed to forget that the moral elevation of his fellow-men was a worthier object than the promotion of their material interests and comforts.

Of his life as a student I am unable to find details, but what has just been said, added to one other fact, is sufficient. Before he left Edinburgh, at the end of two years residence, he had prepared for publication and published a volume on the use of the stethoscope—for which little work he received the large sum of £70. No better evidence than this can be adduced of the effect that the influence of Alison and others had upon the young Irish student. Yet I cannot forbear relating a story of how this influence began, as I have heard it, not from himself, but from his family. He was walking one wet night down the old Cowgate; he observed a crowd at the entrance of a dark passage; he stopped to see what it could mean; he entered a low room filled with sick poor and Professor Alison seated among them; he watched the scene; a young man evidently suffering from advanced fever stepped forward. Alison said, "My poor man" (I can now hear him say it), "go to your bed, and when I have done here I will come to you." Young Stokes then stepped forward and said, "Sir, I will take the poor man to his home." "Who are you?" asked Alison. "One of your pupils; my name is Stokes." "I never saw you before," said Alison. "Perhaps not, but I have seen you, for I go to your lectures. Let me take the poor man home, and I will come and tell you how he goes on." "Very well," said Alison, "you may go." From that time they were companions and friends. With this seed, scientific and human, I would almost say Christ-like or divine, thus sown, Stokes returned to Dublin, to face in

his native metropolis the realities of professional life in similar scenes. He left Scotland in 1825. Before he left he had formed an attachment to a lady, who in 1828 became his wife.

Thus prepared, Mr., now Doctor, Stokes, of the University of Edinburgh, settled in Dublin to enter on his professional life. He brought with him the reputation of having already, while still a student, published an important treatise on Diseases of the Chest, fully abreast with the most advanced knowledge of the day, and a subject the development of which has marked one of the greatest epochs in the history of medicine. He was at once elected Physician to the great Meath Hospital, in the place of his father, who had resigned. He became the colleague of Dr. Robert Graves, one of the most remarkable men that Ireland has produced in the profession of medicine; nay more, one of the truest geniuses which that profession has seen in any country. The two henceforward were friends; and being friends, were comrades in what they both felt, and properly felt, to be a hard fight with actual evils, physical and moral. Henceforward Stokes is to be thought of as above all else the Physician of the poor, working in a great and famous Hospital, surrounded by pupils hanging on his lips, and who himself remained through life the most devoted student and keenest observer of his whole class. Whatever he acquired of duty, honour, or place in after life, was engrafted on this fundamental office and character. He began at once to lecture. About this time, August, 1826, when he was 22 years of age, he writes: "I rise early, write until breakfast, then go to dispensary, where I sit in judgment on disease for an hour; then to the hospital, where I go round the wards attended by a crowd of pupils; from the hospital I return home, write again till two, and then go round and visit my patients through different parts of the town attended by a pupil. My patients have all one great defect, viz., that instead of giving money, they too often, unfortunate beings, have to solicit it from their medical attendant; and who, with the heart of a man, would refuse to relieve

their sufferings when he has a shilling in his pocket? A poor woman whom I attended for long, and who ultimately recovered, said, 'Oh, Doctor, you have given me a good stomach, but I have nothing to put into it.'"

In the autumn and winter of this same year, 1826, fever was raging in Dublin in consequence of the great distress caused by the failure of the potato crop in summer. He writes, September 17th, "Were you in Dublin just now you would be shocked at the distress, aggravated by disease, under which the lower classes are labouring. They are literally lying in the streets under fever, turned by force out of their wretched lodgings, their bed the cold ground, and the sky their only roof. We have now 240 cases in the Meath Hospital of fever,* and yet we are daily obliged to refuse admittance to crowds of miserable objects labouring under the severest form of the disease. God help the poor! I often wonder why any of them who can afford it should remain in this land of poverty and misrule. Government has now opened in different parts of the town hospitals with accommodation for 1,100 patients, and yet this is not half enough. I walked out the other night, and on passing by a lane my attention was arrested by a crowd of persons gathered in a circle round a group which occupied the steps of a hall door. This was a family, consisting of a father, mother, and three wretched children, who had been just expelled from their lodgings as having fever. The father was in high delirium, and as I approached him started off and ran down the street; the mother was lying at the foot of the door perfectly insensible, with an infant screaming on the breast, where it had sought milk in vain, and the other two filled the air with their lamentations. It was a shocking sight indeed. No one would go near them to bring them even a drop of cold water. In a short time, however, I succeeded in having them all carried to the hospital, where they have since recovered."

Thus, by hospital practice, by attendance on the poor in their

* Shortly afterwards this hospital accommodated 300 fever patients.

own homes, and by constant teaching in both, he acquired, and continued to acquire, the material which through a long life was freely distributed by writing, by lectures, and by personal intercourse. The printed systematic works which he published during the next forty-five years were not as numerous as those of many other great practitioners, but as naturally the case with one who had gone through such a course of training, every utterance of his was weighty and full. The circumstances of the time had specially directed his attention to the works of Laennec, and, as we have already seen, to the use of the stethoscope. Accordingly, although he lectured on medical practice generally, he was specially storing his mind with every fact and inference bearing on pulmonary disease. This knowledge bore fruit in his masterly work on "Diseases of the Chest." It was published in 1837, twelve years after his return from Edinburgh. But prior to that, in 1828, he printed two lectures, dedicated to the class of the Meath Hospital, on the application of the stethoscope to the diagnosis and the treatment of thoracic disease. That which appears now so obvious as to be of the nature of truism then required argument. In his own words,* "a new source of knowledge has been lately added to medicine; the sense of hearing has been called to our assistance, and has, I will affirm, added more to the facility, certainty, and utility of diagnosis than anything which has been done for centuries. By the stethoscope we substitute the ear for the eye; penetrate into the mysteries of hidden disease, and throw light on a class of affections perhaps more important than most of those to which the human frame is liable." And it is worth noticing by the way that in these technical lectures he takes the opportunity of reminding the surgical students of that day to avoid the error of neglecting what were termed medical diseases. The line of distinction in the study of the two professions of medicine and surgery is now looked upon by the liberal and enlightened to serve neither and to injure both, and he tells all the students in

* Two lectures on the Application of the Stethoscope. Dublin, 1828, p. 12.

his faithful and graphic way that "the stethoscope is an instrument, not, as some represent it, the bagatelle of a day, the brain-born fancy of some speculative enthusiast, the use of which, like the universal medicine of the animal magnetism, will be soon forgotten, or remembered only to be ridiculed. It is one of those rich and splendid gifts which Science now and then bestows upon her most favoured votaries, which, while they extend our views and open to us wide and fruitful fields of inquiry, confer in the meantime the richest benefits and blessings on mankind. This instrument was first introduced by one whose works will ever remain as an example of patient investigation, philosophical research, and brilliant discovery, and its use is now supported by the liberal and enlightened and the scientific portion of the medical world." I cannot but remember now that more than ten years after this passage was written, I myself being a clerk in a great hospital, had to withstand the ridicule of an able teacher for devoting myself to the mastery of the instrument.

Nine years elapsed before he published the work on the Chest referred to above. It is hardly desirable to offer an analysis of this work, or to give any judgment upon it. It is perhaps sufficient to say that it at once placed him, in the opinion of the whole medical profession, in the front rank of observers and thinkers.

The terseness of his language and clearness of his statements produced a profound impression on vigorous and active young minds at the time. The precise summaries at the end of the various chapters, notably that of the physical signs of diseases of the pleura, seemed almost a revelation both in statement of fact and drawing of inference.

Such was the book which raised Stokes to the high position which he ever after maintained. It is worthy of note in the present day that one of his settled beliefs was that true progress in any art is gradual and cautious, and that the wisest worker carefully and thankfully uses all good material left by predecessors. "If you would advance a knowledge," he would

say, "be content to take up the thread where the last investigator laid it down, and set yourself to carry on his work." In this temper he lived; in this he worked. He looked on himself as promoting the objects of his predecessors and his fellow-workers, ever using, ever adding, never detracting.

In a very few years from this period the degree of M.D. was conferred upon him, *honoris causa*, by the University of Dublin; he was elected a Fellow of the King's and Queen's College of Physicians of Ireland; honorary member of the Imperial College of Vienna; of the Royal Medical Societies of Berlin, Leipsic, Edinburgh, and Ghent; of the Medical Societies of the Grand Duchy of Baden, the National Institute of Philadelphia, and many others. In 1842 he became Regius Professor of Physic in the University of Dublin, succeeding his father, who had occupied the chair for many years. Dr. Stokes published no great work from this time for eighteen years, when another volume, of a very different character, but of equal merit, that on Diseases of the Heart, confirmed the general impression of all physicians of the great powers of the now veteran teacher. This work was translated into German. The translator, Dr. Lindwurm, makes this pregnant remark in his introduction, "Our more modern German works are, to a greater or less extent, only treatises on the physical diagnosis of organic affections of the heart; Stokes, on the contrary, resists this one-sided tendency, which bases the diagnosis solely on physical signs and disregards the all-important vital phenomena; he lays less weight on the differential diagnosis of lesions of the several valves, and on the situation of a sound, than on the condition of the heart in general, and especially on the question as to whether a murmur is organic or inorganic, and whether the disease itself is organic or functional; and he devotes especial attention to functional disturbances of the heart, such as occur in typhus, in anemia, and in nervous conditions of that organ." The book is illustrative of one of the most remarkable features of Stokes' character. In talking over a case with him, it was hard to say which was the more striking, his

power of observation and sagacity, or his modesty; and in no cases was this more remarkable than in that class of diseases in which he was confessedly a supreme master. The reason of this is found in a passage of the volume on the heart: "The diagnosis of the combinations of diseases, even in so small an organ as the heart, is still to be worked out; and until this be done the rules of physical diagnosis founded on the presumed isolation of disease must be used with great caution. I cannot, even at the risk of being charged with understating the position of physical investigation at the present day, avoid expressing my opinion that a too great positiveness marks some of the statements in our standard works, and that the difficulties of special diagnosis are still infinitely greater than many might be led to suppose. I desire to enter a protest against the tendency, still too prevalent in many schools, which would base the diagnosis of disease in great part, if not entirely, on the consideration of purely physical signs, to the exclusion of that important class of phenomena which, for want of a better name, we are obliged still to call Vital. For there is nothing more calculated than this to cause the neglect of that first and greatest lesson in medicine, which, while inculcating modesty and caution in diagnosis, makes us bring every possible light to bear on the case before us. As the student fresh from the schools, and proud of his supposed superiority in the refinements of diagnosis, advances into the stern realities of practice, he will be taught greater modesty, and a more wholesome caution. He will find, especially in chronic disease, that important changes may exist without corresponding physical signs—that as disease advances its original special evidences may disappear—that the signs of a recent and trivial affection at one portion of the heart may altogether obscure, or prevent, those of a disease longer in standing and much more important—that functional alteration may not only cause the signs of organic lesion to vary infinitely, but even to wholly disappear—that the signs on which he has formed his opinion to-day may be wanting to-morrow—and, lastly, that to settle the

simple question between the existence of functional and that of organic disease, will occasionally baffle the powers of even the most enlightened and experienced physicians."

This volume on the Diseases of the Heart was at once accepted, and since has been received, as one of the most acute, graphic, and complete accounts of the clinical aspects of the organ under discussion. It exemplifies, in a very remarkable way, the several characteristics of Dr. Stokes' mind, at once so purely scientific and so eminently practical. No practitioner can open the volume without feeling it to be a store-house of knowledge obtained at the bed-side. It is sufficient to refer to the table of cases at the close of the volume, and to the several summaries at the end of the discussion of the various forms of heart-disease, to satisfy oneself of the truth of this observation; but two illustrations of his acuteness and care may be here given.

"We read that a murmur with the first sound, under certain circumstances, indicates lesion of the mitral valves. And again, that a murmur with the second sound has this or that value. All this may be very true, but is it always easy to determine which of the sounds is the first, and which the second? Every candid observer must answer this question in the negative. In certain cases of weakened hearts acting rapidly and irregularly, it is often scarcely possible to determine the point. Again even where the pulsations of the heart are not much increased in rapidity, it sometimes, when a loud murmur exists, becomes difficult to say with which sound the murmur is associated. The murmur may mask not only the sound with which it is properly synchronous, but also that with which it has no connexion, so that in some cases even of regularly acting hearts, with a distinct systolic impulse, and the back stroke with the second sound, nothing is to be heard but one loud murmur.

"So great is the difficulty in some cases, that we cannot resist altering our opinions from day to day as to which is the first and which the second sound.

. . . . . .

"To the inexperienced the detailed descriptions of such phenomena as the intensification of the sounds of the pulmonary valves; of constrictive murmurs as distinguished from non-constrictive; of associations of different murmurs at the opposite sides of the heart; of presystolic and post-systolic, prediastolic and post-diastolic murmurs, act injuriously—first, by conveying the idea that the separate existence of these phenomena is certain, and that their diagnostic value is established—and secondly, by diverting attention from the great object, which—it cannot be too often repeated—is to ascertain if the murmur proceeds from an organic cause; and again, to determine the vital and physical state of the cavities of the heart.

. . . . . .

"If the question as to the practicability of the negative diagnosis, with reference to either orifice, be raised, it appears probable that where a mitral murmur is manifest, it will be easier to determine the absence of disease of the aortic valves than to declare the integrity of the mitral valves in a case of aortic patency. The experience of each succeeding day devoted to the study of diseases of the heart will make us less and less confident in pronouncing as to the absence of disease in any one orifice, although no physical sign of such a lesion exist, if there be manifest disease in another, or again, if there be symptoms of an organic affection of the heart."

About this time, 1854, he published the lectures on Fever in the *Medical Times and Gazette*. These were afterwards collected, but not before the year 1874, into a single volume with additions. In this volume he did not pretend to give even a sketch of all that is known or believed to be known respecting fever. "Nothing will be found in them relating to histological research, the chemico-vital states, of the fluids, or organs, or the analysis of the laws of crisis." He does not even attempt to weigh the evidence concerning the separate identity of fevers, and in these respects surprised some who leant on his judgment in the most absolute manner. But, as was his wont, he confined

himself to that which he seemed to himself to know, and he would not allow himself to go beyond his convictions. In one of his early lectures he speaks of the difficulty of changing ideas in which one has been educated. "There is nothing more difficult," he says, "than for a man who has been educated in a particular doctrine to free himself from it, even though he has found it to be wrong. There is something in the human mind which renders the reception of a doctrine, if it be a bad one, a most dangerous circumstance; it is like the imbibition of a particular poison or miasma. We find that some men who have once been exposed to the miasmatic influences which cause intermittent fever will for nearly the whole course of their lives be incapable of getting rid of that influence which has been once received; and thus it is not only with physical but with moral or intellectual impressions." Whether he had in mind when he wrote these words his own unwillingness to accept in full the modern distinctions between fevers cannot be positively said, but he discusses the subject in his sixth lecture with great care, and he seems quite unwilling to admit the modern accepted distinctions. "I have said," he writes in the seventh lecture, "that I hold the study of the marks or points of agreement amongst these diseases to be of more value than that of their differences, and for this reason, that the former bears on the question of treatment much more than does that of their distinctions." He had seen, studied, and treated fever on a great scale for fifty years, and like his great master, Alison, was familiar with it in all its forms and under all the conditions which appear to cause it. He seemed never to have satisfied himself that there were generic differences in these forms, but was inclined to consider them varieties. This I learn on the authority of Sir William Gull to have been the belief of Dr. Alison to the last. Again and again this impression seems to be ineffaceable from Stokes' mind. He reasoned on the data he had in Ireland, as did Alison in Scotland, or Jenner in London. "I have told you," he says, "that no two epidemics are exactly alike, either as

regards their essential symptoms or local complications. . . . I have said that this is not the place to go into the history of every observed form of fever and into various controversial questions that have arisen regarding them. Study the excellent works of Dr. Murchison, Dr. Hudson, Sir Wm. Jenner, and Dr. Stewart, and use your own judgment as to how far your experience bears on the great questions therein discussed; in the meantime let us continue to study the local complications, after which we shall be in a position to deal with the question of the treatment, if not the prevention of the disease." The volume will always be worthy of careful attention in historical relation to the writings of Alison and Graves, Murchison and Jenner, as the observations, for preventive and therapeutical purposes, of a most acute physician. Many passages ring in it as if they had been written by Sydenham or by Hunter in their best moods.

In the year 1863 Dr. Stokes edited a volume containing studies in physiology and medicine by Dr. Robert Graves, who had become Professor of the Institutes of Medicine and the School of Physics in Ireland. Of the influence which these two men, Graves and Stokes, exercised on one another for good it would not be possible to speak too strongly. Those who remember the effect which Graves' Clinical Lectures produced when they appeared will readily understand this. Stokes, in writing of him after his death, calls him "the most remarkable man, from his erudition, the variety of his mental powers, his industry, and from the multitudinous additions which he made to practical medicine, of which the profession in this country can boast." He was a man who in a marked degree combined the scientific mind of the physiologist with the intensely practical quickness of the clinical observer. Stokes used to tell with delight a saying of Graves'. He was going round the hospital, when on entering the convalescent ward he began to expatiate on the healthy appearance of some who had recovered from severe typhus. "This is all the effect of our good feeding," he exclaimed;

"and lest when I am gone you may be at a loss for an epitaph for me, let me give you one in three words, 'He fed Fevers.'"

"He was a man," he also said, "besides with a warm and sensitive heart; loving truth for its own sake, he held in unconcealed abhorrence all attempts to sully or distort it, and he never withheld or withdrew his friendship from any, even those below him in education and social rank, if he found in them the qualities which he loved, and which he never omitted to honour."

And again: "The world never spoiled him, so that he preserved most of the youthful, and all the kindly and better qualities of his mind up to the hour of his death."

His volumes of clinical medicine, and his remarkable powers as a clinical teacher will never be forgotten in the history of Ireland. His Physiological Essays, edited by Dr. Stokes, derive their chief present interest from the personal characters of the author and editor.

During the three epochs of Dr. Stokes' life marked out by the intervals between the publication of his principal works,—viz., his volume on the Stethoscope in 1825 at Edinburgh; that on Diseases of the Chest in 1837; on the Heart in 1854; and on Fever in 1874—each of them evidencing in different ways the mixed scientific and practical nature of his professional life—a tide of other medical writing was flowing in full force from his pen. These writings were very various. A series of Lectures on the Practice of Physic, written between 1832 and 1835, and delivered in the Meath Hospital and the Park Street School, appeared in the *London Medical and Surgical Journal* (vols. 3, 4, 5, 6). They were reprinted in America; and the volume was edited afterwards, with additional matter, by Dr. Bell, and became one of the standard medical treatises of the United States. He was at this time only twenty-eight years of age. He wrote seven articles for the Cyclopædia of Medicine between 1832 and 1835. The subjects were, Derivatives, Dysphagia, Enteritis, Gastritis, Gastroenteritis, Inflammation of the Liver;

and in conjunction with Dr. MacAdam, Peritonitis. Under what circumstances this particular class of subjects was assigned to Dr. Stokes I have no evidence. In the *Dublin Medical Journal* there are various important papers. One in the volume for 1832 is on the use of large doses of opium in certain cases of disease, a paper of great practical value. It will interest pupils of his revered teacher Alison, with whom this subject was one of cardinal importance. This was followed by two of not less moment from the point of view of practice and treatment. One in 1833 is on the Diagnosis of Pericarditis. The other paper in 1839 is on the "State of the Heart, and the Use of Wine in Typhoid Fever." His words at the outset of this treatise, written more than forty years ago, are so graphic that they may be quoted here for the sake of younger readers who do not know the story of the past.

"If we compare the inexperienced man with him who has had a long-continued practice in fever, we may often observe that the former employs a too vigorous antiphlogistic treatment in the commencement of the disease, and delays the exhibition of stimulants until the powers of life are sunk too long, while the latter is much more cautious in husbanding the strength of his patient, and shews much less fear of resorting to wine and other stimulants. It is in determining on the use of wine in fever that the junior or inexperienced man feels the greatest difficulty; it is in its exhibition that he betrays the greatest uncertainty and fear. This is to be explained by referring to the general character of the doctrines which have prevailed within the last quarter of a century, and which are only now beginning to yield to a more rational pathology. The doctrine of an exclusive or almost exclusive solidism which referred all diseases to visible changes of organs, which taught that inflammation was the first and principal morbid phenomenon, and that fevers were always the result of, or accompanied with, some local inflammation, was, however disguised under various denominations, the doctrine taught to the majority of our students. Their ideas were thus

exclusively anatomical; inflammation formed the basis of their limited pathology, and thus instructed, they entered on the wide field of practice, most of them having never even attended a fever hospital; utterly ignorant of the nature of essential fevers, they applied, in the diseases of debility, the treatment of acute local inflammation, and delayed stimulation until nature could not be stimulated. Let it not be supposed that in this picture I seek to make a favourable contrast between the education which I myself received, and that given to others—far from it, I confess that it was not until several years after I commenced practice that I became fully aware of the erroneousness of what is termed the anatomical theory of disease; and I feel certain, humiliating though the confession may be, that the fear of stimulants in fever with which I was imbued, was the means of my losing many patients whose lives would have been saved, had I trusted less to the doctrine of inflammation, and more to the lessons of experience, given to us by men who observed and wrote before the times of Bichat or of Hunter.

"The hospital physician will be frequently asked by students to state the principle on which he administers wine in fever. I conceive the question may be thus answered. Typhus fever is a disease which has a tendency to a spontaneous and favourable termination, but one in the course of which the powers of life are attacked by a most malignant influence. By wine, food, and other stimulants we support nature, until the struggle is past, so that, to use the words of an ancient author, which embody a more profound principle than appears at first sight, we 'cure the patient by preventing him from dying'; that is to say, we prolong his existence until the natural and favourable termination of the disease arrives. We do not allow our patients to die of exhaustion, and bearing in mind the depressing influence they have to struggle with, we give stimulants at the proper time and with a bold hand. We give our patients an artificial life till the period arrives when nature and health resume their sway."

Between these papers was one on the Pathology of Aneurism

(1834), and one on Emphysema (1836), besides others on points of Thoracic Pathology, shewing the clear purpose for which his mind was being stored with the knowledge that was to bear fruit in his mature life.* He was now only thirty-three years of age. His great work on the Diseases of the Chest was published. He became overwhelmed with private practice. At the Meath Hospital he worked, thought, and taught. Henceforward, wherever he spoke or wrote, men felt that there was one who spoke and wrote only when there was something which should not be withheld. Of such utterances there is a remarkable illustration in a paper by himself and Dr. Cusack on the mortality of medical men in Ireland. They only who know Ireland can fully estimate either the sufferings of the people, or the devotion of such active and able men as, loving their country, live for it; and who, living there, work with discretion and steadiness. The occasion of this document was the deep sense he entertained of the hardships and dangers to which the medical men in Ireland are exposed in attending on Fever Hospitals and Dispensaries. Many old pupils had fallen victims; they had perished while living on the poorest pittance from the Government, and their widows were unprovided for. Ireland, from whatever cause, is most productive of fever. In ten years prior to June, 1841, a period not characterized by any remarkable epidemic, nearly one-tenth of all deaths in the province of Leinster was from fever. In Ireland, he said, few medical men escape fever, and they generally have it with great malignity. It was rarely absent from the rural districts, in which, owing to the nature of the dwellings and the condition of the peasantry, and the distances to be travelled, the dispensary surgeon has to meet, in cold and wet, fatigue and hunger, the most concentrated contagion. A cholera epidemic is far less dangerous than the ordinary typhus. Of 1,220 medical men in charge of 406 Medical Institutions, 568 had fever between 1818 and 1843. These facts, among which he lived, and which he collected with care, became the subject

* For a list of his minor papers see Note, p. 40.

of Parliamentary inquiry. Though so recent, they seem now as the ghastly tale of some dark bygone age.

The keen interest which Dr. Stokes had in all that concerned the condition and happiness of the medical profession is illustrated by the paper just discussed. One of the methods in which through life this strong feeling was displayed, is seen in the efforts which he made to advance the culture of the profession. His opinion on this subject, in the year 1861, should be told in his own words: "The chief, the long existing, and, I grieve to say it, the still prominent evils among us are the neglect of general education, the confounding of instruction with education, and the giving a greater importance to the special training than to the general culture of the student." And the reason of this he gives in these words: "Let us now ask, What is medicine? Is it an isolated science; an exception to all other branches of human knowledge; a study having no use for the great weapons of the human mind, observation, and the reasoning power? Are the studies of letters, the influence of history, ethics, and the laws of physical science nothing to it? I will not dwell on such questions, from my respect for your understandings. But what it is not, it may be wholesome to declare. It is not the result of a poor seed, sown on a raw and sterile soil. It is not a handicraft, governed by a fixed rule, or any set of rules, that you may learn by rote; it is not a study of fixed, but of varying conditions. It is no solitary science, but rather a complex system of knowledge of many kinds, derived from many sources—from the observations of bygone years, and the multiplied discoveries of the present day. It is related to, and inseparable from, all other branches of human knowledge, from which it largely borrows, and to which it pays back with interest." . . . . "The old Universities of England and Ireland have ever kept up the dignity and the reality of their medical degrees. They have not sought to create revenue for their schools, and increase the members attending in their medical classes, by lowering the degree in Medicine below that in Divinity or in Law. . . . They have

taken a right view of the first objects of their foundation, which are the general mental culture and moral training of all over whom their powers may extend. With them the general culture has been the leading object, and has been fostered and valued, first, for its own sake, and next, as giving the only safe ground for such special instruction as may be requisite for this or that calling." . . . "The Medical Council have marked their sense of the predominating importance of general culture in this wise—that their Report on Medical Education deals almost wholly with the subject of general or extra-professional training. It hardly touches on special education except so far as relates to the mode of conducting examinations. The Council have obviously felt that the greater question claimed their first care." And, speaking of the modern system of cramming for examinations, he says: "It is a system the evils of which have increased, in place of diminishing. The overloading of special instruction will not help but really retard the production of the higher class of men. . . . It was not in this fashion that the fathers of British Medicine were moulded; nor our great Jurists, or our learned and pious Theologians were trained. Will not its result be, at the best, to produce a crowd of mediocrities, with no chance, or but a little one, of the development of the larger man." And then he ends this address, delivered at the Meath Hospital, from which these passages have been quoted, thus: "Let us labour to place the teaching of medicine in its true position. Let us emancipate the student, and give him time and opportunity for the cultivation of his mind, so that in his pupilage he shall not be a puppet in the hands of others, but rather a self-relying and reflecting being. Let us ever foster the general education in preference to the special training, not ignoring the latter, but seeing that it be not thrust upon a mind uncultivated or degraded. Let us strive to encourage every means of large and liberal education in the true sense of the term, and so help to place and sustain our noble profession in the position which it ought to occupy."

I must repeat once more that nothing impresses me more on looking through his various utterances in relation to the condition of medicine in this country than the intensity with which he feels the importance not only of training the faculties of reason and observation, but also at promoting the general culture of the mind. He breaks out from time to time, apparently with horror, of the opposite views. In one address concerning the effect of small professional corporations he says: "The student was taught not only in private, but in public lectures, that he should make his special training the great object. He was taught to neglect the larger culture of his mind, and the lower aim was ever kept before him. No wonder that in course of time the claims of medicine to be considered as one of the leading professions were lowered. It is plain that unless all this be changed, unless this cancer be eradicated, the time will come when we shall be shamed by seeing the more difficult problems of medicine attempted and solved by men outside the profession; men of large and liberal education, who will succeed in doing that which its proper members were unable to perform. Among the many errors which we must try to get rid of in dealing with this matter, this is one of such magnitude that to its existence may be traced most of the evils that beset the student of medicine."

I am bound to record, in connexion with this subject, the deep interest which he took in the progress of opportunities for scientific education in Oxford, whether in its bearing on the general Education of the Country, or the Education of the Medical Profession. He shewed in his writings and speeches how he desired chiefly for his profession that its youth should have access to the same culture, should enjoy the same thorough education of their higher faculties, and should be placed in the same circumstances for the elevation of their personal character, as our Statesmen, our Clergy, or the members of the Bar. He looked, therefore, with much interest at the modern exertions which were made by the ancient Universities to give that kind

of fundamental scientific training which should be useful to the members of his own profession, prior to their introduction to the great schools for studying pathological phenomena and pursuing therapeutical observation, which are supplied by our great metropolitan Hospitals.

His conversation and his addresses were full of observations bearing so forcibly on medical education that a few of them must here be quoted. For instance, "It is with societies of men, as well as with individuals, that which commands scientific respect does not so much depend on the successful teaching of what has already been discovered, as upon the production of original work by the society or individuals."

2. "It is with the living that medicine has to do. The living man must be studied in health as in disease; to the physician or surgeon the sick or wounded man is as the mineral to the geologist, as the star to the astronomer."

3. "Other schools have earned a reputation in physiology and comparative anatomy, and those branches of medicine which are termed theoretic; but the enduring fame of the Dublin contributions to science arises from their essential practicality and truthfulness. They are records of unbiassed observation made by men originally well educated and brought up in a practical school."

4. "There can be no greater error than to compel a medical officer to attend to a number of patients beyond that which his mental or physical powers can reach. I speak from experience when I say that no physician or surgeon ought to be called on to attend more than fifty hospital patients daily; to treat more than this proportion causes exhaustion both of body and mind, and he is rendered unfit to perform duties which of all others require a quiet mind and a vigorous frame."

5. "Additional encouragement must be given to the students to obtain that education which can alone fit them to preserve the social position and rank of their profession, to use the words of a great surgeon, to keep it from degenerating into a trade, and the worst of trades. To me the real patriot is he who,

in a life of labour and of trial, with integrity, practical wisdom, and far-seeing intelligence, labours onward to no other end but that his country shall rise, and with the honourable and justifiable ambition that, loving her, he may rise with her also."

6. "In the wards of the hospital the student learns that which cannot be taught in the dissecting room or in the theatre; he learns to teach himself to act and to discover; and he does much more; the kindlier feelings of his heart are stirred, and he becomes so trained to works of charity and mercy that their practice is at last a second nature; he acquires that moral courage by which at the call of duty, or of mercy, which is duty, he learns to despise danger, and to meet death whether it comes by pestilence or by the sword."

7. "Medicine cannot be taught in a purely medical hospital, any more than surgery in a purely surgical one."

8. "Medicine is essentially a progressive science, and avails itself of almost every branch of knowledge in its progress. Medicine is an inexact science, but this is no reproach. By this very character it enters into fellowship with the most noble of human inquiries, with those which have for their objects the relations of the created to the Creator, the future state of man, his moral and his intellectual nature."

9. "We have to do with something which cannot be measured or weighed; something too in which experiment can only be used within narrow bounds; an element whose nature is yet unknown, fleeting in its action, and every day producing new combinations, not merely new because they were never observed before, but really new as appearing for the first time."

10. "Every connexion that can be established between the mathematical and physical sciences and medicine will impart to it more or less of certainty."

11. "Medicine, in its great quality as a practical art, advances in many directions; of which two may be indicated as the most important. One is the discovery of new facts, whether relating to physiology, pathology, or therapeutics, each of which, even

although its practical bearing be not apparent, enlarges the boundaries of the field of certainty. The second is the application of those new facts, on the one hand, to testing the value of methods long in use; and, on the other, as a guide in the wilderness of the unknown which stretches around us, which we are seeking to explore, and which we hope in time to reclaim."

12. "Do not be misled by the opinion that a University education will do nothing more than give you a certain proficiency in classical literature, in the study of Logic and Ethics, or in Mathematical or Physical Science. If it does these things for you, you will be great gainers, for there is no one branch of professional life in which these studies will not prove the most signal helps to you. But it has other, and equally important results; it enforces respect for the ordinances of religion; it habituates the mind to the humility of prayer; it enlarges it by communion with contemporaries who are preparing for their varied walks in life; and it excites the best ambition, by presenting so many examples of successful exertion."

Thus far Dr. Stokes has been spoken of partly as an eager student of medical science, partly as a physician. We must now look upon him from a somewhat different point of view. In one of his addresses he puts as the first "great object of our labours" the prevention of disease. This proposition, now that "sanitary science" has become a fashion, seems but an obvious sentiment. With him, long before it became popular, it was a veritable passion. "Preventive medicine, as distinguished from curative medicine, touches every hearth and home in the country; every man, woman, or child, from the highest to the lowest; every institution in the State; its power, its defences, its education, its manufactures; every trade, every occupation, domestic purity, domestic happiness, national prosperity, national health, longevity, and morals; the duties of property; the exercise of charity, the blossoming and fruit of our common Christianity. Its end is to improve and to preserve man's body in the best condition, and

through it his immortal part." And throughout his various discourses and teaching on this subject he takes the widest view of its nature and relations. He presses home his idea with all the force of his ardent nature. "The list of causes," he says, "independent of epidemic disease, which damage the general health of the community is a long one. The parent of many others is destitution with its consequences. But to prevent destitution in masses of men, and to promote their prosperity, is the province of the social rather than the sanitary reformer, who has to deal rather with the effects than with the causes of destitution, though it is certain that disease and destitution may be and often are reciprocally cause and effect." And speaking of many of the Poor Law surgeons in their relation to this great work, he quotes this passage from a memorandum of the Sanitary Commission: "'They have had a scientific education, and are essentially benevolent and practically humane. Their life is spent in striving to alleviate the greatest calamities of the most suffering, that is, of those who, being willing to work, are disabled by enfeebled health or actual disease. Penetrating every corner of the filthiest districts at the ghastliest moments, succouring the vicious when they are disposed (if ever) to repent, and tending the innocent who are ruined in body by the sins of those who begat them; hundreds of these men do their duty, their hearts beating with sympathy, sighing for power to remove causes the effects of which they are incompetent to check. And, lastly, being themselves far from rich, they are thrifty, and as little disposed to increase unnecessary taxation as the most indifferent or the most incredulous opponent of sanitary reform.'"

And he ends another address thus: "A time may come when the conqueror of disease will be more honoured than the victor in a hundred fights."

In the year 1870, when he was sixty-six years of age, and had been forty-four years a clinical teacher, he urged his hospital to erect a laboratory for the purpose of physical investigation in

connexion with the clinical wards. This great practical teacher, who had laid so much stress upon the qualities of observation and sagacity shewn by the older physicians, now late in life sees how the modern appliances of physical science must be used for the scientific study of disease. He refers to the progress in this direction in London, in Edinburgh, and on the Continent, and says, "We must henceforward provide instruction in all methods by which physical science is brought to bear on the advance of medicine"; that "every hospital in Dublin should have a physical laboratory furnished with such apparatus and appliances as the science of the present day requires for the investigation of disease." And with that mixture of simplicity and sagacity which was so striking in him, he says: "It is not to be expected that the senior physicians and surgeons of a hospital could be so conversant with the modern modes of physical inquiry as to be able to train the students in that direction"; but adds that a specially trained officer must be appointed for the purpose. And finding the authorities deficient in the alacrity which, even at his age, he desired, he says: "We have not been reading the signs of the times, and it is plain at all events that these matters should be seriously considered by us all." It must not be, however, supposed that this was the first occasion on which he had urged the giving great facilities to the student for acquiring precise physical knowledge and experimental dexterity; for nearly ten years before he had, in an elaborate discourse, pointed out the different ways in which such persons as Virchow, Helmholtz, Liebreich, Beale, Jellett, Hoppe-Seyler, G. G. Stokes, Haughton, Donders, and others had in several directions placed within the reach of the younger generation of medical men knowledge and power wholly unknown to our fathers, and such as it is impossible for the present race of men to ignore. And it must be borne in mind that this was the conviction of a pre-eminent clinical observer and practitioner.

It would thus far seem that Dr. Stokes was engrossed by the study of disease, love of his profession, and his conception of the

dignity of medicine, as the averter, alleviator, and healer of bodily and mental disorder.

But did nothing else lie hidden in the nature of this large-hearted man? Yes; and chiefly two things. First, a Love of Art. What did Art convey to him? What its attractions, and what its link with his nature? This is not hard to see nor to shew. The study of Man was with him an instinct, both on the material and on the intellectual side. On the material side; for he was a physiognomist; a great judge of character; and had a keen perception of all physical characteristics; qualities which he obtained by intense observation of men in disease; of men in health; and of persons in every class of society and every kind of occupation. On the intellectual side; for the phenomena of man's external nature were to him only expressions of the mind working within; mind the result of inheritance; mind formed by itself; mind the result of circumstance. The second thing to be remarked was his intense interest in every form of human character, in persons of every age, occupation, and condition. He had that which many sympathetic persons have not, the keenest sense of humour, which sparkled up in a way quite indescribable. He combined real delight in all intellectual development with the deepest sympathy for suffering. Some of the stories of sorrow and of characteristic life among the Irish poor were told by him with a pathos of voice and utterance impossible to be imagined: it must have been heard. When pressed he would relate some story such as this: "An aged priest, Dean of Westport, told me a story illustrating the deep religious feeling of the Irish peasantry. 'I had the largest parish,' he said, 'in the diocese, and had no less than four curates—God help them. They were scattered here and there through the mountains. It was a Sunday morning early, and you never saw such heavy rain as was falling, when a boy on a horse rode up to my house with word that Father Sheehy was taken very bad and would not be able to celebrate mass. All the curates had their hands full; I was

going to breakfast, but I had to go off without it, and the rain was so thick and heavy that in five minutes I felt the water running down my back as it poured in through the roof and sides of the covered car in which I travelled. Well, I went on; the blast and the storm only seemed to increase as I got higher and higher among the mountains, for the best part of twelve miles, when the boy pulled up. "What are you stopping for?" said I. "For your reverence to say mass," said he. "Where?" said I. "There!" he said, pointing with his whip to the ditch, where I saw a large flat stone. "That's the altar!" he said. So I got out and put on my wet vestments, and after a while one poor creature came out of the mist and then another, and then a woman and a man carrying the child, and then more and more till a great crowd gathered round the stone, so great you couldn't see the end of it in the fog and the mist; and they were all wet to the skin after walking over the mountains in the storm. They were all down on their bended knees when I came to the elevation of the Host, and with one consent there arose a great cry from them, "Céad míle fáilte! Chriost mo Shláinte!" A hundred thousand welcomes! Christ my salvation!'"

Though often saddened through his boundless sympathy, he was never so depressed by the gravity of things but that there might come, often most unexpectedly, rays of his tender humour, like sunbeams on a showery day. This close study of man was perhaps natural for a great physician practising largely among the poorer men and women of Ireland, the raciest specimens of the raciest people. He was, moreover, passionately fond of the external aspects of Nature, either in themselves, or as expressed by landscape painters. He was a lover of country life; of country objects of the simplest description; of country scenes. He would even take notes of effects of skies, or compositions of landscapes, which had struck him as he went along, and would cautiously and carefully write what he had seen and wondered at, whether in an

ordinary continental tour, or on the splendid Atlantic coasts of Ireland.

The following passage, describing a sunset seen from Sybil Head in the County of Kerry, may be given as an instance of this close study of effects in Nature.*

"Over the surface of the great Atlantic, and at least a thousand feet beneath where we stood, lay a boundless extent of mist or vapour, which, before it became tinged by the sun's rays, had assumed the appearance of an open champaign country, divided, as it were, into large fields, spacious highways, broad pastoral plains, and extensive meadows. Gradually, however, this scene changed, and as the sun began to sink in the far distance, his sloping beams caught the upper portions of this beautiful vapour, and coloured them with an exquisite variety of the richest hues, each portion assuming a different tinge, in consequence of its position with regard to the sun. The effect of these higher parts, thus lit up into glowing and varied splendour, as contrasted with the calm, broad reaches of wonderful country which lay under them, was inconceivably fine. Thus elevated, they looked like towers of gold and precious stones, shining under the evening sun, in some enchanted land.

"A more wonderful effect was still to come.

"As the sun went down into the sea the whole expanse by degrees kindled into one great flood of prismatic light, glowing in the richest and most gorgeous colours, all of which now blazed with the deep effulgence of what seemed his last glow.

"Then a third change came on the scene.

"All at once the sun's disc dipped into the ocean, where it had nearly disappeared, leaving on this cloud scenery a golden haze, rich, warm, and transparent. But this was illusion; for the sun, which had only set in a deceptive horizon, reappeared in a few moments, thus literally seeming to rise again. He now shone for a brief period in mild and cloudless effulgence.

* Given by William Stokes to Carleton, who printed it in *Dublin University Magazine*, April, 1847, vol. xxix. p. 438.

"The cliff from which we contemplated this scene was covered with lichens and mosses of various colours. It stood out mighty and stupendous facing the crimson sun, whose deep empurpled light touched the whole magnificent mass with colour. Then the sun finally sank, and two eagles shot out far below us from the side of the cliff, and rose circling and wheeling round till they disappeared in the darkness. The rich colour faded away—the deep-toned fires grew fainter and fainter—the ideal world vanished—darkness succeeded—the winds as it were leaped into motion—the mighty waters began to heave, and there remained before us nothing but the desert bosom of the dark Atlantic."

There were other reasons also why this close observation of nature was constantly alive in him. He was essentially an Irishman. In the study of the history of Ireland he thought that nothing in its antiquity was too trifling to be noticed, or too unimportant to be loved. And it is quite true that Ireland so considered is, in every part of its interior and its coast line, full of objects till lately too much neglected, and full of interest for the antiquary, the historian, and the Christian philosopher. Not that it would be true that he was blind to faults or deaf to tales of misgovernment and misconduct. He deplored them, he wept over them, he yearned for the freedom of her people—freedom from license, from folly, from superstition, from lawlessness, from misguiding leaders.

It happened that he had from early life an intimacy with two remarkable men: one, Mr. Burton, now Director of the National Gallery; and the other, Mr. Petrie, artist, antiquary, musician. Of Mr. Burton, so highly esteemed, so well known, so scholarly, it is not, perhaps, becoming to say more now in his lifetime. Petrie was a man of exquisite refinement, great vivacity and tenderness, a romantic admirer of the people, and a collector of national music. This remarkable person wandered through the wildest districts, pencil and violin in hand, making at once sketches of the loveliest scenes, and treasuring up and committing to paper melodies which, in the remoter parts, or even in

the crowded alleys of Dublin, he found to be traditional among the people. None who had heard that genial man once play those Irish airs would ever forget either the scene or the sound. The influence of these two persons on him during a great part of his life, his sympathy in his hours of leisure with what was the reality of their professional work, need not be enlarged upon. Nor must it be overlooked that he had a keen appreciation of the drama, as embodying, both in writing and in action, the highest artistic expressions of human nature; and this led him at one time, partly through the acquaintance of Miss Helen Faucit, now the wife of Sir Theodore Martin, to study the conditions under which the actor should learn and represent human action in disease; and he formed the distinct opinion that the study of mental or physical disease in asylum or in hospital was not desirable for the artist. He drew a clear line of distinction between imaginative and realistic processes in art, and he held that the dramatic artist should trust to native instinct and to such knowledge of human life and suffering as are to be found in his own heart and drawn from his own experience.

In 1842 Dr. Stokes wrote a review of Kugler's Hand-book of Painting, passages from which may be quoted as shewing the love he had even then formed for the early religious painters. "Why is it," he asks, "that before their works all faults of painting are forgotten and criticism is silent? In works, the early offspring of the cloister and the cell, and of minds imbued with religious love, we may perceive the hardness of the outline, the bad perspective, the unpleasing backgrounds and landscape, and the manifold and glaring anachronisms; but yet there is something which elevates the work and harmonises it with those high and mysterious objects which it presents to the outward and inward eye." And he adds, speaking of the later Italian schools, "Yet the change effected in them was not to be commended, if the highest object of art is the effect on the devotional feeling. In music, architecture, in sculpture, painting, oratory, or writing, the grand object is to produce the best effect; and there are

compositions and combinations by human genius which, analytically considered, are defective, but which produce the most ennobling results upon the mind; and the merit is not so much in the execution of the individual parts as in their combination for a particular end. And with reference to the devotional feeling, who will deny that the ancient liturgies, the old music, the early architecture, all declare that the nearer we approach the times of a more undoubting faith, a more intense devotion, the more completely do we find that these holy influences stamped a character on the creations of the day?" In another passage he adds, "It has been said that the real end and object of art is to deliver in its varied language the light-imparting message of God to man, and for this purpose to avail itself of every human feeling, sympathy, and perception, physical as well as moral. And it is plain that whosoever establishes a single new means to so great an end, and adds it to the bright apparatus of the poet, the painter, the sculptor, the architect, actor, and musician, must claim a high place in the world's esteem."

In 1874 Dr. Stokes was elected President of the Royal Irish Academy, and as such he received the testimony of the most cultivated men in Ireland of his fitness to preside over a body which represents the highest development of literature, science, and archæology in Dublin. His inaugural address was one, which, for its breadth of view and the genial interest shewn in every department of knowledge, including some, as mathematics, in which he was not a proficient, fully justified his election. On reading this address it is hard to say whether the character of the man, or the professional enthusiasm of the scientific physician, finds the more complete utterance. This, and the second address in the following year, were the last public utterances of his laborious life. The ability and earnestness which, at a time of much difficulty, he brought to bear on the affairs of the Academy will long be remembered.

This brief description of Dr. Stokes must now be brought to a close. It would be wholly incomplete without some attempt to

portray the personal character and mode of life of the man. There is a passage in his Memoir of Petrie, in which he describes Petrie's house as the place "where were assembled men of letters, artists, poets, archæologists, all lovers of Ireland, and true workers for her, whose hearts were kindled and purified by the perfect strains of simple music." This in truth equally represented the conditions of his own home. There was a charm about him which attracted persons of intelligence and accomplishment of every kind, and his genial and humorous disposition made gatherings of friends fascinating to every one admitted to them. He would preside at the games of children. He exercised the most gentle influence over refractory students. He never tormented them with elaborate exhortations. His hard working days, constantly ending in these little gatherings, often had begun between four and five, when he rose to write lectures or other literary work until eight, and after a rapid breakfast proceed to his hospital. He once said, "My father left me but one legacy, the blessed gift of rising early." It might be supposed from this picture that his life was one of those rare ones in which all seems sunshine, lighting a smooth and flowery way. It was far otherwise. This is not the place to lift the veil from family care. Probably no professional man had more genuine education through suffering and necessary toil than had he. His marriage was in every way a blessing to him. He was comforted by many and happy children; some greatly distinguished. Law, Scholarship, Surgery, Archæology, all bear record to their valued work. But large family circles usually mean as multiform pleasures, so also abundant sorrow. One of the circumstances which to all who knew him well, either by personal experience or by hearsay, was the most notable, was the manner in which he spent such periods of change and rest as from time to time he was able to obtain. The splendid work by Lord Dunraven, completed and edited by his daughter, was in great measure prepared during excursions which he made. And indeed in many parts of Ireland there are scenes so lovely, and

antiquities so singular, as to have necessarily exercised a great charm over this imaginative nature. Witness the Fort of Dun Angus, hanging over the western cliffs of lonely Arran, dashed by the heavy splash of the long unbroken Atlantic swell, and surrounded by the huts of a people so primitive, so picturesque, so beautiful; or the dark and mystic vaults of New Grange, on the banks of the Boyne, with the strange and uninterpreted hieroglyphics on great subterranean stones; or the huge sculptured crosses, the chapels, the burial grounds, the towers of Kells or Clonmacnois; or the wild monastery majestically perched on the storm-stricken Skelligs. All these were calculated to evolve just that admixture of historical, archæological, and artistic delight which were combined in him. An account is given in a manuscript to which I have had access of one of these scenes; it was not indeed in Ireland, but in a place as romantic and as interesting as the most romantic and the most interesting of the island, at once a cradle and centre of Christianity, indissolubly connected with the religious history of all the British Isles. He describes a scene in Iona too graphically to be here omitted: "We had gone to Port-na-Curraich to explore the landing-place of St. Columba, and having seen the mound where it is said his boat lies buried, we climbed the heights over the bay. The summit of the hill forms a low wide basin, carpeted with soft green-sward, whose rim rises around like the side of an amphitheatre or circus. Presently we saw the form of a girl with a milk-pail on her head, standing clear against the crimson evening sky on the verge of the opposite hill, then another appeared, and then another, till all the circle round was crowded by these maidens with their milk-cans. Presently the cattle grazing in the fields around came moving slowly forward in long processions and entered the circle. Then the girls began to call each cow by its name, and the patient animal answered to the call, and each moved quietly up and stood by her mistress's side to be milked. When this was finished an extraordinary scene ensued. A flight of calves

was let loose from the neighbouring farmsteads, who wildly rushing over the circular ridge, plunged into the midst of the amphitheatre, the calves running here and there in search of their mothers and the cows in search of their calves, all bellowing and roaring, while the milk-maids stood in merry groups on the heights laughing at this scene of indescribable din and confusion. In a few minutes peace was restored, and the girls sat down in groups to laugh and sing. Nothing could exceed the pastoral beauty and variety of this scene—the happy laughing faces of the girls, the picturesque groups standing out against the mellow saffron-coloured sky and quiet sea beyond."

But a narrative that might be drawn in much detail of physician, philosopher, and friend, must come to an end. His life had been happy with its full admixture of suffering and trial. In 1870 the estimable person, who had shared his every feeling, and doubled his every joy, was taken from him. From this blow he never wholly recovered. In 1876 he was forced by ill-health to withdraw from the Medical Council; from the Meath Hospital; from the Presidency of the Royal Irish Academy; those posts of usefulness and honour which had been either the delight of his working days, or the pride of his manhood, or the honour of his later years. The College of Physicians had placed in its noble hall a life-sized statue in his honour. He retired to his Cottage at Carrigbreace, whence through many a summer long he had, with his Dublin friends and the best intellects of Ireland, so often watched the setting sun behind the lovely hills of Wicklow that stretched out beyond the Bay of Dublin. There with the children that were left to him, and at times with a younger generation still, he would sit on the old sward uttering from time to time, though with failing powers, many of the bright, or humorous, or holy thoughts with which those who knew him in earlier days were so familiar. And there, it is related, that of these grandchildren one delighted to play, as the veteran Petrie used to play on the same spot, the melodies of simple Irish peasant

ditties which the artist friend had in former years collected; and there too up to the very last, when the old man was drawn out to his summer seat, the flights of birds which he had encouraged and trained would, as in other years, come in troops to seek at his hands their accustomed food. And so on January 6th, 1878, he yielded peacefully his gentle spirit to Him who gave it. He was borne to his grave in a churchyard with a ruined church, overhanging the much-loved Bay, by a stalwart band of true-hearted Irish students—the grave in which he had himself, some years before, laid the remains of the devoted partner of his lovely life.

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