

SIR DOMINIC CORRIGAN

By R. T. WILLIAMSON, M.D.

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ONE hundred years ago (1825) a young Irishman, named Dominic Corrigan, obtained the M.D. degree at the University of Edinburgh. Later in life he became one of the most distinguished physicians of his time, and all students today, who are trained in English medical schools, are familiar with his name, for they are taught to recognise the characters of the "Corrigan's pulse." Many years ago medical men spoke of "Corrigan's cirrhosis" of the lungs and, in France, the term "*maladie de Corrigan*" was often used for the disease which we now generally describe as aortic regurgitation.

Nevertheless most medical men, at the present time, know nothing about Corrigan, except that he was the physician who described the type of pulse with which his name is associated, and attributed it to aortic regurgitation.

Dominic John Corrigan was born in Dublin in 1802. His father, John Corrigan, lived at that time in Thomas Street, Dublin, and also owned a cottage, "The Lodge," at Kilmainham. John Corrigan was an intelligent and energetic man, and was engaged in farming and in the sale of agricultural implements. His wife was a lady of talent and beauty. John Corrigan was successful in business and was able to give his children excellent educations.¹ Young Dominic Corrigan was sent to the lay college at Maynooth, then one of the first Catholic educational institutions in Ireland. Here he soon distinguished him-

self in his studies, especially in physical science, and he frequently assisted the professor of natural philosophy.

Afterwards Corrigan was apprenticed, as was the custom in those times, to a medical man, Dr. O'Kelly, physician to Maynooth College, who being much impressed by his ability and industry advised his father to send him to the University of Edinburgh.

At Edinburgh young Corrigan completed his medical studies and in 1825 took the degree of M.D., the subject of his thesis being scrofula. Corrigan was only twenty-three years of age when he obtained his M.D. degree. Soon afterwards he settled in Dublin and there he continued to study, as well as to practice medicine. Having been highly educated at Maynooth Lay College in Latin, Greek, French and physical science, he was a diligent reader and he studied the best medical literature in English, French and Latin.

And now the usual period of waiting followed. In this period Corrigan was advised to try several objectionable methods of gaining success in his profession. But we have a note which will interest all who attach special importance to the reading of medical history. We are told that in this waiting period, the careful study of a little hook entitled "Lives of Eminent British Physicians from Linacre to Gooch," and his own reflections, satisfied Corrigan as to what should be the true basis of a good reputation in medicine, and therefore he worked and waited.

¹ In this article many statements will be found which differ much from those of a well-known physician who has written a brief, but critical biography of Corrigan. The details respecting Corrigan's early life, given in the present article, are based largely on a valuable sketch of his career by his distinguished pupil and old friend, the late Sir Francis Cruise; and these details may therefore be regarded as accurate. My opinions of Corrigan's

work and of his character are based on a study of his writings; and being an Englishman and never having lived in Ireland, I may therefore perhaps claim that they are unbiased. The illustration (see frontispiece) is from a photograph of a portrait in the Royal College of Physicians, Dublin, and to that College I am indebted for permission to reproduce it. The photograph was kindly given to me by Dr. Kirkpatrick of Dublin.

In recommending this book to students later in life Corrigan said that it would show them, as it did him: "There is but one road to excellence and success in our profession, and that is by steady study and hard labour."

Early in life Corrigan obtained the post of physician to the Jervis Street Hospital in Dublin. On appointment, according to the custom of that institution, he was obliged to contribute a large sum of money to the hospital funds. But the number of beds at his disposal was only six. Nevertheless, by carefully choosing his cases and devoting great attention to them, with only these six beds he laid the foundation of his great reputation as a physician, pathologist and teacher. His two famous papers, which established his reputation, were written while he was physician to the Jervis Street Hospital.

He soon made rapid progress in his profession and became professor of medicine at the Digges Street school, then in the Peter Street school, and later in the Richmond Hospital (or Carmichael) school. We are told that he was a most able teacher, and that his lectures were so crowded with students that there was great difficulty in finding accommodation for them.

He was also visiting physician for some years to the Cork Street Hospital; and there obtained much experience in the diagnosis and treatment of fevers.

In 1832, at the age of thirty, Corrigan published his famous paper on aortic regurgitation in the *Edinburgh Medical and Surgical Journal*. The title of the paper was "On Permanent Patency of the Mouth of the Aorta, or Inadequacy of the Aortic Valves," and he tells us that so far as he is aware the disease had not been described "in any of the works on diseases of the heart." It must be admitted, however, that a few years previously (1829) Dr. Thomas Hodgkin had published a paper in the *London Medical Gazette*, "On Retroversion of the Valves of the Aorta." He described this condition of retroversion

of the aortic valves as "that diseased state which allows of their dropping inwards towards the ventricle instead of effectually closing the vessel against reflux of blood." Hodgkin stated that his attention was first directed to the condition by Mr. C. Aston Key (apparently at the end of 1826) and he recorded cases which had come under his observation subsequently. The aortic valves were thickened and in some instances their edges were lacerated. The bruit was double, systolic as well as diastolic.

But any one who compares the two papers will see that it was Corrigan who clearly recognised that actual regurgitation of blood into the ventricle occurred in these cases of disease or inadequacy of the aortic valves. He emphasized this in his able article and described the double aortic murmur and recorded, in detail, the morbid appearances of the valves, giving three neat illustrations. Corrigan also described in this paper the character of the pulse which is associated with this disease, the excessive pulsation and the sudden expansion and sudden collapse of the arteries. He gave the explanation and pointed out that this character of the pulse was made more marked in the radial artery by raising the arm into the vertical position, and in the arteries of the leg by placing the patient in the recumbent position and raising the leg. His careful description of the pulse in aortic regurgitation fully justified medical men of his time, and afterwards, in employing the term "Corrigan's pulse."

Corrigan objected to the use of digitalis in these cases of aortic regurgitation and also to "depleting measures and a lowering plan of treatment." He recognised the advantage of the hypertrophy of the left ventricle which usually develops.

In this paper Corrigan laid the foundation of our knowledge of aortic regurgitation. It was a contribution to clinical medicine and pathology of the greatest importance, and through it he soon acquired a high reputation, as a physician of the first rank.

Trousseau has described the disease (aortic regurgitation) as "*maladie de Corrigan*" and even as late as 1890 this term was occasionally used in France. With respect to the name "*maladie de Corrigan*," the late Sir Francis Cruise relates the following story:

Corrigan travelled a great deal, always visiting the hospitals in his tours. Once, when in Paris, going round the wards with the physician on duty, they came to a patient whose ailment was tabulated as the "*maladie de Corrigan*." The doctor, turning to his guest whose card he had received, asked him if he knew Corrigan of Dublin. "C'est moi, Monsieur," was the prompt reply. Enchanted to find who his guest was, the doctor led him to the lecture theatre and presented him to the class, and a right royal reception was given to the illustrious visitor.

In 1838 Corrigan published another article of great importance in medicine and pathology. This was his paper on cirrhosis of the lung, in which he pointed out the distinction between this condition (or fibroid lung) and tubercular phthisis with which it had been, up to that time, confused. This, of course, was long before the discovery of the tubercle bacillus; but he described clearly the clinical and coarse pathological differences between the two diseases. For many years the condition was often described as Corrigan's cirrhosis but now "fibroid disease of the lung" and other terms are used. Of the value of Corrigan's paper, the following opinion may be quoted from the book on fibroid disease of the lung by Sir Andrew Clarke, Dr. Hadley and Dr. Arnold Chaplin:²

Corrigan's description has formed the text for all writers who have dealt with this part of the subject [disease commencing in the interlobular tissue]; and we are indebted to him for this remarkably clear statement, and for the recognition of the signs and symptoms which enable one to diagnose cirrhosis of the lung. It may be noted that in this account we first hear of the displacement of the heart and other organs as a result of the contracting process going on in the lung.

² Lond., 1894.

After the publication of these two papers Corrigan's reputation and practice increased greatly, and in 1840 he was elected physician to the Whitworth Medical and Hardwick Fever Hospitals. Now he had a satisfactory field for observation and teaching. We are told that he made good use of his opportunities, and that at eight o'clock every morning he was in his wards, examining his cases and teaching his students. For years he followed this practice, until other engagements made it no longer possible. He was followed by a large class of students, and both his clinical teaching and his systematic lectures were highly appreciated.

In 1853 Corrigan published his lectures on "The Nature and Treatment of Fever." In these lectures he recognised the difference between typhus and typhoid fever. This difference had been already clearly demonstrated by others, but it was not yet generally admitted.

One of Corrigan's early papers (on angina pectoris) is now of much interest. Recently attention has been directed to the cause of angina pectoris and to the view put forward by Sir Clifford Allbutt that the lesion is in the commencement of the aorta and its investing tissues. Soon after angina pectoris had been first described in England by William Heberden (Senior), an autopsy was obtained of a case in 1772: "Some few specks of a beginning ossification were found on the aorta"; in another case the aorta was ossified near the heart and the aortic valves were ossified (recorded by Dr. J. Wall). But little importance was attached to these changes, and later disease of the coronary arteries or pathological conditions of the cardiac muscle were regarded as the cause of the symptoms of angina pectoris.

For many years Sir Clifford Allbutt repeatedly urged the importance of aortitis, but at first without receiving much support.

In 1924, however, Prof. K. F. Wenckebach of Vienna in his able lecture at the Royal College of Physicians of London³ sup-

³ *Brit. M. J.*, Lond., May 10, 1924.

ported Sir Clifford Allbutt's view. He considered that the clinical features of angina pectoris "are best explained on the theory of disease of the proximal aorta." Whether this view should eventually prove to be correct or not, it is interesting to note that Corrigan considered aortitis to be *one* of the causes of angina pectoris in an article entitled "On Aortitis, as One of the Causes of Angina Pectoris." In this article he attempted to show "that inflammation of the lining membrane of the mouth of the aorta is capable of producing the group of symptoms to which we give the name of angina pectoris." Pathological examination revealed acute aortitis in two of his cases and chronic aortitis in a third. Corrigan draws the following conclusion:

That in some cases of what are called angina pectoris the paroxysms of dyspnoea, anxiety, mental distress, etc., constituting a fit of angina pectoris, and often supposed to be merely nervous, are really the symptoms of aortitis, or inflammation of the mouth of the aorta.

Of course, Corrigan's paper was not a careful consideration of the possible causes, or explanation of the symptoms of angina pectoris. It was merely a record of a few cases in which, pathologically, aortitis was found, and then a suggestion or conclusion that this was one of the causes of the affection. Nevertheless, his contribution is of interest at the present time. Sir Clifford Allbutt was evidently unaware of Corrigan's paper when he gave his celebrated lecture on angina pectoris in 1907. In his book on "Diseases of the Arteries Including Angina Pectoris,"⁴ he tells us that he only became acquainted with Corrigan's paper *six* months after his lecture and he remarks that Corrigan is the only other modern physician, so far as he knows, who has distinctly attributed angina pectoris to disease of the aorta.

The Dublin Pathological Society was founded in 1836 and Corrigan, who was a keen pathologist, attended the meetings

⁴Allbutt, *Sir C.* Lond., 1915, n, 429.

regularly, **MAhas** for many years.

In addition to his most important papers already mentioned he contributed many others to medical literature among which the following may be mentioned: "Bruit de soufflet et freuissement cataire"; "Bruit de cuir neuf"; "Opium in the Treatment of Acute Rheumatism"; "Functional Diseases of the Heart"; "Remedies in the Form of Vapors in Diseases of the Chest"; "The Treatment of Lumbago and Sciatica by the Actual Cautery" and articles on pemphigus, plica polonica, and rupia in the "Cyclopoedia of Practical Medicine."

Medical men who were students forty or fifty years ago will remember the small metal discs, known as "Corrigan's buttons," which were heated in the flame of a spirit lamp and then used for producing counter-irritation of the skin. (This was Corrigan's modification of the method introduced by Bretonneau.)

There have been many distinguished physicians whose interests in life have been almost entirely limited to clinical and pathological study. But Corrigan, like physicians of the best type, had a broader outlook. He was keenly interested in all that promoted the physical, mental and moral welfare of his countrymen.

In 1846 when the terrible famine occurred in Ireland, he acted with Sir Philip Cramp-ton and Sir Robert Kane on the Central Board of Health for Ireland; and the country owed much to his great energy. After a hard day's work in his hospital and private practice, we are told, he often devoted six or eight hours to official work, receiving and answering communications from all parts of Ireland. In this heavy work he was much criticised in one respect; but he had the satisfaction of knowing he had tried to do his duty, and of learning that his work was highly appreciated by the Irish government.⁵ The famine of 1846 was

⁵The dispute was chiefly due to the rate of pay to medical men attending fever patients, which was considered much too low; but we do not know now all the reasons for the low fees.

due to the failure of the potato crop in Ireland; and Corrigan published in that year his able pamphlet on famine and fever as cause and effect. In this pamphlet he pointed out that we find famine invariably preceding or accompanying epidemic fever (it matters not how other circumstances vary); and he gave a grave warning that there was a great risk of fever following the famine of 1846. He pointed out that the potato, which was the chief article of food in Ireland, had been the curse of the country. It had reduced the wages of the laborers to the smallest pittance, and when a bad potato crop occurred there was no descent for them in the scale of food. The next step was starvation. This pamphlet contained a strong appeal to check the famine, and then the prevention of fever might be expected. In spite of generous aid sent from Britain and America, fever⁶ followed the famine as Corrigan had foretold, and from famine, fever and emigration the population of Ireland diminished enormously.

Corrigan had a large experience in the treatment of cholera during the epidemic of 1832, and in 1866 he published a cholera map of Ireland.

Another of Corrigan's writings deserves brief mention, his little book entitled "Ten Days in Athens, with Notes by the Way."⁷ The notes by the way are observations on places visited in France, Italy and the Mediterranean, in the journey from Dublin to Athens. This is merely a little book of brief holiday notes, and as such it will interest those who enjoy foreign travel. But it will be of far greater interest to lovers of medical biography, because it enables us to understand what kind of man Corrigan was. His medical writings show us his mental abilities, and his powers of observation and deduction from facts; but this little

⁶ In medical reports about this period the word "fever" was used rather indefinitely. It appears to have included both typhus and typhoid fever. The distinction between these two affections was then made by only a few medical men; usually the two diseases were confused.

⁷Lond., 1862.

book reveals to us something of the character of the man. One rule which Corrigan strictly adhered to, in writing these notes of travel, is especially deserving of attention at the present time. He mentions the numerous distinguished people whose acquaintance he made, during his holiday, in France, Italy and Greece—distinguished professors, doctors, military men and so forth; he mentions dinners, receptions and interviews (including one granted to him by the Queen of Greece); but he never records the conversation or remarks of any one. He tells us that he considers all such conversation should be regarded as private, and that therefore it should not be printed. How much annoyance and pain would be avoided, at the present time, if all writers followed Corrigan's rule.

In education generally, and in medical education especially, Corrigan took a keen interest. At the annual meeting of the British Medical Association in Dublin, in 1867, he gave the address in medicine. His subject was medical education, and he advocated a higher standard of general and professional education for medical men. At the commencement of this address he made the following impressive remarks:

And among the bonds that unite the three divisions of this our Kingdom [England, Scotland and Ireland] together, there are none stronger than those of our Profession, soaring in its exercise above all sectarian discord. We know no difference of race, or creed, or colour, for every man is our neighbour; and when we remember that the Redeemer, while on earth, chose the healing of the sick as one of the most impressive evidences of his Divine Mission, we must ever hold in respect the exercise of a profession that devotes its efforts to the same object.

Corrigan took up a very definite position with regard to inquiries from insurance companies, respecting the health of people who were applying for life insurance. He held that a medical man, who had not made a special examination of a candidate for the life insurance company, should never answer

questions put to him by the company respecting the health of that candidate, if he had been his patient, no matter whether the candidate had or had not given consent.

In 1860 Corrigan was a strong advocate for a purer and better water supply for Dublin and had great influence in securing one. Late in life he published reminiscences of the dissecting room in his early days.⁸ His anatomical studies had been pursued under difficulties and to procure subjects he had to have recourse, like his contemporaries, to measures which were very objectionable (body snatching). On one such expedition he encountered a widow weeping over the grave of her recently "buried husband, who had died on his return as a harvester from England. We are informed that Corrigan not only relented, but originated a subscription for the widow.

For some reason Corrigan decided, in 1843, to go up for examination for the membership of the Royal College of Surgeons of England and we are told that, on presenting himself before the examiners, he was asked "Are you the author of the Essay on Patency of the Aortic Valves?" On replying in the affirmative, it is said he was allowed to pass without further questions.

He received many honors and distinctions. In 1849 he received an honorary degree of M.D. at the University of Dublin. In 1859 he was elected a Fellow of the Royal College of Physicians of Ireland. Soon afterwards he became president of that college and was elected to the post five times. Chiefly through his efforts a new college was built. In this new college may be seen his portrait and his statue. He was appointed consulting physician to the Maynooth Catholic College in 1831. He was elected vice-chancellor of the Queen's University, Ireland, in 1871 and for twenty-one years he was a member of the General Medical Council as its representative. In

⁸ *Brit. M. J.*, Jan. 11, 1879, p. 59.

1847 he was appointed Honorary Physician in ordinary to Queen Victoria in Ireland, a distinction never previously given to a Roman Catholic; and in 1866 he was created to parliamentary work. He entered Parliament as a member for Dublin in 1870. But we are told that he was not a success in his parliamentary work, and that his friends regretted that he ever engaged in it. At the election, in 1874, he was not returned as a member, owing, it is said, to his loyalty to the temperance cause and the Sunday closing movement.

Corrigan lived at a *period* when Dublin was especially famous for its able medical men. This was the time of Graves, Stokes, Banks and many others whose names occupy a high position in the history of medicine. But, as Sir Francis Cruise tells us: "Corrigan was second to none." His consulting practice became very large, and for many years his income was one of the largest on record among Irish physicians. His countrymen were proud of him as an Irishman and a Catholic. His great fame as a consulting physician was largely due to his good sense and practical experience, in addition to his able writings; and we are told that he owed all his success in life to his own exertions. He was a man of great physical energy and "had been an athlete in his way and a splendid horseman and rider to hounds." He was kind and cheerful and full of the quiet humor typical of Irishmen.

Sir Francis Cruise relates the following story of Corrigan:

Once, when attending a lady of rank in fever, when he entered her room, accompanied by her anxious husband, he said to the latter: "She is better." The visit completed, when they left the patient, the husband asked him how he knew at a glance and without examination that the patient was better. "I knew it," said Sir Dominic, "by an infallible symptom—I saw the handle of a looking-glass peeping from under her pillow!" He was right. The lady was better and made an excellent recovery.

Corrigan was greatly interested in natural history and was president of the Royal Zoological Society of Dublin. He was a frequent visitor to the Zoological Gardens in Phoenix Park where on one occasion a serious accident occurred. Sir Frances Cruise relates:

A visitor approaching too near the wolf's cage had his hand seized by the savage brute, who held it tightly . . . Despite the efforts of a policeman standing near, who belaboured the wolf's head with his baton, the enraged animal held his grasp—the blood flowed copiously, and the surrounding crowd was terror-stricken.

Corrigan, . . . seizing the policeman's baton, . . . forced the handle, the narrow end between the wolf's jaws, and with a sudden twist brought the point against the roof of its mouth. The wolf, in agony, let go the hand and fled to a corner of the cage howling.

Corrigan was a Roman Catholic, and we are told that his progress was checked, at first, by his religious faith. In his early days Catholics suffered from many disabilities. No Catholic was permitted to sit in parliament, or hold civil or political offices. But in 1829 the Catholic Emancipation Act was passed, and Catholics were allowed the same political rights as Protestants. Corrigan overcame the difficulties he had to face owing to his religious views and he remained a loyal and sincere Catholic up to the end of his life. But he was broadminded and advocated absolute religious equality in Ireland.

Freedom of thought in religion should mean, as it does in science, the freedom to believe something and the freedom to believe much, as well as the freedom to believe nothing or little. But usually those who have strongly advocated freedom of thought have meant only the freedom to believe nothing or little. Corrigan, however, advocated the freedom to believe something and the freedom to believe much—that freedom which, in modern times, so many have endeavored to restrict, indirectly if not directly. His attitude was clearly shown by his famous speech at a meeting to take measures for the completion of the new

church of Sts. Augustine and John, which was being erected on the site of his birth-place in Thomas Street, Dublin.⁹

Now medical biography has no concern *with* the disputes between Catholics and Protestants; but Corrigan's speech is worthy of mention because it reveals important traits in his character: his fairness, tolerance and humanity. He sketches three phases in the struggle which Catholics have had during the last 150 years. First there was the period when penal laws existed. Then came the second phase, the struggle for civil rights ending in the success of O'Connell and the passing of the Catholic Emancipation Act. Corrigan pointed out that **O'Connell** did not win his victory by bloodshed or violence; it was won without the loss of one drop of blood or one infliction of human suffering; and Corrigan told his hearers that he wished O'Connell's teaching at this time had never been forgotten. In the third phase of the struggle was the demand for religious equality, which Corrigan so strongly advocated. To all readers of this speech at the present time, the thought must occur, how different might have been the history of Ireland during the last terrible twenty years, if all leaders of the Irish people had strictly followed Corrigan's advice, to avoid bloodshed and violence, and carefully impressed it on their fellow-countrymen!

Like all men, of course, Sir Dominic had failings. But after the lapse of so many years our records of them appear very unreliable and indefinite. Probably they were mostly trivial, and it would be unnecessary to dwell on them, even if we had reliable records, since they would interest only those who delight in gossip.

In his later years, Corrigan suffered from gout; a statement which may remind some readers of medical biography of the saying of Sydenham: "Gout rarely attacks fools." At the end of his life *this* ailment impaired his activity, and in 1878 he suffered from a

⁹ This speech is recorded in *Freeman's J.*, May 24, 1869.

slight paralytic attack. On December 30, 1879, he became paralyzed on the left side. A month later, February 1, 1880, he died, deeply regretted by the people of Ireland and generally regarded as "a man of stainless character, great genius and kindly heart."¹⁰

Corrigan was one of the most famous (if not *the* most famous) of the Irish physicians of the past: a man of great mental ability, energy and courage, and a sincere Christian. His eloquent speeches have been long since forgotten; but the words of one sentence in his address to medical men (already mentioned) deserve to *be* ever remembered: "We know no difference of race, or creed, or colour, for every man is our neighbour."

¹⁰ Obituary. *Freeman's J.*, Feb. 2, 1880.

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