

THE BELOVED PHYSICIAN.

FROM THE LIFE OF SIR JAMES MACKENZIE.

BY DR. R. MACNAIR WILSON.

SIR JAMES MACKENZIE, early in his career as a family doctor in the country, witnessed the death of a young mother in childbed from heart failure. From that moment he became obsessed with the idea that he must learn how to foresee danger in heart cases. Finding that the knowledge he required did not exist, he set about obtaining it for himself. He determined to note all the symptoms usually associated with heart trouble which he should encounter, and then follow up the patients showing these symptoms to observe what happened to them. He called this 'the method of Wait and See.' He also determined to try to discover the mechanism of symptoms, *i.e.* their mode of causation.

In ten years, by the use of these two methods, he had completely worked out the hitherto unexplored subject of irregularities of the heart's action. His discoveries obtained a world-wide reputation, and he was hailed in America and Germany as a prophet. Yet he knew that he had not solved his real problem—the acquisition of the power to foresee the onset of heart failure. All that he had discovered was that irregularities of the heart and 'murmurs' may or may not indicate a grave state of affairs.

At this juncture he suddenly realised that the earliest signs of heart failure are not to be found in the heart itself, but in the feelings of the patient—in the sensations of pain and breathlessness on exertion. The recognition of this 'guiding principle' instantly enlightened his darkness. He felt that a world which had admired his earlier gropings after truth would welcome with rapture this great revelation.

He did not know his 'world,' though the fact that the leaders of English medicine had largely ignored even his early researches might have prepared his mind for disappointment. The 'giants' of his profession were not accustomed to look for enlightenment to country doctors.

'There are three stages in the history of every medical discovery,' Mackenzie told me once. 'When it is first announced people say that it is not true. Then, a little later, when its truth

has been borne in on them so that it can no longer be denied, they say it is not important. After that, if its importance becomes sufficiently obvious, they say that anyhow it is not new.'

He was speaking with a twinkle in his eye, but I knew that his own experiences lay behind this statement. He added, after a moment: 'All my early papers and writings were refused by the leading medical journals. Years passed before I could even obtain a hearing.'

Mackenzie bore the editors of these journals no ill will for this early neglect of him. He had not expected that the views of a general practitioner would be presented to the great world. With singular modesty he sent some of his papers to a local medical journal circulating in the North Country, and counted himself happy when they appeared in its pages. They attracted little or no attention. Thus it happened that, at a moment when the complete elucidation of some of the most baffling secrets and mysteries of the heart was actually lying printed on obscure shelves, the giants of the profession remained lulled in the comfortable belief that knowledge about this organ and its diseases was complete. They taught their cut-and-dried doctrines about back-pressure and 'compensation,' and the dangers of murmurs, to admiring students, and they dispensed the fruits of these doctrines to patients, not less impressed by their capacities, in their consulting-rooms. 'The Man of Burnley' saw, and set his teeth. The truth began to dawn on him that if his discoveries were to be made available to his professional brethren and to the world he must, himself, carry them into the strongholds of the giants.

That idea seems to have entered his mind first about the age of forty-five, just when his studies of irregular action of the heart were nearing completion. At this time he had acquired a considerable local reputation among general practitioners, and was being called out a good deal in consultation, both in the immediate neighbourhood of Burnley and also in districts more remote. He had, further, addressed a number of local medical societies, and had delivered a paper in Manchester, where he had been favourably received. But these, as he saw clearly, were no more than parochial successes, whereas the message which he had to deliver was for the ears of the world. It became, from this time forward, his sincere conviction that the world had need of his message.

Some visits which he paid to London and to the Continent confirmed him in this view. He found that the true nature of

heart failure—as he had come to realise it—was not understood by heart specialists. These excellent men seemed to be unaware, even, of the need of such knowledge. They acted on opinions which the Burnley doctor knew as a positive fact were mistaken opinions, gross errors. They viewed with grave anxiety cases which he regarded as trivial, and they classed as trivial other cases which filled him with uneasiness. He was no longer willing to bow to such opinions. He had tested them in long days and nights, in a hundred humble homes, in the factory, in the workshop. And he had found them wanting. To have accepted them merely because they were endorsed by superior authority would have been to sin against the light that was in him; to have retired from the field, now that the truth had been given to him, would have been to play false to the sick and suffering to whose service he had dedicated his life. Mackenzie realised that he had got to fight, that for the sake of his own soul he must join battle with the giants.

His first definite step in this direction was the publication in the year 1902, when he was forty-nine years of age, of his book 'The Study of the Pulse.' A book differs from a paper or article in this respect—that it does not require the consent of an editor before it can see the light of day. And the publishers of medical works are far less under the influence of the 'prevailing opinion' than are usually the editors of medical journals. The latter are doctors themselves, and are usually obsessed by the idea that they must, at all costs, maintain their reputations for wisdom and gravity. Publishers, on the other hand, are men of the marketplace, with an instinct for business. They continually take risks in the matter of new and unorthodox books, which do them great credit. Mackenzie, like many another man, reached the public whom he sought to influence behind the backs of the 'Press.'

It is a fact which deserves emphasis. Every student of the Press, whether general or technical, knows that the reputations of newspapers are made in active conflict with authority. It is the papers that dare, in the name of humanity, to defy the giants which live and grow strong and exert influence. This lesson is always being enforced. It is too often neglected. Thus a paper which, in the beginning, was nurtured on intelligent opposition to the powers-that-be, frequently grows respectable and dull, echoes the views of authority, or becomes their apologist, and dwindles to insignificance, its place being taken by an organ the

'violence and vulgarity' of which strike terror and dismay to polite hearts.

It so happened that, when Mackenzie began to write, some of the more influential of the medical newspapers were entering on a prolonged period of that kind of good behaviour which makes some schoolboys popular with some schoolmasters. Butter would not have melted in their mouths. A general practitioner with a theory of his own, which conflicted with the prevailing doctrine, had about as much chance of entry to those journals as had a naked savage of supping with the Byzantine Emperor. Harley Street would not have liked it. The giants might have frowned.

His book, on the other hand, went forth unperceived by the giants. It soon came to the hands of men who were truly interested in the message which it contained.

'It is,' wrote one of his own partners in Burnley, 'a masterpiece of individual work, conducted absolutely by himself. The facilities he had of exchanging views with other medical men were very limited, and books of reference were not easy to obtain. Burnley was somewhat isolated in those days by a bad railway service, and motor cars were in a very early stage of development. . . . It was Mackenzie's custom, in any case which presented special features, to get the patient to come up on Sunday afternoon for further detailed examination. On these afternoons was established a kind of heart clinic, and nothing delighted the doctor more than to get his friends, who were interested in this work, to come and see these cases with him and discuss the symptoms they presented, or wring from them some explanation of the tracings he would show them. Among others I remember coming for the week-end were Dr. Osler (the late Sir William Osler), Professor Keith (Sir Arthur Keith), Dr. John Hay, Dr. Ritchie, Professor Cushny, Dr. Arnold Lee, Professor Wenkebach, Dr. Ross of Toronto, and Dr. Cohn of New York. The last two stayed some time with him, and he kept them hard at work investigating heart cases. My part was, more particularly, to relieve him of the drudgery of the routine work of the practice, and I received the greatest encouragement and consideration at his hands. His fame was now rapidly spreading, not only beyond the Burnley area, but outside the county itself. He was kept extremely busy with consultations which sometimes entailed long railway journeys.'

It is pleasant to think that while the giants slumbered men destined to fill the most commanding positions in their profession

actually journeyed to Burnley, in spite of the bother and difficulty of so doing, in order to learn the new doctrine from the lips of its author. It is pleasant to think of that brilliant company, the names of which I have just quoted, gathered in the consulting-room at Bank Parade, and I have often called up the picture of the eager Mackenzie expounding his views to these zealous seekers after the truth. It was my great privilege and honour to make the acquaintance of the late Sir William Osler some years before the end of his life. I was struck, as all men were struck, with the bigness and the generosity of his nature, the goodness and the sweetness of the man. I realised then why Mackenzie always spoke his name with delight and affection.

'Osler,' he told me once, 'came to see me when no other among the big physicians would have dreamed of coming.'

He did not add, as he might have done, that Osler belonged to the New World, to Canada and America, more, perhaps, than to England. Nor did he point out that recognition of 'The Study of the Pulse' came from Germany and America and other foreign countries long before the giants had opened their sleepy eyes to glance at it. As I have said before, there was no vindictiveness in Mackenzie's character.

But the sleep of the giants was destined to be broken. The fame of the Man of Burnley came knocking unceremoniously at their bedroom doors. At a meeting which was held on the south coast, four medical men from Germany presented themselves. They had come, they said, to meet and talk with Dr. Mackenzie of Burnley.

At first nobody paid any attention to them, but their Teutonic insistence at last won its reward. They were informed categorically that there was *no such person*.

'But we have read and studied his book!'

'In that case,' said the giants, 'it is probable that he exists; but we can assure you that it is not worth your while concerning yourselves about him. We have not heard of him. He is not one of us.'

It appears that this reply greatly annoyed the visitors, for it is on record that they answered it thus:

'We have come here to meet Dr. Mackenzie, and not to meet you. We do not care about you nor your big men, who are all very small men outside of your own country.'

I give this statement as I have received it. The authority is

good. Certain it is that the four foreign visitors at once left the conference and betook themselves to Burnley.

That knock was followed by another. In 1906 Dr. Arthur F. Hurst, then Radcliffe Travelling Fellow of Guy's Medical School, wrote for *Guy's Hospital Gazette* an account of his first year in Germany. He said :

'Of all English physicians, the best known and most frequently quoted in Germany is, probably, Dr. Mackenzie of Burnley, a prophet who has hardly met, in his own country, with the recognition he deserves. The methods of studying disorders of the circulation introduced by him are much employed, and many important investigations confirming and extending his results have been published in Germany.'

It was evident that Mackenzie could no longer be ignored completely, and this the more so that he had been invited to make visits to Canada, America, and the Continent, and had accepted those invitations. Mackenzie went abroad; he crossed the Atlantic; he was hailed wherever he went as a seer and a genius. He returned home. Foreign physicians from America, from Canada, from Germany, from France, from Holland, from Scandinavia, came to Burnley to see his methods and discuss his problems.

But the giants did not come. They had heard of him. But was he not a general practitioner? In England, alone of all countries in the world, a man who has practised medicine among the common folk is regarded as having demeaned and lowered himself by so doing. The giants have no dealings with the general practitioners who presume to encroach on their fields of enterprise. Mackenzie wrote in his book on the 'Future of Medicine':

'There has arisen a tradition that only a select body of men are competent to fill a teaching post. This is the result of human frailty. If, in any sphere of life, a few individuals are set apart and given power over their fellows, it is but human that such a select body will seek to aggrandise their position at the expense of their fellows. It is unnecessary to enlarge on this general statement, as the world's history shows its truth in all spheres of human thought and action. In some spheres it may be good, or it may be bad, but in intellectual matters, and especially in science, it can only be bad. In medicine, the teachers have practically taken into their own hands the guidance of education and all the intellectual interests of the profession, and ordain the course a man must follow who wants to become a doctor.'

'We have in London a body—the College of Physicians—which has acquired the power, indirectly, of preventing anyone who is not a member of their body obtaining an appointment as a physician on the staff of a teaching hospital. A young aspirant to such a post must follow certain lines which custom prescribes. He can exclude himself from having any personal contact with patients by spending his time in a laboratory undertaking what is called "research," and this is the surest way of attaining his object. He may spend his time in any other form of academic life, but one method he must not pursue—he must not attempt to qualify himself efficiently for such a post by the experience of general practice. If, for instance, he wishes to see the kind of life his future students would lead, or if he wishes to investigate the early signs of disease, and for that purpose undertakes general practice, he will, by such a step, render himself unfit for membership of the College of Physicians, and so cut himself off from any chance of obtaining a position as a physician to a teaching hospital.'

'The College of Physicians practically requires of its members that, while they may pursue almost any one of the branches into which medicine is split up, they must not practise medicine in the only way by which a wide outlook may be obtained, and so render themselves fit and capable to become really effective teachers. . . .

'One special function of a consultant is to foretell what is going to happen to a patient if treated, or if left untreated. To obtain this knowledge, it is necessary to see patients through the various stages of disease, and this can only be done by the individual who has the opportunity. The College of Physicians thus prevents consultants following the only way in which this knowledge can be obtained. I have known laboratory-trained young consultants actually refuse to see patients regularly lest they should be considered general practitioners. When I have pointed out to them that they can never assess the value of symptoms unless they watch individual cases of disease for long periods, I have found them incapable of recognising the need for such knowledge!'

I hasten to add to this quotation the fact that the College of Physicians accepted Mackenzie into its membership and Fellowship, and that he was proud of both these honours. He wrote the words I have quoted long after his adoption. He wrote them in no hostile spirit, but only as a part of the campaign he was carrying out to open the eyes of his professional brethren to the need of including general practitioners among the research workers of his profession. Mackenzie could not be blind to the fact that had not the whole world acclaimed him he would never have been

honoured in his own land with the 'rank of a Consultant.' He knew that he had been 'made a giant,' because no other course was possible without stultification. And that was one of the reasons why, in his old age, he broke away from the ranks of the giants to enter on the most dramatic episode of his whole life.

The giants would not come to Mackenzie. He resolved to go to the giants.

He was now fifty-four years of age, a time when few men think of abandoning a safe and most honoured position in order to go crusading. The idea that he could fling himself into the complicated and difficult medical world of London and impose his views on a reluctant profession seemed, to say the least of it, an optimistic one. His friends, and especially those friends who understood most clearly the nature of the 'world' he designed to conquer, lost no time in trying to dissuade him. Their fears were written on their faces.

Mackenzie set these fears aside. He knew that unless he went to London his work would not be made manifest. Already he could see that his least important discoveries were being magnified, and his great principles—that 'true scent' which it had taken him twenty years of constant work to apprehend—were being ignored. He must go himself as an apostle of his principles, and from the vantage ground of Harley Street disclose them to the world. There was no other way.

I confess that, when I contemplate that great decision, I am thrilled with wonder. What courage the man possessed! And what supreme confidence in the power of the truth to prevail! He was far from being well-off. He had saved very little money. He had no private fortune on which to fall back. And his teaching was likely to make enemies rather than friends. How, in the great maelstrom of London, was he likely to fare without any title to fame other than the merit of his researches? Where were his patients to come from? Where were the doctors who would prefer him as a consultant to the knights and baronets whose names were familiar to the whole people?

He may have asked himself these questions. I do not know. They weighed very little with him, for he had seen his duty. He began to make his preparations for the great adventure.

No crusader ever set forth with a higher sense of the necessity of what he was undertaking. No crusader possessed a more exalted sense of the importance of his mission. Mackenzie went forth, truly, in the name of humanity and for the good of his profession.

Nor was he ready to avail himself of any means of assistance which might, even slightly, damage the great cause he served. He actually refused to sell his invention, the Ink Polygraph. It was manufactured in Burnley, and was marketed at the bare cost price by his express desire.

'Many doctors,' he declared, 'can ill afford to buy instruments at all. It would not be right to restrict the use of this instrument by enhancing its price; nor could I endure the idea of exploiting the scientific keenness of my fellow-practitioners for my personal profit.'

Behold the doctor, then, setting out from Bank Parade, from the house of twenty-six years, from the people whom he had served so faithfully and loved so well, to challenge the leaders of his profession in the greatest lists which the world affords. Quixotic, perhaps! Hazardous, without doubt. But surely an enterprise, nevertheless, worthy of knighthood.

There had been moments of exaltation in these last years in Burnley: the moment, for example, when the doctor knew that this teaching had found disciples in foreign lands; the moment when he received Osler, laden with his international honours, into his house; the moment when, in 1906, he opened the session of the Medical School at Leeds University with an address on the position of the general practitioner as a research worker, and was acclaimed by a distinguished gathering, which included Sir Berkeley Moynahan, as one of the pioneers of medical research.

But Leeds is not London. These provincial towns are warmed by a local patriotism to which the capital is a stranger. London would have fêted Mackenzie had he come as a visitor from the North to deliver a lecture or make a speech. He came as a man who intended to stay, and London remained aloof and cold.

He had taken a house in Bentinck Street at a high rent—a step which proclaimed how lacking he was in 'London wisdom,' how imbued with the spirit of Bank Parade, Burnley. The family established itself there after the kindly and simple fashion which had always characterised it. The man who had never known what it was to lack patients, to be free from incessant calls on his time and his skill, the man fresh from his triumphs in America and Germany, found himself, for the first time in his life, idle, unsought after, almost forgotten.

There were no patients now whose maladies he must watch, no dangers which he must foresee and guard against. There were

only acres and acres of streets, the din of a ceaseless traffic, the weariness of pavements, the loneliness which is London's familiar spirit. Set that emptiness against the glow of achievement which this man must have felt as he spoke to eager listeners in the famous clinics of America and Germany, and found himself recognised by these listeners as a great figure in their profession. Compare it with the high hopes of the last of the Burnley days, when the knight was dressing himself in his armour for the great encounter. Here, indeed, were the lists which he had determined to enter; but his challenge rang faint in this immensity. The giants, it seemed, had not perceived him.

The Bentinck Street house was very big and very expensive to run. There was nothing—literally nothing—coming in. The prospect that anything would ever come in did not seem to be very rosy, because, although doctors and friends had promised help, this might not materialise. Mackenzie lacked everything which is supposed to be necessary to the equipment of a giant. He was not a member of the Royal College of Physicians of London, nor did it seem probable that he ever would be a member. That meant that his chance of obtaining an appointment at any London hospital was as apparently remote as his chance of obtaining an appointment on the moon. Thus, he would never be able to teach students, or to exert much influence over general practitioners. Where, then, were the patients to come from?

'We were,' Lady Mackenzie has written to me, 'really and truly, *poor* people.'

Mackenzie seems to have viewed his poverty and his prospects with a serenity which few men could have achieved. He was engaged on writing his great book on the heart, and also a smaller book on 'Symptoms,' and he devoted himself to these tasks with all the energy at his command. His cheerfulness was never for a moment diminished, nor his faith overclouded. He had come to fight for his ideas, and he meant to fight for them with every weapon at his disposal. One of the things which amused him most at this period was the large number of former acquaintances who invited themselves to visit him and made prolonged stays in his house. These visits, which he would have welcomed at a later period, made serious inroads on the depleted family exchequer.

But he never complained, nor ever refused anyone his hospitality. When he had grown tired of writing, he and his daughter Jean, then a merry girl of fifteen, went for 'rambles in out-of-the-way

parts of London about which they had read or which they found attractive.' Jean knew his moods, and responded to them all, and the friendship between them became very close. The lure of the great city, its mystery, its immemorial magic, its grand and sincere simpleness, appealed to both these romantic and simple souls. They learned to understand London. They tasted together that sweetness of her spirit which all whom she has accepted count among their fairest experience. I like to picture them on these wayfarings: the rugged man, well advanced in middle-age, grizzled, full of his labour and his service; the slim girl at his side, with the spirit of youth in her gay eyes, truants together, for an hour, from the schoolhouse of life. And I suppose that these 'outings' must have recalled to Mackenzie's mind the adventurings in the woods at Scone, what time the knights and their ladies rode by on the four winds of history.

Poor Jean! Poor little gay girl! She had then but a few months left her of the glory and sweetness of her life.

I never saw her, and I never heard her father speak her name except on one single occasion when he told me abruptly that his daughter had died of meningitis. Lady Mackenzie has told me, however, that her death in 1909 was the most awful blow which ever fell on a brave heart.

'He was always thankful,' she told me, 'to be able to recall these "rambles" with her, and to think they had been so much together. She died . . . and all the light of life went out for us all in the Bentinck Street home. My husband could never endure to recall those last terribly sad days, and for a very long time his life was overshadowed.'

Jean, according to her mother and sister, was very like her father. Her mother told me that she could never concentrate on her work till they came to London, but that shortly after she went to Queen's College she suddenly flared out and became a veritable student, and shone as a worker. When she died they had a most touching letter about her from the Headmistress. She added: 'I think they all loved the gay young creature at that College.'

Her sister Dorothy has given me this little description:

'Jean used to write reams of poetry, which she would dash off, sitting in front of the fire. She loved writing stories, and illustrating them, and she composed a dreadful piece of music, and she

was a perfect mimic. She said to me once, looking into a mirror, "I'm not a bit pretty, but I have a *funny* face." She used to leave Bentinck Street for Queen's College five minutes earlier than necessary every morning to spend time talking to a mongrel dog that was always tied to the railings of a public-house on the way to school. Children and animals loved her, and she was such a generous-hearted gay child. When she was so dreadfully ill, there was never a word of complaint. I think all the doctors loved her, she was so brave and heroic, and such a young, grateful child. She was sixteen when she died. The doctors told my aunt that they had never seen anyone like my mother at that time. My father, afterwards, was more understanding, and more patient and more gentle than ever.'

I have invited the reader to this intimacy, because it reveals the character of the man whom I am trying to describe.

His daughter's death hurt Mackenzie so that his spirit was smitten; but the proud Highlander would not show his hurt to the world. With singular faithfulness he continued his labours on his books.

One of these, the greatest of them all, had been published in 1908 before the blow fell on him. It had, in 1909, begun to exercise that influence which stands with scarcely a parallel in medical history. It was selling, this bulky volume, entitled 'Diseases of the Heart,' like the proverbial hot cakes, so that a second edition was required the following year. It was also accomplishing for its author the miracle of miracles. It was bringing him patients.

Mackenzie told me himself that in his first year in London he earned £114. In his second year he earned more than £1,000. When I asked him to what circumstance he ascribed this remarkable 'jump,' he replied, 'To my book.'

He added, however, that he owed a great deal to the kindness of certain professional colleagues who exerted themselves on his behalf. One of these was Sir James Purves Stewart, who called one day at Bentinck Street and urged Mackenzie to accept an appointment as Physician to the West London Hospital. This truly amazing request filled the Burnley doctor with delight, and cheered him greatly. He afterwards became physician to this excellent hospital. A second request came from Dr. Frederick Price to join the staff of the Mount Vernon Hospital, Hampstead, then devoted to the care of cases of consumption. This request Mackenzie accepted. At Mount Vernon he completed his study

of the Dangerous Type of Irregularity of the Pulse, Auricular Paralysis, and worked out fully, along with Professor Cushny, the influence of the drug digitalis on this trouble. It was a necessary continuation of the work begun at Burnley. Dr. Price, in addition, advised Mackenzie to move into Harley Street, and offered him a consulting-room in the house where he lived. This wise advice was taken. Mackenzie gave up his Bentinck Street house and moved out to Northwood, in Middlesex. He rented a consulting-room—soon to become the most famous in London—at 133 Harley Street—paying for it the modest sum of £100 per annum. It was the back-room on the ground floor, and was by no means very large.

The great book fell among the giants like a live bomb. It was more than disturbing; it was devastating, overwhelming. Here was not merely a good account of the various diseases of the heart, but an exposition of diseases of that organ, unknown to medical science. And not that only. Each disease was illustrated by dozens of tracings; each had been analysed and examined with the most amazing care. About each there was presented the ripe and rich fruits of the method of 'wait and see.' Further, the method of 'true scent' and the researches on breathlessness and pain were fully described.

But these merits, great and signal as they were, were not the book's chief title to fame. Its chief title was its immediate practical utility. It afforded information which might be applied intelligently by any practitioner, and which must enable him to foresee or to discount danger. It was, thus, a new and most powerful weapon placed in the hands of the common soldier of the profession.

And therein lay its power to disturb the rest of the giants. Even the drowsiest of these great men realised clearly that this challenge could not be ignored.

Mackenzie had come to London to fight for his ideas. He had expected to fight for them, been sternly prepared to fight for them. He had expected, too, to suffer in that battle.

As I have said, these expectations were fulfilled during the first fourteen or fifteen months of his stay in Bentinck Street. But, when this time had ended, all his anxieties were miraculously falsified.

I do not suppose that Cinderella herself tasted a greater astonishment than came to the Burnley doctor. In a single night, as it seemed, every difficulty which stood in his way was swept aside. Those whom he had supposed he must contend with offered friendship

instead of battle. His opinions were hailed as the authentic revelation of truth. Every door flew open to welcome his approach.

If I were writing this account as the advocate of the leaders of the medical profession in London, I should say that they showed an extraordinary generosity. For a man whom they scarcely knew, they waived the most rigid rules of their caste. There was no obstacle which they were not ready to break down on his behalf. There was no honour in their gift which they did not heap upon him with lavish hands. Within an incredibly short space of time the Man of Burnley found himself invited to become the sole head of a specially created heart department at the London Hospital, to become a great teacher in a great institution. He found the entire resources of this hospital, one of the most justly famous in the world, placed unreservedly at his disposal. He found himself elected, eagerly, a member of the Royal College of Physicians of London, after an examination in which every possible facility was afforded him of displaying to the full his matchless knowledge. He learned that the Royal Society—the most illustrious scientific body of the British Empire, or, indeed, of the world—was about to bestow on him its coveted fellowship. So many honours, of so pure a lustre, had surely never before fallen in so short a time to the lot of any physician. That a general practitioner, but yesterday arrived from the provinces, should obtain them was amazing, incredible, unheard of.

Here, surely, was signal proof that Mackenzie had misjudged the character of the opposition to his views which he had already encountered from the London faculty! Mackenzie himself undoubtedly thought so. The kindness shown to him, the appreciation, overwhelmed him and filled him with gratitude. Humbly, according to his nature, he accepted the splendid and wholly unlooked-for offer which Lord Knutsford, the distinguished chairman of the London Hospital, conveyed to him. He accepted the recognition of the Royal College, the Fellowship of the Royal Society, the Knighthood which soon followed these professional honours. His heart glowed with kindly feelings and with the determination to requite all this goodness by every means in his power. A great joy possessed him. His teaching was now bound to reach the whole world. The principles for which he had laboured so long and so earnestly had already, it seemed, captured the minds of his brethren.

I possess a letter which Mackenzie wrote me at a later period of his life. It refers to a discovery he had just made, and to the reception accorded to this discovery. It runs:

‘In the first flush of gratification, I thought our discovery would startle the world. I have been discussing it with a number of capable men, and they fail to grasp its significance; so I find I’ll have to work at it a good deal until I get sufficient data to carry conviction.’

Mackenzie always over-estimated the eagerness of human beings to obtain enlightenment, judging them, in this respect, by himself. He accepted gratefully and gladly the honours they offered him, because he thought that these honours were accorded to his principles. *In fact, they were accorded to his polygraph.*

There, in his polygraph, and the tracings he made with it, lies the real explanation of his sudden leap to fame—and that not only in England, but in America and in Germany also. His polygraph was what it is the fashion to call an instrument of precision. The records he made with it were ‘scientific data,’ things which other men, similarly equipped, could make and examine. The giants realised this the moment they began to look into his work. These tracings could not be ignored; they were facts. Moreover, they were new facts. It was absolutely certain that every student of the heart and its diseases would take account of them.

This had, indeed, happened already in Germany and in America, where the tracings had been under discussion for a considerable time. Mackenzie’s interpretations of the various waves had been tested by many of the most renowned investigators, and had been found to be accurate. There could be no manner of doubt that, to quote a certain cynical physician, ‘this lucky fellow had gone for a stroll, and stumbled into a gold-mine.’

The Man of the Tracings, therefore, was a force to be reckoned with. He was ‘scientific.’ He was possessed of the key to great and most promising discoveries. It was felt, and felt honestly, that he deserved the very best which his profession could offer him. It was felt also—and, in saying that, I am not attempting to be cynical—that were honours not accorded to him, dishonour must befall the leaders of medical thought. Unofficial genius is the greatest of all the dangers which threaten official reputation.

The giants, in short, took their hats off to the tracings. Mackenzie thought that their homage was being rendered to his great principle that the efficiency of the heart can be measured only by its response to effort.

And thus a strange and most comic situation was brought about—a situation in which both parties believed firmly that they had conquered each other. The giants told themselves that a

good thing had actually come out of Nazareth, that a general practitioner had actually 'raised himself to the status of a consultant' by the adoption of scientific methods. Mackenzie, on the other hand, believed that his apostolic zeal had converted the minds of the giants, and brought them to a saving knowledge of the truth that the fundamental principles of medicine can be learned only in general practice. He supposed that, having accepted his principles, they would proceed, in a humble spirit, to amend their own ignorance.

His earliest addresses and lectures given in London show very plainly how convinced he was that the battle he had come to fight had been won at the very first round. He spoke freely and confidently of the 'new criterion' of the heart's efficiency, as though all his hearers had accepted this criterion. He dilated with zest on the power to foresee danger, which the power to estimate the heart's efficiency had placed in the hands of doctors. He talked about 'a touchstone of the significance of murmurs and irregularities,' as if the consulting physicians who listened to him had realised the deceptive character of these signs when regarded by themselves. And he made light of his tracings and his polygraph, in the honest belief that everyone understood, just as clearly as he understood, the limitations of these 'mechanical aids.'

In one of these lectures he pointed out that there are four stages in disease,—the predisposing stage, the early stage, the advanced stage, and the final stage—and remarked that the history of medicine showed that disease could best be studied by starting at the end and working backwards. 'It can be said,' he declared facetiously, 'that ample provision has been made for the study of disease after it has killed its victim.' Provision had been made also, on a generous scale, for the study of the advanced stage, but the predisposing stage and the early stage had not been studied, and hence the power to foresee danger was lacking. Mackenzie continued:

'If the conditions which predispose to, or provoke disease, are to be recognised, the investigator must have the opportunity for seeing the circumstances which led up to the invasion of the disease. It is manifest that neither the laboratory worker nor the hospital physician, who are the persons mainly concerned with research, has this opportunity. The early stages of diseases are, as a rule, insidious, and are indicated mainly by subjective sensations. The patient, becoming conscious that there is something amiss with him, does not, as a rule, seek help from the hospital physician,

but from his family doctor. The bulk of patients in the early stage of disease are never seen by those who are systematically engaged in its investigation.'

This was a 'call to repentance' with a vengeance. The Man of the Tracings was actually suggesting that giants were of small use to the future of Medicine, that their knowledge concerned only the late and hopeless stages of illness, and that, if they would achieve any worthy service, they must become as general practitioners—'family doctors'—or else attend the out-patient departments of the hospitals where early disease may, usually, be studied!

'Had I,' he said, in effect, 'been a giant and not a general practitioner, I could not have learned how to foresee danger in cases of heart disease. I might, indeed, have invented my polygraph, but, even so, I should have fallen into the error of supposing that that instrument and the tracings I took with it represented a real advance in knowledge. I should not have known, as I now know, that my study of irregularities of the heart was mere "muck-raking," until I learned how to test these irregularities by reference to the fundamental principle that the measure of the heart's efficiency is its power of response to effort, and that irregularities which do not impair this power are not in themselves of a serious character.'

The giants gasped as they listened. A bench of bishops being called to repentance by a freshly ordained curate could not have experienced a more lively amazement or a sharper indignation. Was this the man whom they had taken to their bosoms? Was it actually possible that the Man of the Tracings was unaware of the signal honour which had been conferred on him? Did he not realise that it was his tracings which had won for him his elevation to the peerage of his profession? Mackenzie answered them out of the fullness of his heart.

'What,' he asked, 'are the methods adopted to instruct students in the early signs of disease? In the hospitals, where all instruction in clinical medicine is given, the patients in the early stages go to the out-patient departments. Common sense would say, therefore, where the signs of disease are the most difficult to make out, and the hope of cure is at its highest, the most experienced physicians would be employed, and that all the aids of laboratory technique would be at hand to help in the recognition of the disease. In no teaching institution is this ever done. Here, instead, is placed the youngest member of the staff, lacking in experience, ignorant of the meaning of the signs, and incapable of eliciting

them. He searches carefully for physical signs, and if there are no physical signs, the patient is either discharged with a bottle of physic, or told to return from time to time until a physical sign is discovered; then, and not till then, is he sent to be under the care of the skilled physician; and then, and not till then, does he receive the assistance of laboratory methods in his examination.

'On the other hand, in the wards, where disease has advanced so far as to produce physical or other demonstrable signs, mostly easy of recognition, we have the trained physician, the research student, and all the paraphernalia of laboratory assistance.'

The giants doubted no longer. They understood, at last, that Mackenzie was attacking themselves. A wave of resentment swept their hearts, expelling those genial feelings with which, a short time before, they had welcomed him. To his great astonishment, the Burnley doctor began to realise that his supposed converts had never, in fact, been converted at all.

His first feeling, when this truth began to dawn on his mind, was one of indignation not less acute than that of the giants. When the indignation had passed, there followed a sense almost of despair. To think that his title to distinction in the eyes of his brethren should be the very kind of work of which he had spent his life proving the fallaciousness! To think that it was as the Man of the Polygraph, the Man of the Tracings, and not as the Man who had learned to Foresee Danger that he had been honoured! To think that the husks had been valued, while the fruit was ignored!

Mackenzie, however, was no man to give way to despair. His keen and ever-present sense of humour came to his rescue. He saw the comic side of it all, even while he regretted the pity of it. Once again, the mechanical device, Science, with a capital S, had triumphed over both mind and reason.

'In some respects,' he wrote, with a flash of ironical mirth, 'the ideas which led to the employment and adulation of these mechanical devices may be compared to those ideas which sometimes prompt the imitators of a traveller just returned from an unknown country. The traveller, let us suppose, has come back and told all that he has seen, and has, incidentally, mentioned that a certain type of boot has helped him in his journeyings. His imitators, without in the least knowing what he is talking about or understanding the significance of the new knowledge gleaned by him, begin to make improvements on the boot. *They hail him as the discoverer of a new form of footwear!*'

Mackenzie had come to London as a man with a message; he had been loaded with honours, which the bigness of that message

seemed to deserve. He found himself, suddenly, a mere shoemaker, singled out from his fellows because of the excellence of his soles and heels.

He witnessed too, the amazing spectacle of the whole company of the giants bending zealously over their lasts, diligent disciples, as they supposed, of a new teacher. In America, in England, on the Continent, soles and heels had become the hall-mark of what was already spoken of as 'The New Medicine.'

Mackenzie's displeasure against the giants was short-lived. This man harboured no animosities. Moreover, he came to understand that a giant can never be anything other than a giant. The good citizens of Harley Street and Wimpole Street thought as they did, and spoke as they did, and understood as they did, for the simple reason that they had never had any experience of general practice. Not one of them had stood, as he had stood, by the death-bed of a young wife, newly dead with her unborn babe in her womb, and realised, with awful searching of heart, that the power to foresee the danger which had overwhelmed her was not in his possession. Not one of them had felt the need of the power to foresee, as every family doctor experiences it on every day of his working life. Mackenzie said to me once:

'I have no quarrel with Harley Street, except that it is Harley Street. It is concerned so much with those who are stricken to death, so little with those who have just begun to be ill, that, as a rule, there is nothing to foresee. Thus, the vital and tremendous importance of the power to foresee is overlooked.'

True science, the 'science of medicine,' as he delighted to call it, must, Mackenzie realised, deal with 'essential symptoms' first. The difference between his method and that of so many physicians was simply this: Mackenzie had spent twenty years finding out which are the essential symptoms in cases of heart trouble, whereas his colleagues had not even realised the need for this knowledge. They were careful and troubled about many things, whereas one thing only was needful. They looked for a hundred signs; but the sign that mattered, the pain on effort which revealed the failure of heart-power, they did not look for, and did not observe, though it was the most obvious feature of the case.

That point illustrates perfectly Mackenzie's dispute with the giants and their satellites, the men of the laboratories. At this hour, very few of either of these groups of medical men have realised the nature of the charge which he brought against them. They seem to think that he was attacking laboratory methods as such,

and exalting what they contemptuously describe as the 'put-out-your-tongue' type of practice. They do not dream that what he was really attacking was failure to think, to reason, and what he was really exalting was the common sense which asks, 'Is this heart capable of its work, and if not, why not?'

I saw an illustration of the same kind of thing once when a research worker explained to Mackenzie that he was not sure whether or not the small blood-vessels of the skin are under nervous control. He had, so he declared, attempted to study the matter by examining the web of a frog's foot under the microscope.

'One can see the blood moving in the small vessels of the web,' he explained.

Mackenzie nodded. 'One can also,' he observed, 'see a girl blushing when the name of her lover is mentioned.'

That common-sense answer, I think, displeased the man who heard it. But it seemed, nevertheless, to settle once for all the question whether or not the blood-vessels of the skin are under control of the nerves. Frogs' feet were never, in Mackenzie's mind, a good substitute for the faces and facial expressions of men and women.

Now by the irony of fate, and through the scientific accuracy of the recording instruments he had first invented, but which he had transcended by his own skilled touch and illuminating experience, he found himself, to his horror, regarded as the Founder of a School, the inventor of a method of recording symptoms coldly detached from the discriminating mind which could award to each part of the record its real value. He found himself a 'giant' of Harley Street, and meditated a stimulating retirement to general practice. Only there would the physician discover the earliest symptoms of disease, namely the feelings of man and woman. This step was delayed by the war, but after the war—in which he did wonderful work for those suffering from 'Soldier's Heart'—he retired to St. Andrews to enlist the aid of the general practitioners, who saw the first danger signs of incipient disease, and to carry out for other diseases the method of observation which had led him in the course of the patient years to a revolutionary knowledge of the heart.

And here he organised the work which is to go on as the living monument to the man and his methods—a work the object of which he defined as 'the prevention of the diseases that are common among the people'—more than half of which have causes still unknown to medicine.