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Linacre Lecture 1940
W. W. C. Topley
Excerpt
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AUTHORITY, OBSERVATION
AND
EXPERIMENT IN MEDICINE



IT is a little over four hundred years since Linacre founded his two lectureships, one in his own University of Oxford and a second at St John's College, Cambridge. An invitation to fill this chair for one short hour must, for old association's sake, be peculiarly welcome to one whose undergraduate days were spent at St John's. In my own case this pleasure is increased by the fact that Dr Shore, who directed my first steps in medical science thirty-five years ago, is keeping his kindly eye on my efforts to-day.

In his Rede Lecture, delivered in the last year of peace, Sir Edward Mellanby sketched a stimulating and provocative picture of recent advances in medical science and of their social

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and economic consequences. This evening, in the first year of war, I shall attempt to put forward some suggestions as to why those advances occurred, and how we can best ensure that they shall continue. Even in such an emergency as now confronts us there is, I think, something to be said for trying to define certain general principles, if only that we may better assess the significance of the host of crude, but instructive, administrative experiments that we are performing, or that are being performed on us, as war-time measures.

In this, as in all similar problems, we must learn from history if we are to learn at all, and we may well start with Linacre; for the significance of the things he did, or failed to do, lies in the fact that he lived, as we live to-day, at a turning point in the march of western civilisation. If we get a clear picture, even in outline, of what was happening to medicine in Linacre's day, and what has happened since, we shall be in a better position to grasp the meaning of what is happening now, and to determine how far, and in what direction, we can usefully interfere.

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Two of my predecessors, Sir George Newman and the late Sir William Osler, devoted their lectures to a study of Linacre himself and of his influence on English medicine. It is with as much diffidence as regret, and with some feeling of ingratitude, that I admit my inability to accept the unqualified eulogies that they pronounced. As Browning's Grammarian, Linacre was one of the great pioneers of the new age of scholarship, and that, surely, is claim enough to immortality. As a physician, I cannot avoid the conclusion that the only reason he did no more harm than he did was because the times were too much for him. His was, I think, from the medical point of view, the high tragedy of the wrong thing supremely well done. His great achievement in medicine was the translation of much of Galen's Greek into admirable Latin. Galen had dominated medicine for thirteen hundred years, in life as a Greek physician in Rome, and after his death through his encyclopaedic writings, selections from which passed from one language to another as medical scholarship followed the

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fate of empires. The Ghost of Galen ruled over Arabian medicine, though such writers as Rhazes and Avicenna added many clinical observations and speculations of their own. It came back into Europe in the Latin texts and commentaries, derived from Arabian authors, which formed the basis of medical thought and teaching throughout the Middle Ages.

It was a corrupted Galen that Linacre found, and to him a corrupt text must have been a challenge that could not be refused. It was natural for him to believe that the resurrection of the Greek physician in his pristine purity would put medicine on the right road again. That great caution should be observed in dealing with the illustrious dead, and that their influence on those who came after them should be carefully pruned from year to year to make room for new growth, was not the kind of truth that would have appealed to the Linacre who is sketched for us in our very scanty records. But other men in Linacre's time were seeing the vision—it was as yet hardly more—to which he himself was blind. His Latin trans-

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lations of Galen were published in the last years of his life, between 1517 and 1524. In 1527 a very different man was appointed Professor of Medicine in Basel. Paracelsus, as he called himself, or Theophrastus Bombastus von Hohenheim, to give him his baptismal name, was the son of a Swiss physician. He obtained his Doctor's degree at Ferrara, studying under Leonicensus who had, much earlier, been one of Linacre's Italian masters. Paracelsus had little of the scholar's temperament. He was among the last of the mediaeval alchemists, and may perhaps be reckoned among the forerunners of the modern chemists. He was a wanderer, who had picked up odd knowledge and odd friends in most parts of Europe, and his talk smacked of the tavern rather than of the study. But he knew better than Linacre what was wrong with medicine; and, if reports are true, he inaugurated his professorship at Basel by publicly burning the works of Galen and of Avicenna, and lecturing on medicine from his own experience, in his native tongue instead of in scholar's Latin. It is not often that the

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translating of books marks reaction, or the burning of books a new birth; but there can, I think, be little doubt that Linacre spent his labour in putting a brighter polish on the fetters that held medicine in thrall, or that the bonfire at Basel was as symbolic of freedom as the storming of the Bastille.

Of Linacre's other attempt at medical reform, the foundation of the Royal College of Physicians of London, I should naturally wish to speak with more enthusiasm; but, so far as its birth and babyhood are concerned, enthusiasm does not come easily to those who are thinking in terms of medical science. Its foundation marked an important professional victory. The Medical Act of 1511 had provided that no one should practise medicine in London, or within seven miles of its walls, except after examination and licence by the Bishop of London, or the Dean of St Paul's, with the aid of competent doctors of physic as assessors. When the College was founded in 1518, with Linacre as its first President, it assumed this privilege, and guarded it very jealously; but it

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is difficult to find evidence of any purposeful pursuit of new knowledge, or of any desire to break with professional dogma. In 1559, as Greenwood relates, an Oxford Doctor of Physic, John Geynes, dared to question the authority of Galen. He was required to bring to the notice of the College, within one month, all the passages in Galen's works that he deemed to be erroneous. Being a wise man he apologised instead.

Linacre the physician must, I think, be numbered among the authoritarians; and authority—the intellectual authority of books or men—is incompatible with science. The scientist can never regard his books as more than temporary codifications of current working hypotheses, and of the evidence on which they are based. All books, and all men, remain open to challenge, and there can be no plea of privilege.

If Linacre belonged to the night of medicine, which way was the dawn approaching? The break with authority which marked the rebirth, not of medicine alone, but of all effective

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human knowledge, was a thing that happened because the times were ripe for it. If one man's clarity of vision could have hastened events it might have happened three centuries before, when Roger Bacon anticipated the power of inductive and experimental science. Between his time and Linacre's the social and environmental factors that determine the responsiveness of men's minds to intellectual stimuli had undergone fundamental changes. The political and religious systems that had dominated Europe for centuries were breaking up, and new energies were being released on every side. But Linacre was no heir to Roger Bacon. That rôle belongs, by every sign and right, to a contemporary whom he may well have met in Florence.

Leonardo da Vinci was Linacre's senior by eight years, and died five years before him. His life is a lasting refutation of those who seek to place the artist and the scientist in different categories. As one item among his amazing range of activities he laid new foundations for anatomy, and for the observation of human

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structure in relation to function. To da Vinci anatomy was one among many interests. To Vesalius, who was born five years before da Vinci died, it was a life's work. If we had to select one man in the direct apostolic succession of medicine who marked the transit from the Middle Ages to the new world of human thought we should have to choose Vesalius, since he consciously, and in the teeth of opposition, cast off authority in favour of systematic observation. His *De Fabrica Humani Corporis*, published in 1543, put an end to many of the myths of Galenical anatomy, and cast more than a doubt on the working value of even the very best translations of the master's writings. Vesalius did not escape the common fate of medical reformers. Sylvius, who had taught him, attacked him with extreme violence, and, when confronted with some of Galen's more startling errors, gave it as his view that man's body must have changed, though not for the better.

Among the pupils of Vesalius was Fallopius, and among his pupils was Fabricius, and Fabricius taught a lively, dark-complexioned young

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Englishman named William Harvey, who in 1598 had come from Cambridge to Padua to study medicine. With Harvey we take the decisive step, away from authority, through observation, to controlled experiment. The demonstration of the circulation of the blood, and the publication of *De Motu Cordis* in 1628, marks an advance even greater than that achieved by Vesalius, for it takes us past anatomy to physiology, and so to the beginnings of medical research in its fully effective form.

The outward careers of Linacre and Harvey were strangely alike. Each went to school at Canterbury, each studied medicine at Padua, each practised in London as Physician to the King. Linacre was the first President of the College of Physicians; Harvey was offered the Presidency, but refused it on account of age and infirmity. It is true that Linacre passed his undergraduate days at Oxford, Harvey at Cambridge, but the real difference between them was a difference in time. They belonged to different epochs. In Linacre's day the stream of knowledge that sprang from the replacement

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