BOOK REVIEWS

ENGLISH HIPPOCRATES

Dr Thomas Sydenham (1624-1689)

His Life and Original Writings. By Kenneth Dewhurst. Pp. viii+191+8 plates. (London: The Wellcome Historical Medical Library, 1966.) 35s.

DR DEWHURST has continued his researches into medical biography. He made good use of the Lovelace Collection of John Locke's papers in the Bodleian Library for his admirable life of that physician and philosopher; and now has found them of value, together with other original material, for a study of Sydenham's life and writings. Sydenham called Locke from chemical research to study the natural history of disease at the bedside.

The first part of this book is devoted to the life of Sydenham, and the second part contains the original drafts of his writings which were penned in English. Medical works were expected to be published in Latin in the seventeenth century, and so several persons (identified by Dr Dewhurst) translated them. The translations were not always accurate, and we are now able to appreciate fully the teaching of Sydenham as he set it down in his mother tongue. He wrote some of his later works in Latin; for instance, his *Treatise on Gout and Dropsy*, translated by Dr John Drake into English in 1683, and his *Processus integri*, published posthumously in 1693. The concluding pages of the book contain correspondence including some letters from Sydenham to Locke.

This remarkable man of genius seems to have been born a physician, for he owed little to academic training in medicine, and, indeed, despised it: "Physic," he said, "is not learned by going to universities."

Thomas Sydenham was born at the manor of Wynford Eagle in Dorset. He came of a well-to-do Puritan family. His father, William Sydenham, Thomas himself and his three brothers served in the parliamentary army in the civil war. Two of the brothers were killed, while the eldest brother, William, a staunch adherent of Cromwell, became Governor of Weybridge and the Isle of Wight, and a member of parliament. Much new information is given on Sydenham's early life and war experience.

He was educated at Dorchester Grammar School. In 1643 he entered Magdalen Hall, Oxford, but soon left to become a trooper in the parliamentary cavalry, rising to the rank of captain. After the war he returned to Magdalen Hall in 1647, to migrate a few months later to Wadham College. Being on the winning side he did not undergo the frustrations that Locke afterwards experienced in obtaining the M.B.Oxon. The Earl of Pembroke, the Chancellor, conferred this degree on him in 1648; he was then made a fellow of All Souls' in place of an ejected royalist.

Sydenham resided for a few years at Oxford. He returned to the army for a brief period and was at the Battle of Worcester. Robert Boyle became his friend, but otherwise he seems to have held aloof from the experimental scientists, the precursors of the Royal Society in the University. He never mentions Harvey's discovery of the circulation of the blood. In 1655 he resigned his fellowship to marry Mary Gee. Soon afterwards he settled in practice in King Street, Westminster, removing to Pall Mall in 1664. He was a licentiate of the College of Physicians from 1663 (never a fellow) and

later M.D.Cantab. (1676). Dr Dewhurst considers that he never studied clinical medicine under Professor Barbeyrac at Montpellier as is often stated.

Sydenham's abiding fame as a physician rests on his study of fevers in which he well and truly laid the foundations of epidemiology. He accepted the Hippocratic theory of "humours", but ignored the erroneous beliefs and disputations of many seventeenth century physicians. He went back to Hippocrates, the source of clinical medicine, and investigated the natural history of disease. Studying prevailing fevers at the bedside of his private patients and in the wards of London hospitals, he found that diseases can be identified as clinical entities, that they pursued a regular course, and that their prognosis could be estimated from their characteristic symptoms. He was able to define a number of diseases, for example scarlet fever, measles, smallpox and gout; and described their "constitutions" as due to inexplicable changes within the Earth, climatic, atmospheric and seasonal variations. "The Epidemic Constitution" of any year determined its endemic or stationary fever, and this fever had an effect on any epidemics in that year. He also studied plague in the great plague of London.

Sydenham's treatment of disease was simple and enlightened; it comprised riding in suitable cases, living in the open air, little purgation and bleeding, rest and sleep. He also prescribed opium and other drugs, but mainly relied on the *vis medicatrix Naturae*. Curiously for so careful an observer he did not believe that smallpox was contagious. His "cooling treatment" of that disease under which his patients did well was criticized by the physicians of the day, who alleged that his therapy consisted in doing nothing. But his teaching and fame became world wide.

Thanks to Dr Dewhurst we now know much more about Thomas Sydenham, "the English Hippocrates".

ARTHUR MACNALLY

WITTGENSTEIN MISCELLANY

Zettel

By Ludwig Wittgenstein. Edited by G. E. M. Anscombe and G. H. von Wright. Translated by G. E. M. Anscombe. Pp. x+248. (Oxford: Basil Blackwell, 1967.) 37s. 6d. net.

THE late provost of Queen's College, Oxford (Canon B. H. Streeter), once remarked on the value of having at hand an intellectual workshop, where ideas could be left lying about, and there was no need to tidy them up. When the right moment for assembly arrived, any number of stray thoughts could be brought to life, and thus become significant. Such a collection is sometimes of unique value, even if the author is dead. This is, in outline, the situation before us in the notes left in a box-file by Ludwig Wittgenstein (1889-1951), and now published by his literary executors. In fact, these 717 clippings (or *Zettel*) are fragments of typescripts on which, it seems, the philosopher intended to work at length when the mood occurred and the opportunity offered. Evidently, he considered some of them at least to be capable of extension and possibly of systematization. A portion of the material, however, is largely repetitious: Wittgenstein wrote a vast amount, too, in both these respects a little like Newton. The editors have tried to follow a plan, according to the subject matter. It might have rendered the reader's task a little less difficult if divisions could have been indicated in the text by a horizontal line, or some such device. The whole is simply a bundle of thoughts. Without comment and without criticism—some of them fairly loose and likely to fall out, others tightly bound and most intractable. Nobody could read these pages effectively who did not venerate Wittgenstein,

or understand how fiercely he sought for truth even when, as he himself would have admitted, he was near to writing nonsense.

Supposedly, he intended to elaborate these cogitations into further full-scale studies concerning the meaning of sentences, the theory of signs, the implications of symbolic logic, and especially the methodology of Frege. He shows great respect for Goethe's theory of colour; its metaphysical subjectivity utterly opposed to the mechanics of Newton, and all that followed. This in itself is a manifestation of *Sturm und Drang*; one recollects how Wittgenstein started as an engineer, and even in these jottings speaks almost affectionately of the steam-roller. Again, he likens passing thoughts to the progress of a film-show; an unconscious hark-back perhaps to his habit at Cambridge of making straight for the cinema after his exhausting twice-weekly "supervisions" at Trinity. On these occasions he was probably acting on sentence No. 460—"In certain cases, one cannot take too much care in handling philosophical mistakes, they contain so much truth". This is Wittgenstein at his best, and his most illuminating. Did he realize that in those words he was outlining the whole course of history in relation to the origin and treatment of heresy? In moments crucial for Church or State, it was not the fact that heresy was "wrong" that mattered so much as the nearly universal agreement that its very activity left the residual belief the stronger for its interventions. And thus, the infinite care lavished by Wittgenstein on philosophical mistakes.

This sentence is preceded by two observations regarding metaphysics; the first is that this subject cancels out the distinction between factual and conceptual investigations, whereas the second (pointing to the same basic effect) notes that, according to age-long metaphor, one cannot step into the same river twice. The Wisdom literature, of course, made the same point about birds and arrows in their flight through air. The importance of these entries lies in their refutation of the idea that Wittgenstein abhorred metaphysics. As a former disciple of the Vienna Circle this might have been so (a book is in preparation about this topic), but in his later work he seems to have extended almost a welcome to the blurring of the line between fact and concept. Centuries ago, St. Anselm came to grief just here, with his ontological argument for the existence of God.

Again and again Wittgenstein, aided perhaps by his passion for condensation, sees the difficulty exactly of making a clean sweep in the metaphysical sense, when at the same time he knows perfectly well that some system of mechanics (not necessarily classical) is, as it were, looking over his shoulder. Here writes the man who once upon a time delighted in the details of aeroplane construction, and when driven too hard by his semantics turned back again to screws and bolts. It would be asking too much to explain exactly why he did this: one guesses that brute fact had retained the same place in his mind as it had occupied in the days of the *Tractatus*. But this is only once more to accept the strong *a priori* element in his fundamental approach to the world, namely, that nobody is likely to understand his thoughts as he jots them down unless the "other mind" (in effect, the *alter ego* of Husserl's phenomenology) had indeed experienced them before.

In sentence No. 613 Wittgenstein discusses the starting and finishing point of a system, noting the exclusion of the intermediate states. This is clearly what usually happens in classical thermodynamics wherein *a* and *b* are states independent of the path. In this language-game sentence Wittgenstein absorbs most of the limitations to which traditional heat theory is prone, but this is not the case, methodologically, with Carathéodory's adiabatic surfaces between which exists total impassability.

The object of reading Wittgenstein in this way is to show how far-reaching his thought is. No physicist is likely to consult him on purely technical grounds, but

ever since the days of Leonardo da Vinci—at least—there has been a veneration for natural law, and incidentally for the use of the subjunctive. Maybe this is it, but if so, it accords ill with modern efforts to display structure rather than to rest content with something "independent of a mechanism".

When we consider, as we are told, that these meditations represent Wittgenstein's thoughts during 1929–48 (but mostly the last three years of that period), a natural question to ask is whence came such an avalanche of creative strife? Looking back at the Vienna of Wittgenstein's youth and formative years, the atmosphere must have been quite extraordinary—Johannes Brahms a friend of the family, Mach, Boltzmann, Schlick, Gödel, a galaxy of talent if ever there was one. Yet Wittgenstein was to know several suicides and one murder, even in his own relatively small circle. I suspect that the language-game which he played all his life arose in part as a counterweight at once challenging and grievous. And the lengthy references to the nature and influence of pain are long-range reflexions of so deep a tension.

The editors have succeeded in keeping some of the best until last. The thoughts on the propositional calculus and the antinomies begin at No. 681 and continue almost up to the end. Additionally, there is the warning remark to the effect that it is stupid to embark on the investigation of an infinite regress: there is no goal, and therefore no sense in setting out to reach it. In this context, however, one should perhaps bear in mind the possibility of an escape clause such as that in some "comparative" philosophy like the second "way" of St. Thomas Aquinas. Whether it is legitimate to see in this (as the late Sir Edmund Whittaker did) a "proof" of the existence of God, conceivably compatible with modern physics, is another matter. The point is that in cases wherein "greater than" or "less than" occurs, the end-point is not necessarily excluded from the start. A mathematical question (No. 697) is seen as a stimulus to imagination: in the next note a parallel is drawn with the act of translation from one language into another, and the great difficulty of doing so, if judged as a matter of replacement. Wittgenstein seizes on the essential element, namely, the absence of a systematic method of solution in both cases. History shows clearly enough that great advances are often made by inspired guesses, whereas "system" followed later, in much the same way that technical routine follows in the wake of original discovery in natural science.

The reader who can feel his way through this collection of ruminations will reap his reward and proffer his thanks to the editors. As a by-product he will be able to test his grasp of German idiom as he goes along, and noting, *en route*, the four-dimensional cube displayed on the jacket and illustrated in colour in the text.

Wittgenstein is full of surprises, even to his last remark (No. 717)—"You cannot hear God speak to someone else, you can hear him only if you are being addressed".

F. I. G. RAWLINS

RADIATION PHYSICS IN MEDICINE

Radiological Physics

By M. E. J. Young. Second edition. Pp. xii + 601. (London: H. K. Lewis and Co., Ltd., 1967.) 84s. net.

THE first edition of this book, which appeared in 1957, was welcomed as filling a need for a textbook covering those aspects of radiation physics which should be understood by medical practitioners specializing in radio-diagnosis or radiotherapy. This new edition attempts to bring the subject up to date, which is no mean task in a rapidly developing field. There is, naturally, much new material, but also some of the earlier work has been