

on the Stage, and has attached a complete bibliography of seventeenth century plays in which medicine is introduced.

This field of literary medical men is enormous, but one that well repays its exploration.

Medical men of a different calibre were Gatling, of America, who gave us the gun of that name, and Guillotine, who is perpetuated in that sinister object of the French Revolution.

SOUTH AFRICAN MEDICAL AUTHORS.

South Africa, too, has her literary-minded doctors. David Livingstone's *Missionary Travels and Researches in South Africa* and *Narrative of an Expedition to the Zambezi and its Tributaries* were published in 1857 and 1865.

Medical men have played distinguished parts in African history. No life of Rhodes is complete without Doctor Jamieson, Lord Delamere—the Rhodes of Kenya—similarly owed much to Doctor Atkinson (see Huxley's *White Man's Country*). The conquest of Africa's diseases is a long story of doctors and their work from Laveran and malaria to Stokes and yellow fever; to-day Doctor Huggins guides the political fortunes of Southern Rhodesia, and many medical men have functioned and still are functioning in our own legislation.

In 1924 Doctor Reginald Hegy published his book on spiritualism, *A Witness through the Centuries*, and recently there appeared Wulf Sachs's *Black Hamlet* (1937), A. Cecil Alport's *The House of Curious* (1937), and C. L. Leipoldt's *Jan Van Riebeeck* (1936) and *Bushveld Doctor* (1937). Doctor Leipoldt has also contributed profusely to Afrikaans literature and poetry. Doctor E. E. Mossop has written a very interesting book on old Cape Highways.

A charming book, but one that is now difficult to obtain, is *Dr. James Barry*, by Olga Racster and Jessica Grove (1932). It is the story of the woman who posed as a man and who "more than successfully competed with men on their own ground a hundred years ago." She spent a good deal of her life at the Cape under Lord Charles Somerset.

Let some of your names, too, be added to these South African medical authors! Perhaps there is even now among us a potential Osler or Keats?

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MEDICAL JOURNALS: AN HISTORICAL REVIEW.

JULIAN KATZ.

The education of the medical practitioner begins, it has been said, at the end of his university career. Like most paradoxes, this contains the elements of both truth and tragedy. As in most professions, the preliminary study and training merely "sets" the future practitioner to react suitably in certain situations, by equipping him with a certain amount of knowledge and by proper conditioning. Only time and practice can polish off his creaky newness and give him that facility, nice judgment and ripened wisdom which distinguishes tyro from adept. Perhaps it were better to avoid paradoxes and proclaim the simple truth that the education of the medical practitioner does not end at graduation. The study of medicine is a life-long job (except for those doctors that take up novel writing). The supreme test of the successful practice of the doctor's art has to be passed and passed repeatedly with every new patient.

On rising out of the exam-laden atmosphere of the medical school the education of the practitioner is fostered by medical societies and journals. With these also lie the progress of modern medicine—past and future. So momentous an occasion as the tenth anniversary of "The Leech" seems a good time to review the history of medical journals. Although our

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interest centres primarily around journals, it is impossible to discuss them apart from societies, for in origin and development they are inextricably bound together.

The Scientific Society arose in the Italy of the Renaissance in the seventeenth century—a momentous century in the history of science. Opening with the burning of Bruno, the herald of a new world, it was the century of Galileo and Newton, of Harvey and Descartes. Men had long been convinced that in the universities of the time—strongholds of conservatism and dull transmitters of lifeless tradition—the new spirit of science and research could not be fostered. Independent minds sought to associate with kindred spirits for the purpose of acquiring knowledge and developing research. Hence arose the need for the scientific society.

“Porta’s Secret Academy,” founded in Naples as early as 1560, appears to have been the first attempt at formation of a scientific society. Of more importance was the “Academy of the Lynxes,” founded at Rome in 1603, and which still survives. In Florence, Italian science was fostered by the Medici family. In 1642 Ferdinand formed the “Philosophical Society” of the Grand Ducal Palace, where met the ablest literary and scientific men of the day. Under the patronage of Leopold de Medici there was formed in 1657 the celebrated *Accademie del Cimento* (Academy of Experiment).

In London in 1665 the “Invisible College” was formed on the lines of “Porta’s Secret Academy,” and held weekly meetings of “divers worthy persons inquisitive into Natural Philosophy and other parts of human learnings and particularly of what has been called the New Philosophy or Experimental Philosophy.” Two important advances were made when it opened its first journals in 1660, and was chartered by Charles II as the Royal Society in 1662. “The essential use and virtue of this society,” says Wells, “was and is publication. Its formation marks a definite step from isolated inquiry towards co-operative work, from the secret and solitary investigations of the alchemist to the frank report and open discussion which is the life of the modern scientific process.” The same may be said of the other societies formed at the time in other countries. The *Académie Française* was founded in 1635, and the *Académie des Sciences* in 1665, and which began to publish its transactions in 1672. In Germany the *Gesellschaft Naturforschender Aerzte* (later known as the *Kaiserliche leopoldinische Akademie der Naturforscher*) was established in 1652, and commenced publications in 1670. Purely medical societies were not formed until the eighteenth century.

In the meantime the advance of the printing press was bringing about an intellectual revolution. The importance of printing in the history of mankind is inestimable. As a commentary on human values, historians invariably mention the invention of the printing press in the same breath as the invention of gunpowder! The cheapening of paper and printing resulted not only in the increased production of cheap books, but led invariably to the production of periodical literature. So great was the advance that by 1699 we find Bertini complaining “that too many books are printed, confusing the mind more than they instruct it!” For all that, in the seventeenth century the printing press was pre-eminent in the liberation of the human mind; by the twentieth it had enslaved it.

“The pedigree of the scientific periodical,” says Garrison, “is out of the scientific society by the newspaper.” In medicine the new tendency was represented by the *Nouvelles Découvertes sur Tout les Parties de la Médecine*. Founded in 1679 by Nicholas de Blegny, it was the first purely medical journal in the vernacular. It was translated into Latin and continued by Theophyle Bonet as the *Zodiacus* (1680-85). The Abbe de la Rocque’s *Journal de Médecine* commenced publication in 1680, and was continued in 1685 by Brunet, who also edited a monthly, *Progress de la Médecine* (1695-1709). The first English medical journal *Medecina curiosa* was published in 1684.

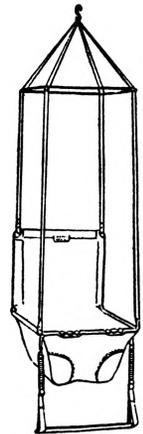
In the eighteenth century Holland led the way in the number of medical periodicals, and soon there were over 100 being published of which 55 were German, 3 French, 4 English and 1 American. America slipped into the eighteenth century with the *Medical Repository* in 1797. By 1850 America could boast of 117 medical journals.

In England the first exclusively medical society was established at Edinburgh in 1737 with the sole purpose of publishing medical papers. The nucleus of this society had been formed three years earlier by a few students who banded themselves together for mutual assistance in their studies. By 1778 the society was exalted as the Royal Medical Society of Edinburgh. London followed suit in 1752, and published papers in their *Medical Transaction*. One suggestion in the preface of the first volume may still be acted upon with advantage. “It is to be wished,” says the author, “that writers would not confine themselves to relate only their successful practice. A physician of great experience might write a very useful paper if he would have the courage to give an account of such methods of cure only as he had found to be ineffective or hurtful.”



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In the nineteenth century the multiplication in production of periodicals was phenomenal. With the enormous advances in all branches of science, new ideas were plentiful and cheap; paper and printer's ink were even cheaper. Everybody who was anybody and many a nobody, undertook to tell the world a thing or two in magazines of their own. Even the slightest of these, undoubtedly served some purpose if only as a cathartic for some troubled soul obsessed by some peculiar theory, "ism" or "pathy." The journals that were of positive value were almost invariably founded and edited by some investigator of renown to further his discoveries and theories. A list of such editors reads like a catalogue of great doctors.

The opening of the nineteenth century found one of the great pioneers of medical journalism, C. W. Hufeland, in the field with his *Journal der praktischer Arzneikunde* (founded 1795). Also Johann Reil's *Archiv für die Physiologie* (Halle, 1795), the first periodical to be devoted to this science, which he followed in 1805 with the first journal of psychiatry, *Magazin für psychische Heilkunde*. C. F. Nasse followed this up in 1818 with the *Zeitschrift für psychische Aerzte*. Reil's first paper became in the course of time the epoch making *Muller's Archiv*, while in France Magendie founded the *Journal de physiologie expérimental* (Paris, 1821) devoted exclusively to physiology, and in which he published his pioneer work in experimental physiology and pharmacology. These journals were symptomatic of the growing tendency towards specialism.

The role of the medical journal in the development of medicine is well exemplified by the history of German medicine in the nineteenth century. In the first half of the century German thought was torn amongst various ideologies. Medicine followed suit with a number of schools dominated by the philosophical blather and fantastic speculation of the time, which passed muster as "Idealism" and enjoyed the name of School of Natural Philosophy. This was opposed by the Natural History School, which tried to reduce medicine to a rigid system of classified diseases. Therapeutic nihilism prevailed: the diagnosis was everything and only had to be confirmed at post-mortem.

A number of young men led by Johannes Muller began the scientific revolution of Germany, and by publication of a number of journals, fostered and diffused the new knowledge. Of these, Muller's famous *Archiv für Anatomie, Physiologie und wissenschaftliche Medicin*, was founded in 1834. Known simply as *Muller's Archiv*, it covered all branches of medical science

and had a profound influence on German medicine. Rosser and Wunderlich's *Archiv für Physiologische Heilkunde* followed in 1842 to spread the gospel of scientific medicine. "We are here inaugurating," wrote Wunderlich, "an organ to further knowledge of physiological medicine. This phrase gives a full description of our trend. To establish pathology on a physiological foundation must be the endeavour of all enlightened minds." Five years later Virchow commenced his polemic on behalf of medical science in his *Archiv für Pathologische Anatomie*. In 1861 Henle started the *Zeitschrift für rationelle Medicin* which contains some of the best monographs of the period. The magnificent example set by these four periodicals and followed by many others gave Germany a pre-eminent position in scientific medicine.

It is impossible to make mention of the innumerable journals which sprang up all over Europe and America during this period. Many were of ephemeral duration, but among the survivors are found the best of our modern journals. The tendency to specialization was particularly well marked, every speciality being only too well provided with scores of journals. The uses of advertisement were also discovered and to-day there are few periodicals in which the essential information is not sandwiched between pages and pages proclaiming the frailties of humanity for which some manufacturer has produced a remedy.

A stabilising factor has been the formation of medical societies on national lines. Thus the British Medical Association was organised in 1832 and published various "Transactions" and periodicals including the *British Medical Journal* in 1857. The American Medical Association was organised in 1847, and did much to prevent the fanaticism and commercialism of American journalism overwhelming medical journalism. It took control of a number of the better medical magazines and started publishing its renowned *Journal* in 1883.

During the present century a number of new journals have come into existence with an extreme bias towards specialism as is shown by such publications as *Brain*, *Heart*, *Cancer*, *Tuberculosis*, etc. Medicine to-day is served by more periodicals than any other science or group of sciences. The number is well over 2,000, and more than one quarter of these are American in origin. With such largeness the general practitioner can afford a good deal of discrimination in his choice of journals. But the experimental worker and specialist are more acutely aware of the difficulties imposed by such a plethora of publication. Gain in quantity means loss in quality.

Whatever be the abuses of the journal, its undoubted value remains. As a means for the diffusion of knowledge, for the exposure of new views and ideas to criticism and as a medium for such criticism, as well as for binding the individual to the profession as a whole, the periodical is indispensable. In it is reflected the intellectual and scientific position of the society it serves. In it resides the true scientific method which is "to make no unnecessary hypotheses, to trust no statements without verification, to test all things as rigorously as possible, to keep no secrets, to attempt no monopolies, to give

out one's best modestly and plainly, serving no other end but knowledge."—(H. G. Wells.)

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THE IMPORTANCE of MINERALS IN ANIMAL NUTRITION . . .

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It has long been known that the vital processes of life are dependent not only on the presence of various mineral salts, but also on a proper relationship between them. At the present time the importance of mineral matter for livestock is receiving much popular attention, due chiefly to striking results which have been secured in recent experiments by nutrition experts. Particular attention is being paid to the deficiency of minerals in animal nutrition. Such experimentation in the past has established the fact that Lamsiekte in cattle and Rickets in pigs fall in the class of deficiency diseases.

Among the minerals which should receive especial attention by all progressive farmers, Calcium and Phosphorus have first claim. The particular deficiency of these two minerals is greatly accentuated by their paucity in certain South African soils.

Dairy cattle in particular are affected by the lack of these minerals, and it has been shown that for every 2½ gallons of milk withdrawn from the cow the lime equivalent of 1½ ounces of first-grade bone meal is also withdrawn. The cow, in order to keep up the production and composition of her milk, must eventually deplete the reserves of Lime and Phosphorus in her skeleton. Such a condition can be likened to a banking account—funds, unless replenished, soon become depleted.

Farmers whose every care is closely linked up with the welfare of their cows should take warning. They should feed balanced rations to replenish the depleted reserves, and so prevent mineral starvation. The feeding of "Vebros" Milk and Beef Meal will ensure not only a balance of Protein and Vitamins, but also a balance of the necessary minerals. Our "Vebros" Mineral mixtures and cattle licks are likewise scientifically balanced and consequently guaranteed to meet all the requirements in mineral nutrition. They will therefore insure your animals against such mineral deficiency diseases as e.g., anaemia and "hairless" goitre in young pigs.

In conclusion, a warning against the use of mineral licks is not out of place in this article. Mineral mixtures which contain high percentages of Fluorine have been shown to be disastrous to stock in that they cause deformities in the bones, particularly the jaw-bone, and similarly they lead to improper mastication in that the teeth become tender and loose. The danger of chronic Fluorine poisoning has only lately gained prominence and it is on that score that we repeat our warning against the use of high percentage Fluorine mixtures. Fluorine is particularly associated with Raw Rock Phosphate in chemical combination.

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