

Editorial

The internal Vulcan . . . knows how to distill and to prepare according to proportion and distribution, just as the art in itself has power to do by means of sublimating, distilling, reverberating. For all the arts are present in man as well as in alchemy outside. . . . There is a quality, an ability and dexterity such that by virtue of it the poison is sifted from the good.

PARACELSUS

DRUG METABOLISM AND DISPOSITION: *the biological fate of chemicals* makes its debut with what may be a pair of "firsts" in the history of scientific journal publication. To our best knowledge, it is the first such periodical to devote its entire premier issue to the proceedings of a major symposium. And because it had been decided to omit from that issue all material extraneous to the symposium, it is doubtless the first journal in which the Editor's customary *apologia* appears in the second issue.

The founders of the academic discipline of pharmacology recognized the central position of studies on the metabolism and disposition of foreign compounds in this new science; the doctoral dissertations of many of Buchheim's students, including that of his most famous protégé, Schmiedeberg, were concerned with the measurement of concentrations of drugs in blood and tissues, and Schmiedeberg later published many papers on the biotransformation of various drugs and toxicants in the animal body. Studies on the metabolism of organic chemicals paralleled the development of organic chemistry in the latter part of the nineteenth century. After the early investigations with drugs, however, the study of biotransformations and translocations of medicinal agents lagged behind the development of new compounds. A preoccupation with systemic pharmacology, and the lack of sufficiently sensitive and specific methods for the measurement of very small concentrations of drugs in biological materials, resulted in a situation in which the disposition and fate of many widely-used agents were little understood.

A new beginning was made by E. K. Marshall, who emphasized the measurement of drugs in blood and tissues in his experiments with sulfonamides. Studies on biotransformation of foreign organic chemicals, largely the work of chemists and biochemists, had reached an alarming complexity by 1947, when R. T. Williams wrote the first edition of "Detoxication Mechanisms," which was to be followed 12 years later by the monumental second edition that serves so admirably as a guide to the early literature on the subject. By this time, the development of new techniques, such as countercurrent extraction and isotopic tracers, had made possible the analysis of small concentrations of drugs, and a renaissance of interest in drug metabolism and disposition occurred, with a special focus in the group at the National Institutes of Health under B. B. Brodie, where work on the physicochemical determinants of drug disposition, as well as the location of the major group of drug oxidations in the hepatic microsomes, showed once again the central place of drug metabolism and disposition in the pharmacology and toxicology of foreign compounds.

Since that time, the development of still more powerful techniques for the separation and characterization of drugs and their metabolites, and for probes of their molecular interactions with cellular constituents, have allowed remarkable advances in our understanding of the fate of foreign chemicals in living matter and of the mechanisms of their biotransformation and translocation. The study of drug metabolism and disposition has changed within a few years from a scarcely-mentioned bit of the pharmacology curriculum to a major part of the science of drugs and toxicants, so much so that specialized textbooks have been written and pressures have developed for the institution of new journals devoted exclusively to this sub-discipline. It is in response to these expressed needs that the American Society for Pharmacology and Experimental Therapeutics has initiated publication of DRUG METABOLISM AND DISPOSITION: *the biological fate of chemicals*.

The journal will publish papers in the broad field of the action of biological systems upon exogenous chemicals. It will thus contain descriptions of investigations upon the fate of drugs and other pharmaceutical agents, mutagens and carcinogens, pesticides and other agricultural chemicals, industrial chemicals, cosmetics, food additives, environmental toxicants, etc., *in vivo* and *in vitro* in mammalian and nonmammalian systems. Specific areas of interest include: pathways and mechanisms of absorption, distribution, metabolism, and excretion of foreign compounds, relationships between chemical and physical properties of compounds and their metabolism and disposition, biological and pharmacological control of these processes, effects of biotransformation and distribution upon pharmacological and toxicological activities, and methodology for the study of these phenomena. In addition to research reports, letters, short reviews, and announcements of interest to those working in the area will be published.

The Editor wishes to make DRUG METABOLISM AND DISPOSITION: *the biological fate of chemicals* an instrument of greatest usefulness to the community of workers in the field. Suggestions towards this end are earnestly solicited from members of this community.

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