tase, occurring abundantly in the liver, is associated both with endoplasmic reticulum and with the outer mitochondrial membrane. The NADPH-linked hydroxylase system is associated, in the liver, with the endoplasmic reticulum and in the endocrine glands with the mitochondria. Association with the membrane structure endows the electron transport systems with properties that distinguish them, both quantitatively and qualitatively, from a random mixture of enzymes. These properties are essential for cell function. Membranes play a basic role in the maintenance and regulation of physiologically adequate levels of electron transport systems, as indicated by studies of thyroxin-induced synthesis of the respiratory chain or the drug-induced synthesis of NADPH-linked hydroxylase.

The conference, which included an address by T. Tearell (University of Uppsala, Sweden) on integrative viewpoints in membranology, made all aware, if they were not already aware, that the biological membrane is much more than a sum of its parts and that it is an entity of as profound importance for the life of the cell as any other organized constituent of the cell. It was evident that the generation of membrane components that control the fluxes of cell constituents is geared to the processes of enzyme syntheses and so to the processes of lipid and protein biosyntheses. How this interdependence is brought about, and the precise nature of the phospholipid-protein associations that control membrane function, are some of the main problems in present-day membranology.

The conference was sponsored by the Biochemistry Division of the Chemical Institute of Canada and the Canadian Biochemical Society.

J. H. QUASTEL
Kinsmen Laboratories of Neurological Research, University of British Columbia, Vancouver, British Columbia, Canada

Drug Information

The first of five projected conferences on drug information was held in Princeton, New Jersey, 4–7 June 1967, and dealt with the drug information which members of the health professions and health services require in order to function efficiently. These conferences, organized by Frank Fremont-Smith, are part of the Program of the

Interdisciplinary Communications Program of the New York Academy of Sciences, which has as its goal multiprofessional discussion in depth in contrast to the usual reading of formal papers.

The discussion was opened by Irving S. Wright, professor of medicine at Cornell University Medical School, New York City. A second session on this subject was opened by William G. Clark, of the Veterans Administration Hospital, Sepulveda, California. The discussions emphasized that members of the health professions and health services want to know what drugs do, and how they may be used satisfactorily in practice, as well as full information on possible side effects of drugs and what toxic reactions are possible or probable.

The second part of the conference explored the matter of what members of the health professions and health services should know about drugs in order to function effectively. Louis Lasagna of the Johns Hopkins Hospital, Baltimore, and Arthur Ruskin of the Food and Drug Administration opened the discussions.

It was emphasized that names are important and that full information on public and various trade names for the same chemical compound should be fully available. Much confusion might be avoided if the public or "generic" name of a drug were used, with the name of the companies producing it, in order to assure its quality. It was pointed out that a serious black market involving gangsters is operating in the drug field. Not only should members of the health professions know the chemical and physical composition of a drug, but also its relationship to other well-known drugs. It was felt that information should be furnished on rates of absorption and distribution of drugs through living matter in connection with rates and methods of the drug's removal from living matter after administration. It was further emphasized that fuller information should be given on what drugs do at all levels of organization of living matter from molecules to ecologies. Also, information should be available on all toxic or untoward reactions from single or repeated administration; the indications for drug use should be given, together with information on clinical effectiveness under conditions of adequately controlled clinical study. On the other hand, the responsibility for using drugs on individual patients re-

mains with the individual member of the health profession, who is responsible for the care of the patient. However, the legal trend is toward full product liability regardless of the person or agent using the drug. The discussion explored sources of drug information including pharmacopeias, advertising material from drug manufacturers, standard reference sources, such as texts, and various reports on drugs from health professions or governmental agencies.

Jean K. Weston of the National Pharmaceutical Council opened the final discussion on difficulties encountered by members of the health professions and health services in obtaining information on drugs. It was pointed out that increasingly hospital pharmacies are functioning as drug information centers. The poison control centers were indicated as sources of information on drug toxicity. The conference discussions were summarized by Maurice L. Tainter of the Sterling Drug Company, New York City.

A subsequent conference is planned on methods of obtaining, analyzing, organizing, and storing drug information, and on ways of prompt and efficient retrieval and distribution of drug information to those who may wish it.

Isaac Welt of American University, Washington, D.C., is editing the proceedings of the conference. These are expected to be published within a year.

The 25 participants in the conference represented academic pharmacologists, toxicologists and clinicians, drug information-gathering media, drug manufacturers, and voluntary and governmental health agencies. The conference was supported by a grant from the National Library of Medicine.

CHAUNCEY D. LEAKE
University of California,
San Francisco Medical Center,
San Francisco

Calendar of Events—October

National Meetings

15–18. American **Oil Chemists** Soc., Chicago, Ill. (D. E. Weber, 35 E. Wacker Dr., Chicago 60601)

15–19. American Assoc. of **Medical Record Librarians**, annual mtg., Los Angeles, Calif. (M. Waterstraat, 211 E. Chicago Ave., Chicago, Ill. 60611)

16–17. **Systems Science and Cybernetics**, conf., Boston, Mass. (M. D. Rubin, Mitre Corp., Bedford, Mass.)

16–18. **Aerospace and Electronic** Systems, conv., Washington, D.C. (M. N.