activity. G. J. Mannering (Minneapolis) showed that when phospholipase c was added to liver microsomes, about 70 percent of the phospholipid could be removed. Such treatment resulted in a loss of about 40 percent of the drug-metabolizing activity. Aniline hydroxylase activity was decreased to a lesser extent, but the availability of cytochrome P-450 for ferrihemochrome formation with the basic amine aniline was actually increased. Phospholipase A destroyed all of the drug metabolizing activity as did phospholipase D. According to H. Staudinger (Giessen) this treatment did not appear to affect cytochrome P-450 so that not all of the phospholipid may be necessary for the integrity of the hemoprotein. That phospholipid is necessary for mixed function oxidase activity was supported by the observation by S. Narasimhulu (Pennsylvania) that butanol extraction of adrenal cortex microsomes removed all of the 11-β-hydroxylase activity, but addition of phospholipid restored the activity.

The composition of the microsomal membrane and the turnover of components of the membrane received considerable attention. G. Dallner (Stockholm) showed by density gradient experiments that the microsomal fraction is a composite of subfractions of vesicles, differing with respect to enzyme content, hemoprotein content, and sedimentation characteristics. Fractions rich in cytochrome b5 could be separated from fractions rich in cytochrome P-450. In livers of benzopyrene-treated animals, cell fractions containing cytochrome P-448 could be separated from a fraction containing cytochrome P-450. This indicated that the endoplasmic reticulum membrane is not homogeneous, but contains enzymes and components in discrete groups. This would suggest that incorporation of components into the membrane could occur at different times during its synthesis. In agreement with this possibility was the report of T. Gram (Bethesda) who showed that ^{32}P incorporation into phospholipid is the same in smooth and rough microsomes from liver, although the incorporation of labeled amino acids into microsomal protein occurs first in the rough microsomes.

The half-life of the total microsomal protein was reported to be 3 days by T. Omura (Osaka), using labeling with [*guanido*-^{14}C] arginine. Prior treatment with phenobarbital caused a retention of label in the microsomes. The turnover of the protein moiety of cytochrome b5 also ceases after injection of phenobarbital, owing to a cessation of breakdown. This phenomenon also occurred with NADPH–cytochrome c reductase, initially; with continued phenobarbital administration, catabolism began again, and the enzyme became more labile than in control animals. Phenobarbital also affected the equilibration of NADPH–cytochrome c reductase between rough and smooth microsomes; after prior treatment with phenobarbital the appearance of label from amino acids was the same in both microsomal fractions.

Microsomal RNA was also affected by phenobarbital treatment of animals. According to J. Seifert (Prague), ribosomal RNA has a half-life of 5.5 days. The degradation of ribosomal RNA but not of total RNA was blocked by phenobarbital treatment. After cessation of the phenobarbital, the degradation of ribosomal RNA (loss of radioactivity) and microsomal protein had a similar pattern, but both differed from the pattern of loss of label from total cellular RNA. The turnover of microsomal heme differed considerably from that of other microsomal constituents. In a different approach to the study of microsomal heme turnover, H. Greim (Tübingen) separated the microsomal cytochromes by removal of cytochrome b5, after pulse-labeling the hemes with δ-[^{14}C]aminolevulinic acid (ALA), and was then able to determine the turnover of each of the hemoproteins separately. The half-life of cytochrome b5 heme was 45 hours and that of cytochrome P-450 was 22 hours. These rates were considerably faster than those reported for the protein labeled cytochrome b5, the protein of the microsomes, and the microsomal phospholipid. Greim also showed that initially, within 22 hours after injection of phenobarbital, the cause of elevation of cytochrome P-450 concentration in the microsomes is an enhanced rate of synthesis and not a cessation of hemoprotein breakdown. In this type of study, however, injection of too much ALA must be avoided. Normally the cell pool of ALA is very small, and heme synthesis could be easily driven; the ALA would not function just as a label in this case, but also as a substrate.

The meetings were concluded with studies on drug metabolism in man. E. van der Kleijn, in a study on the kinetics of drug distribution and metabolism, mentioned that variation of gastrointestinal tract flora could affect the distribution of drugs in the body. In addition, differences in the ability to concentrate drugs in tissues where they are metabolized might explain some of the species differences in the products formed from different drugs. This conclusion is similar to that reached by W. W. Oppelt (Tübingen) in his study on the effect of inducing agents on drug metabolism in lung microsomes. He found that some compounds selectively elevate liver enzymes, but not lung microsomal enzymes. In testing the effect on the lung of inhalation of ethyl ether, Oppelt found an increase in lung microsomal cytochrome b5 (20 percent) and cytochrome P-450 (40 percent), while the liver microsomal hemoproteins were not affected.

The meeting was organized by Dr. H. Remmer, Director of the Institute for Toxicology, the University of Tübingen, with the help of Dr. H. Schroeder. Major financial support for the meeting was provided by Dr. Karl Thomae GmbH., a pharmaceutical company, of Biberach. Additional financial support was provided by several other pharmaceutical companies.

The symposium was divided into the following subtopics: Mechanism of action of the hepatic microsomal mixed function oxidase; Various types of microsomal oxidations and miscellaneous subjects; Factors affecting the hepatic microsomal mixed function oxidase; Drug metabolism in isolated cells and mechanism of induction; Composition of microsomes and turnover of microsomal components; and Drug metabolism in man and its variation. The proceedings of this symposium probably will not be published.

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Transplant Donation Procedures

Adoption of a simplified Uniform Donor Card (Fig. 1) for indicating gifts of organs and tissues was the subject of a second and final meeting on 7 November 1969 of the Ad Hoc Committee on Medical-Legal Problems, which reports to the Committee on Transplantation of the National Research Council.

UNIFORM DONOR CARD

OF _____
Print or type name of donor

In the hope that I may help others, I hereby make this anatomical gift, if medically acceptable, to take effect upon my death. The words and marks below indicate my desires.

I give: (a) ____ any needed organs or parts
(b) ____ only the following organs or parts

_____
Specify the organ(s) or part(s)

for the purposes of transplantation, therapy, medical research or education;
(c) ____ my body for anatomical study if needed.

Limitations or special wishes, if any: _____

Signed by the donor and the following two witnesses in the presence of each other:

_____ _____
Signature of Donor Date of Birth of Donor

_____ _____
Date Signed City & State

_____ _____
Witness Witness

This is a legal document under the Uniform Anatomical Gift Act or similar laws.

For further information consult your physician or

National Kidney Foundation
315 Park Ave., South, New York, N.Y. 10010

Fig. 1. Uniform Donor Card (sample).

The card, when completed by anyone 18 years of age or more and witnessed by two persons, serves as a legally valid document to make a gift of organs or tissues under the provisions of the Uniform Anatomical Gift Act or similar laws. The card need not be filed or recorded, and further validation is not required for the donor's wishes to be honored. The card may be used to donate any needed organs or parts, a specific organ or part, or the body for anatomical study according to the donor's wishes. Provision for special directions or conditions concerning the gift are included.

In the past year, 44 states have adopted the Uniform Anatomical Gift Act, most with little or no modification. The remaining jurisdictions, three of which had no legislative sessions in 1969, are expected to review and adopt the law in 1970. In three of these states, existing legislation appears to permit the use of this Uniform Donor Card at this time.

An earlier meeting which informed key medical groups of the drafting of the Uniform Anatomical Gift Act was held on 30 September 1968. At that meeting about 160 representatives of state medical societies, medical school deans, and relevant national medical, legal, and professional societies from 35 states heard a discussion of the provisions of the Act by its chief draftsman, E. Blythe Stason, former dean of the University of Michigan Law School. Other achievements of the conference were to bring about exchanges of pro-

gram information between those who require organs and tissue for clinical and research purposes, to discuss examples of cooperative local and regional donation programs, and to define the needs for further efforts in order to make the program practicably feasible.

Implementation of the Act by the use of simplified instruments of donation (the donor card) and by the coordination and establishment of national, regional, and local groups to provide information and an organizational framework for matching recipient need and donor availability have been the major concerns in the past year.

The Ad Hoc Committee consisted of Dr. R. E. Stevenson, Union Carbide Corporate Research Department, chairman; and Drs. J. E. Murray, Peter Bent Brigham Hospital; W. J. Burdette, M.D. Anderson Hospital; M. Head, George Washington University; K. W. Sell, Naval Medical Research Institute; and A. M. Sadler, Jr., and Mr. B. L. Sadler, National Institutes of Health.

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Courses

Disorders of Lipid Peroxidation, Indianapolis, Ind., 10–12 June. Is intended for medical research workers, chemists, and biologists. The basic goal is to present an overview into the significance of lipid peroxidative changes in medicine and biology. Lectures will be presented on peroxidative changes seen in vivo and in vitro, molecular lesions induced by free radicals, induction of lipofuscin in laboratory animals, pigment accumulation and aging, chemical and enzyme properties of lipofuscin and ceroid isolated by subcellular techniques, disease models for aging. The demonstration portion of the course will involve techniques for following lipid peroxidation and measurement of changes in biological molecules. Specific techniques for inducing lipopigments, automatic scanning microscope techniques for tissues, isolation techniques for lipopigments, discussion of diseases involving lipopigment accumulation, and current approaches to therapy in neuronal ceroid lipofuscinosis. *Registration fee*: $150. (Dr. A. N. Siakotos, Department of Pathology, Indiana University Medical Center, Indianapolis 46202)

Dynamical Astronomy, Austin, Tex., 8 June–3 July. The first 2 weeks will be dedicated to introductory and advanced courses in general celestial mechanics and dynamical astronomy. The third week is dedicated to orbit determination and the fourth week to optimization and guidance.