shock effects in the minerals of iron meteorites.

An extreme case of lattice deformation is the observed in situ conversion of quartz and feldspar into isotropic materials which preserve the original shape of the grain. Such material, formed from plagioclase feldspar (maskelynite), was recognized by Tschermak in 1872 in the Shergotty meteorite; similar material has since been observed in shocked terrestrial rocks. The exact character of such material is uncertain. It possesses considerable order, since T. E. Bunch reported that the material could be converted to single grains of feldspar by heating. It seems accepted that such material has resulted from shock deformation, but the mechanisms are uncertain. Terminology is also a problem here. It may be best to reserve the term "glass" for material that has actually developed flow structure, using some other term for glass-like material produced by shock below the melting point. Von Engelhardt's proposed use of the term "diaplectic" to describe mineral grains whose crystal structure has been destroyed by shock met with considerable argument and discussion.

Like most meetings dealing with new scientific areas, the conference provided some basic data and answers, while at the same time creating and discovering a new host of questions and problems. Many questions require further study. One objective of the conference was to promote work in these directions. The major problem is that detailed mechanism of shock wave interaction with crystals and with polycrystalline aggregates is so complex as to be still poorly understood. Further theoretical and experimental studies are needed. Specific problems include the significance of shatter cones as shock criteria, and the exact nature and origin of the quartz deformation lamellae which seem to provide such a good record of shock waves. Another problem of interest for the geologist is the comparative study of explosive volcanic rocks to study what deformational features develop under the supposed lower pressures which characterize such processes. Finally, little thought has been given to possible interactions between intense shock waves generated by large impacts and the earth's crust; such interactions might produce geophysical "rebound" effects and strongly modify the original shape of large craters.

The conference was jointly sponsored by the Goddard Space Flight Center, the Geophysical Laboratory of the Carnegie Institution of Washington, and the Branch of Astrogeology of the U.S. Geological Survey. A few copies of the conference program, containing the abstracts, are available for distribution.

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Diseases of Laboratory Animals

The diseases of laboratory animals was the topic of the fourth annual meeting of the Gesellschaft für Versuchstierkunde in Copenhagen 21–23 April 1966.

The significance of *Mycoplasma* strains, closely related to those that cause disease in laboratory rodents which are isolated from man, was discussed by E. A. Freundt (Aarhus University, Denmark). Although guinea pigs and rabbits are generally believed free of mycoplasmas, limited serologic evidence suggests that they occur in these animals.

B. E. Gustafsson (Karolinska Institute, Stockholm) warned against overlooking residual germ-free characteristics in cesarean-derived, so-called SPF (specific-pathogen-free) animals. The germ-free animal differs greatly, both anatomically and physiologically, from its less restrictively raised counterpart. The extremely large ceca found in certain germ-free species is an example of this difference. Another difference is a clotting defect, related to a vitamin K deficiency, observed in rats and mice. Both of these conditions are readily treated by the addition of specific microorganisms to the intestinal flora. All the differences between germ-free and conventionally raised animals and the microorganisms useful in treatment are not known. One purpose of the studies of Gustafsson and his associates, therefore, is to determine the composition of the "minimal flora" required for germ-free animals to be useful as a nucleus for an SPF colony.

J. S. F. Niven (National Institute for Medical Research, London) discussed the recent reports concerned with the activation of latent Tyzzer's disease in mice after thymectomy. Although Tyzzer's disease was considered unique to mice, recent well-documented reports also describe the disease in rabbits. What she believed to be Tyzzer's disease occurred in a colony of rhesus monkeys. The disease was characterized by diarrhea, loss of weight, extensive liver necrosis, and a high mortality rate. Typical "Tyzzer's-like" organisms were found within the liver cells of these primates.

F. Wensinck (Bakteriologisch-serologisches Laboratorium der Rijksuniversiteit, Gronigen, Holland) reviewed the advantages and disadvantages of the various techniques and substances used for sterilization and disinfection in laboratories housing animals. Discussing chemical disinfection, he remarked about the confusion caused by conflicting recommendations made by producers of disinfectants. He indicated surprise at the sustained interest in the phenol coefficient, an extremely poor method for evaluating disinfectants.

All the papers will be published in *Zeitschrift für Versuchstiekunde*. The *Zeitschrift*, comparable in many ways to the American journal, *Laboratory Animal Care*, is devoted exclusively to the publication of articles on medicine, science, and technology in connection with laboratory animals. Now in its ninth volume, it publishes articles in either German or English.

The commercial exhibits were both interesting and instructive. Most major European and many American producers of laboratory animals, animal equipment, and diets were represented.

The Gesellschaft is the European equivalent of the American organization specializing in laboratory animal science, the Animal Care Panel. It was founded in Germany, and its first two meetings were held in that country. The 1965 meeting was held in Zurich and, although it is international in scope and attendance, all papers and discussions at this meeting were in German. The meeting in Copenhagen was truly international in scope, attendance, and presentation. More than 200 laboratory animal specialists from 12 European countries and the United States participated. Of the 19 papers presented, 12 were given in English.

The next meeting of the Gesellschaft will be held at Prague, Czechoslovakia, 26–28 April 1967. Its theme is to be laboratory animal nutrition and metabolism.

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