variability in size of tumors observed at different times, the speed of their growth, and so forth. The theories to be discussed range from one- and two-step mutation theories, to cumulative processes, to virus carcinogenesis. Since the development of cancer is essentially the process of growth of a population of cells of a particular kind, all theories of carcinogenesis tie in with population dynamics and with problems of epidemiology. Mathematically, all these problems are concerned with stochastic processes of a particular kind.

Applications to Physical Sciences

Physical-science applications of statistics and probability to be discussed at the symposium include certain occurrences in cloud chambers, stochastic theory of precipitation, and problems of astronomy. In the latter category, several papers originating in England deal with the chance mechanism of losses of comets. The mechanism contemplated is particularly interesting because it involves not only kinematical considerations, which are comparatively easy to deal with, but also dynamics. Other papers on astronomy deal with the realm of galaxies. Here, one of the problems treated consists in discriminating between two alternative hypotheses regarding the nature of systems of galaxies: double galaxies and clusters. According to one hypothesis these are stable dynamical systems. According to a more recent hypothesis, members of such systems fly apart, possibly as a result of a cataclysmic explosion.

Special Events Planned

Special events at the symposium will include a commemorative session for the recently deceased Russian probabilist A. Y. Khinchin, whose works exercised and still exercise a strong influence on research all over the world. The speakers at this session will be J. L. Doob and E. Montroll from this country and B. V. Gnedenko from the U.S.S.R.

Another special session is planned to honor Harold Hotelling, the Nestor of statisticians in the United States. A jubilee volume published by Hotelling's admirers will be presented to him.

In line with the rapidly spreading use of high-speed electronic computers in the course of statistical studies of natural phenomena, arrangements are being made by the International Business Machines Corporation for demonstrations of the effectiveness of two of its machines, the 701 and the 704, on the Berkeley campus of the University of California.

Symposium's International Character

The fourth Berkeley symposium will differ from its predecessors in its international character. The first symposium of 1945 was a purely American meeting. At the second symposium, 5 years later, there were eight contributions from abroad. At the third symposium, in 1955, this number grew to 12. Now the program lists 47 papers promised from abroad, 40 percent of the total. The geographical distribution is as follows: 11 papers from England; eight from the U.S.S.R.; four from Sweden; three each from Belgium, France, Hungary, and Poland; two each from Czechoslovakia, Denmark, and Japan; and one each from Australia, Canada, Germany, India, Israel, and Italy.

It is hoped that with this world-wide distribution of invited participants, the symposium will reflect adequately the current status of probability and statistics on this planet. Also, the interchange of ideas on common subjects of study, approached at different points of the globe and inevitably by different methods, holds excellent promise of speedier progress in research. Thus, unless the intricacies of the present political situation interfere, the organizers of the fourth symposium look forward to seeing useful and far-reaching results from this truly international effort at intellectual cooperation.

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Nubian Archeological Expeditions

Froelich Rainey, director of the University of Pennsylvania Museum, has undertaken a special trip to the United Arab Republic and the Sudan to plan a joint archeological expedition with W. Kelly Simpson of the Peabody Museum at Yale University. The proposed expedition will be made under the auspices of UNESCO's project to preserve the archeological treasurers of Nubia which are threatened with inundation as a result of construction of the High Dam at Aswan.

Accompanying them is Mrs. H. Gates Lloyd, member of the U.S. National Commission for UNESCO and chairman of its special committee which explored the possibilities of U.S. support for the Nubian project. Rainey is a vice-chairman of the newly formed U.S. Committee for the Preservation of the Nubian Monuments. The party plans to visit Aswan and subsequently to ascend the Nile by boat to investigate archeological sites.

The Oriental Institute of the University of Chicago has also announced plans for a program of excavations and documentation in the area. A committee to administer a 5-year project has been formed under the directorship of Keith C. Steele, who is now in Egypt conferring with officials and inspecting sites.

Additive Report Released by Science Advisory Committee

The following excerpts (see page 1581) are the major recommendations from a recent report on the use of chemicals and drugs as food additives that was prepared by a special panel of experts convened by the President's Science Advisory Committee. Findings of the study were approved by the President's Special Assistant for Science and Technology, George B. Kistiakowsky.

. . . Under the Food Additives Amendment of the Federal Food, Drug, and Cosmetic Act, the Secretary of the Department of Health, Education, and Welfare may establish regulations prescribing, with respect to one or more proposed uses of the food additive involved, the conditions under which the additive can be used. The Act provides, however, that no such regulation shall be issued if a fair evaluation of the data before the Secretary fails to establish that the proposed use of the food additive, under the conditions of the use to be specified in the regulations, will be safe. Accordingly, the Food and Drug Administration has an area of administrative discretion in determining the safety of food additives under conditions of proposed use.

This area of administrative discretion has recently been greatly narrowed in those cases where a new food additive is a possible carcinogen. In 1958, Congress enacted the Food Additives Amendment of the Food, Drug, and Cosmetic Act. Section 409 (c) (3) . . . of the Amendment states that "no additive shall be deemed to be safe if it is found to induce cancer when ingested by man or animal, or if it is