during the week of December 2. This series of chemical expositions has extended over a period of twenty years, and is considered to have been an incentive in advancing the manufacture of American chemicals and the necessary appliances for producing them.

Dynamic displays with processes and machines in actual operation, and the correct use of color as a feature of the construction of exhibits will be emphasized, and it is planned to give greater attention to the type of personnel in attendance during the week of the exposition. In many cases the highest officials of the exhibiting companies will be in attendance.

In the section devoted to chemicals and chemical products there will be exhibited samples of organic liquids obtained from polymerization of gaseous hydro-carbons, and a display of aromatics such as benzol and xylol made from petroleum gases. Progress of technology in the petroleum refineries will be reflected in exhibits of organic chemicals and solvents most of which formerly were obtainable only from the processes of coal distillation.

The section devoted to instruments of precision will offer the latest in this field. Of particular interest will be a device known as a valve-precisor, an auxiliary control device which when mounted on a diaphragm valve is capable of positioning precisely the valve disc in positive accordance with the dictates of the controller. There will also be important exhibits for manufacturing plants that can use simple low-maintenance pH control; portable glass electrode potentiometer sets and high-speed photo-electric action pyrometers.

Under the heading of chemical treatments for the removal from solutions of such physical characteristics as taste, odor, discoloration, cloudiness and sediment, there will be a number of processes on display. Laboratory equipment will be the subject of many new exhibits, including installations for industrial laboratories and colleges and also for government and state departments. The materials handling section will include single stroke lift trucks, multiple-barrel trucks, skids, barrel racks and electric portable elevators. One of the new items will be an electric, direct-motor-drive, portable elevator with all the gears totally enclosed and running in oil. The section of plant equipment it is said will contain an unusually large and interesting display.

All matters of arrangement and exhibit space contracts are in charge of the International Exposition Company, which has directed all previous chemical expositions. Charles F. Roth is again personally in charge.

ADVISORY COUNCIL ON APPLIED PHYSICS

A NATIONAL Advisory Council on Applied Physics was inaugurated on November 16 by the American Institute of Physics. The council held its first meeting in Pittsburgh in conjunction with an open Conference on Applied Physics sponsored by the University of Pittsburgh and held at the University Club the day before. The council embodies an effort by the several American societies of physicists to facilitate application of the fundamental principles and discoveries of the science to commercially valuable products and services.

A statement from Dr. Henry A. Barton, director of the American Institute of Physics, reads:

The council meets a long-felt need in the science to bridge a gap between "academic" or "pure" physics and the well-known physical applications: electrical engineering, mechanical engineering, geology, etc. As physics has developed in America, emphasis has been placed on fundamental discoveries and principles rather than the immediate use of these. This has resulted in tremendous activity of far-reaching ultimate importance. American physicists and laboratories have been and are renowned throughout the world for their pioneering and exhaustive studies with radium, cosmic rays, x-rays, atomic and molecular structure, electronics, electric discharges and many other laboratory phenomena. The names of Pupin, Michelson, Millikan, Compton, Langmuir, Coolidge, Bridgman and many others spring to mind.

When divisions of physics have become useful, they have branched off and it is forgotten by many that they are physics. Recent examples are radio, refrigeration and aviation. But boundary lines between sciences do not really exist in nature and in all sciences and technologies new problems constantly arise which can only be solved by going back to the fundamental principles of physics itself. It is this service of physics to its applications and derived sciences that has been neglected and that the council aims to stimulate.

The council's problem is to decide how this can best be done. The problem divides itself naturally into three parts:

(1) How should men be trained for the practical application of physics; *i.e.*, what college and graduate school courses should they take and what kind of research theses should they submit for their degrees? The council will submit suggestions to universities in this connection.

(2) How can learned and professional societies help? In physics there are five such societies of national scope: the American Physical Society, the Optical Society of America, the Acoustical Society of America, the Society of Rheology and the American Association of Physics Teachers. They publish journals of research and hold meetings for the presentation of scientific papers. The council will study what kind of papers should be published and read to be of most use to applied physicists.

(3) What industries are unwittingly in need of the special services of physics? Industries generally are not backward in securing the best technical advice obtainable but it is believed that there should be a considerable expansion of their use of fundamental physics. The council will survey the situation and bring the opportunity to the attention of those industries not already well aware of it.