

CHEMICAL ENGINEERING PROGRESS SYMPOSIUM SERIES ABSTRACTS

The Chemical Engineering Progress Symposium Series is composed of papers on specific subjects conveniently bound in individual books, which are published at intervals. The books are 8½ by 11 inches, paper covered, and cost \$3.50 to members, \$15.00 to nonmembers for "Pollution and Environmental Health," No. 35. They may be ordered from the Secretary's Office, the American Institute of Chemical Engineers, 345 East 47 Street, New York 17, New York.

The A.I.Ch.E. Journal will publish, from time to time, abstracts of the articles appearing in the Symposium Series volumes. Recently published volumes are abstracted below.

POLLUTION AND ENVIRONMENTAL HEALTH, Vol. 57, No. 35, 1961.

Governmental Problems in Environmental Health, L. E. Burney. The Public Health Service and other agencies have established programs to explore the medical and biological impact of various contaminants and to monitor public exposure to these hazards. This article discusses chemical contaminants in water and air and reports on the Public Health Service's national monitoring networks on water and air. **Industrial Problems in Environmental Health**, J. E. Hull. As problems have become apparent, hundreds of thousands of dollars of research work has been accomplished by industry. Committees have been formed to exchange technological advances, enhance safety, and work out common problems in various fields. This article deals with these problems and their solutions.

Educational Problems in Environmental Health, J. E. McKee. This paper describes some of the changes taking place in engineering education and relates them to the problem of education engineers for service in environmental health. **Water Supply**, Ralph A. Morgen. Water, in this paper, is considered used only under those circumstances where the molecule of water combines with some other chemical to make a new molecule or the molecule of water is decomposed so that the hydrogen and oxygen are rearranged either separately or collectively in the same or different molecules. In all other cases, where water is used merely as a coolant or even as a solvent, it is considered as not used in the operation but merely loaned for the operation. When all water problems are analyzed on this basis, it appears that less than 10% of the water consumed is actually

used, and over 90% is loaned under conditions which would make immediate reuse possible. **Industrial Wastes Treatment**, K. S. Watson. Industrial wastes control has become an important consideration in the operation of today's chemical industry. Responsible industry has grown to accept waste control as another one of the obligations of corporate citizenship. **Air Sanitation**, Lauren B. Hitchcock. The modern air pollution problems to be considered here arise directly from the activities of man as society continues to become ever more industrialized, mechanized, and urbanized. Scientists and engineers have contributed largely to this country's great technological progress and are now attempting to solve the unforeseen problems created by the by-products. **Food Pollution**, C. O. Chichester. Of the possible food pollutions the oldest, microbiological contamination, is the most pressing. The most difficult pollution problem to solve to everyone's satisfaction, and one which has had in recent years the most publicity, is the chemical one. The least important and most simply solved problem is that of the inclusion of various particulate matter in food materials. **Occupational Health**, Stanley C. Kyle. This article proves that a chemical engineer has an excellent background for occupational health work. His training in engineering and chemistry makes him uniquely qualified academically; also it prepares him for gaining the required knowledge in toxicology and health physics. **Radiation Protection**, W. B. Harris. Among the major problems in designing process equipment for handling radioactive materials are the control of airborne particles and gases which might be inhaled, either by enclosure or ventilation; the control of direction radiations,

either by massive shielding or by remote handling; the control of inadvertent criticality resulting from the accumulation of super-critical quantities of fissionable materials; and the control of radioactive waste materials as particles, gases, liquids, or solids. This article deals with these problems. **Recent Air Pollution Control Developments: A Review of Published Information**, David G. Stephan. With the expanding interest in and need for industrial air pollution control, the literature on this subject is rapidly increasing. This is a concise review and bibliography of information published on air pollution control during the two-year period ending July, 1960. **The Development of Floating-Bed Scrubbers**, A. W. Kielback. Aluminum is produced by the electrolysis of alumina dissolved in an electrolyte consisting of cryolite and other fluoride salts. This reduction process is carried out in pots (cells). This article goes on to describe these pots. **The Use of Structural Ceramics in Automobile Exhaust Converters**, L. L. Johnson, W. C. Johnson, and D. L. O'Brien. Design data necessary for development of a high performance automotive exhaust converter must include a complex relationship between exhaust variables and temperature limitations imposed on the converter. Analysis of these design considerations has shown a way to satisfy performance requirements with the use of structural ceramics. **Control of Air-Borne Emissions from Sulfate Pulping**, N. J. Lardieri. In this paper some of the methods that the industry is using to abate the discharge of particulate matter and objectionable gases are discussed. A brief resume of the organized research program now underway through the National Council for Stream Improvement is also given.