

prescribing, but the issue is far from settled.

The industry argues that even though brand-name drugs cost more than their generic counterparts, the brand name is a guarantee of quality that justifies the price. And, it insists, generic counterparts may not be counterparts at all; subtle differences in manufacturing processes may affect the way drugs that are chemically identical behave inside the human body (SN: 4/22/67, p. 382).

The Food and Drug Administration, leading clinical pharmacologists and even HEW agree that chemical identity does not always equal clinical equivalency, but, says its Task Force on Prescription Drugs in its second interim report, "the lack of clinical equivalency among chemical equivalents meeting all official standards has been grossly exaggerated as a major hazard to the public health."

Dr. Milton Silverman, head of the task force's professional staff, reports that of a group of 400 drugs commonly prescribed for the elderly, who comprise only 10 percent of the population but 23 percent of the retail drug market, the issue of equivalency is relevant to only a couple of dozen. Roughly 70 percent of the 400 are patented drugs for which there is no generic competitor. The importance of equivalency among the remaining 30 percent, he explains, is limited to those few so-called life-saving drugs, such as potent antibiotics, that come in solid forms—tablets or capsules.

Drugs that are chemically identical are assumed to be clinical equals if the active ingredients reach the blood stream at the same time and in the same amounts. With liquid drugs, this is seldom a problem. But in solids, crystal size, tablet coatings and binding agents affect the rate of dissolution.

To assure high quality in all drugs on the market, HEW endorses ongoing research by the FDA, in association with the National Academy of Sciences and Georgetown University, to measure effectiveness and equivalency of both brand name and generic products. Studies on 1,834 drugs licensed prior to 1962 (when the law began requiring manufacturers to demonstrate effectiveness as well as safety) FDA Commissioner Herbert L. Ley, Jr. says, found 3.5 percent to be totally ineffective, 3 percent were found ineffective in certain combinations and another 6.8 percent are questionable.

"Adequate financial support," the task force states, "should be given to the FDA to tighten control on all drugs in interstate commerce." Neither it nor FDA will spell out "adequate" in dollars.

The department, the report says, should also establish a compendium providing up-to-date information on all

drugs (SN: 3/4/67, p. 207). There is at present no such single source for physicians, who therefore rely heavily on promotion and advertising for information.

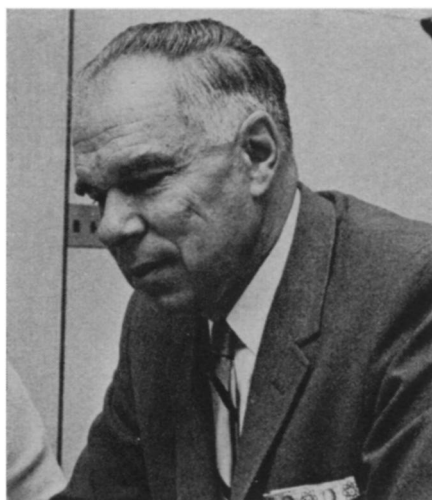
SCIENCE SPOKESMAN

Seaborg wins Arches Award

Dr. Glenn T. Seaborg has been chairman of the U.S. Atomic Energy Commission since 1961.

He won the Nobel Prize in chemistry in 1951 for the discovery of plutonium and his work with other transuranium elements.

He has also been chancellor of the University of California at Berkeley and an associate director of the Lawrence Radiation Laboratory, and is one of science's more prolific proselyters and speechmakers.



Westcott—AEC

Arches of Science: Dr. Seaborg.

It was for these latter activities that Dr. Seaborg will be honored next month when he becomes the fourth winner of the Arches of Science Award—a gold medal and a \$25,000 check.

The award, named for the five arches that soar above the Pacific Science Center in Seattle, will be presented in formal ceremonies there on Oct. 16.

In his nuclear research work at the Radiation Laboratory, Dr. Seaborg was the co-discoverer in 1940 of plutonium, element 94, the first of nine transuranium elements—through No. 102—that he and his co-workers synthesized during the next 18 years.

Besides his roles in AEC policy, planning and administration, and in academic research, Dr. Seaborg is deeply involved in interpretation of science activities, such as the development of new methods of teaching and conducting research in chemistry. He also takes an active role in youth programs, includ-

ing the science fairs and Science Talent Search sponsored by Science Service, of which he is president of the Board of Trustees.

NASA HEAD

Webb out, Paine (maybe) in

Four days before the scheduled first flight of a manned Apollo spacecraft, the head of the National Aeronautics and Space Administration will resign. James E. Webb made public his decision last week only a few days after the announcement that the Administration was cutting another \$100 million from what was already the lowest space agency budget in six fiscal years.

Loudly dissatisfied by the austere state of the U.S. program, Webb declared last week that the U.S. is well behind the Russians in space and will be "in a second position for some time to come."

As head of a scientific agency, Webb has been, in a way, a maverick. It is as administrator of a vast Government-industry combine that he has largely filled his role. At college he studied education and law. His career included jobs concerned with industrial management, public administration and urban studies, as well as three years as director of the Federal Bureau of the Budget.

The substantial fortunes of NASA, until recent years, have largely been attributed to Webb's rapport with Capitol Hill—and as the space agency grew, so did the aerospace industry. As NASA became more and more Apollo-oriented, however, leaving other projects behind, Webb's leverage has become less effective. Many Congressmen, perhaps prompted in part by Webb's ability to say less with more words than almost anyone in Washington, have become less responsive to Webb's almost automatic references to Russia's leaving the U.S. behind.

As acting director of NASA to fill Webb's post, President Johnson has appointed Dr. Thomas Paine, who came to the agency as deputy administrator six months ago from General Electric. At GE his work was heavily scientific, including electronic, magnetic and high temperature materials research, along with solid state physics and chemistry.