

Soviets build on Western technology

For the last 50 years, economic survival of the Soviet Union has been "in the hands of Western governments," according to Anthony G. Sutton, in a new book, *Western Technology and Soviet Economic Development: 1945-65*. For half a century, Sutton says, Soviet industrial innovations have been limited to "adopting those made first outside the USSR or using those made by Western firms specifically for the Soviet Union." Soviet synthetic rubber, for example, he says can be traced back to technology exported by Du Pont; Soviet television, to East German technology, and turbojet engines, to innovations by Rolls Royce and others.

In recent years only a single industrial process—the turbodrill—was started, developed and produced by the Soviets without replacement by a later Western process, Sutton says. But this "extraordinary lack of effective indigenous innovation in industrial sectors is offset . . . by effective innovation in the weapons sector. . . ."

Sutton was professor of economics at California State University at Los Angeles before becoming a fellow at Stanford's Hoover Institution, which has published his book. The trouble with the Soviet technology, Sutton says, is central planning, which restricts development to limited, well-defined objectives, such as a specific weapon development. "Western creation of a viable Soviet industrial structure," he concludes, is thus a "Western guarantee of a viable Soviet weapons system."

Separating uranium by laser

The biggest obstacle in preparing uranium for a nuclear reactor or bomb is the tedious, costly process of separating the active isotope U-235 from its more plentiful, inert sister, U-238. Since the two isotopes have identical chemical properties, this "enrichment" process has traditionally relied on the tiny difference in weight between atoms of the two substances to separate them through a process called gaseous diffusion. By the 1980's present gaseous diffusion plants will simply not be able to keep up with the growing demand for reactor-quality uranium, and intensive research is going on to find a better method of separation.

One of the most promising new ideas is laser separation, being conducted under Atomic Energy Commission auspices at the Lawrence Livermore Laboratory and at Los Alamos for a little over a year now. By "tuning" a laser to the resonant frequency of the electrons of one isotope, but not the other, scientists hope either to change the chemical properties of U-235 so that it can be separated by binding into a compound that U-238 won't form, or to knock out an electron from U-235 atoms, thus making it possible to separate them in an electric field.

Such separation has reportedly already been accomplished with isotopes of mercury, but separation of uranium is still in the research stage, with no indication yet whether the process can ever become feasible in the engineering or economic sense. The potentials are great, however, since in theory anyway, the process could result in a saving of 99 percent of the electrical energy required to complete the separation. By the end of the century, isotope separation will be one of the biggest businesses around—with annual returns in the tens of billions of dollars—and with applications not only to fuel enrichment, but also to development of materials that are essentially radiation "proof." A plane made of such material could, for example, fly through clouds of fallout without becoming radioactive.

Saturday morning sexism

For more than 40 years Hollywood perpetuated the stereotype of blacks as shiftless, comical bumblers with rhythm. Several generations grew up watching these films and many people, blacks included, believed what they saw. A new generation with a different form of mass medium is getting a similarly unfocused view of society. Children who watch Saturday morning cartoons are being indoctrinated with sexist attitudes, says sociologist Richard M. Levinson of Emory University in Atlanta.

Levinson investigated the content of cartoons and reported his findings at a meeting of the Georgia Sociological and Anthropological Association. He found that adult females in cartoons are outnumbered by adult males four to one. The few women who appear in occupations usually are secretaries, teachers, entertainers or witches. In real life, 90 percent of the women in the United States work sometime in their lives and 10 million mothers of young children are currently doing so. "It is clear," says Levinson, "that television portrayal of the sexes in cartoons does not accurately mirror real world events but it does reflect real world values concerning traditional sex-role assumptions." Television, he goes on, stands as an obstacle to changing these assumptions.

God: Alive and well in the U.S.

"Someone who does not believe in God can still be a good American." In 1958, only 57 percent of those asked agreed with this statement. In 1971, 77 percent agreed with it. This is one of the findings in a recently released University of Michigan study of changing religious beliefs in the United States. Three sociologists selected more than 200 questions from surveys conducted in the 1950's and resubmitted them to a cross section of 1,881 adults in 1971. By comparing answers, the researchers were able to identify significant changes in attitude toward religion.

The 1950's was a period of religious revival. The survey indicates that revival crested and was followed by a religious depression in the 1960's. Church service attendance, for instance, declined significantly between 1958 and 1971. The number of weekly church goers decreased from 43 to 35 percent. Even so, about half of the respondents said their interest in religion had remained the same. And 94 percent said they believed in God. "The apparent erosion of religious beliefs, suggested by many of the survey results," the researchers warn, "may be a one-sided description of the trends. People may well be retaining their habits of personal piety while coming to feel less constrained to endorse conventional or official doctrines."

Jiggs gives out cigars

Jiggs, a modern day Adam, and three Eves were given their own private island Eden. They are the chimpanzees who were set free on deserted Bear Island off the coast of Georgia as part of an experiment by the Yerkes Regional Primate Research Center (SN: 7/29/72, p. 70). The idea was to see if chimpanzees could survive and produce offspring in a semi-wild environment in the temperate zone. Such animals are preferable to lab-reared animals for some experiments, and chimps and the other great apes are becoming scarce in their native tropical habitats.

After almost two years on the island, Jiggs and Saki finally made the experiment a success. Their daughter is named Sandie.