21 December 1984, Volume 226, Number 4681 **SCIENCE**

The Elegance of Choosing

A Soviet Embassy official, winding up an extended tour of duty in a reflective mood, remarked to his luncheon host that, all things considered, Americans and Russians are not all that different except for one thing; Americans have infinitely more choices. He did not add, though he might have, that the quantity of choices matters less than their quality.

In closed political systems most of the significant choices are made by the state through a structured planning process. Resources are mobilized to attain prescribed ends. In the Soviet Union the course of science and technology is directed through 170 comprehensive programs, 41 of which are targeted for accomplishment within the current 5-year plan, and the rest await the next planning round. It is an awesome way of doing the business of science and, if there is a flaw, it lies in the assumption that the research-production infrastructure has both the creativity and the efficiency to deliver planned objectives. Soviet science is not short on creativity. but there is many a fumble in handing off knowledge at the various stages of application, and Soviet officialdom does not conceal its frustration.

Comparatively speaking, the United States has the better of it despite the vagaries induced by the absence of straight-line planning and the unevenness of the roadbed on which science and technology travel. Ours is a system of interconnectedness rather than cohesion, but it admits light, ventilation, and improvisation. It prospers through flexibility, excellence in management, risk-taking, and good luck. Choices are considered, and directions readjusted or rejected at hundreds of nodes throughout the public, proprietary, and academic systems; decisions are reached for a multitude of objectives that may, or may not, bear upon the economic or national security goals of transient administrations. And because all this disaggregation yields a fine harvest, periodic calls for a national policy for science go begging.

Against this backdrop, the House Committee on Science and Technology is launching a massive inquiry into the contemporary arrangements for propagating science in the United States. It is a friendly search but one that will drive the congressional spade deeply into the turf of institutional self-satisfaction, which may be a very good thing. It will certainly go back to basics in the sense of recalibrating the efficacy of government's procedures for making investment choices, testing them against the new realities of sale, costs, and competitiveness that characterize the fruits of the past four decades. What we have here is a useful reminder that the Congress is equipped to exercise its voice as to priorities and objectives for science, along with its responsibilities to ponder the balance between national self-interest and global accountability relative to the hot pursuit of scientific and technical opportunity, its work may prove instructive.

If the recent elections reflect that state of popular preferences, as seems to be the case, one is led to think that government's roles will be increasingly limited and that pragmatism will strongly color its choices. The question then turns to time constants, to the difference between a pragmatism that hugs the short view and one that reaches for the longer term. It is a critical difference where science is concerned if for no other reason than that science is not an American monopoly. A kind of pragmatism that builds and solidifies joint scientific ventures with partners from other nations, in lieu of going it alone, would tilt toward the longer view. A version of pragmatism that consigns scientific knowledge to the category of trade secrets would take the other route. Seeing the difference with clarity is a key to the elegance of choosing.—WILLIAM D. CAREY