LETTERS

An Anasazi Solar Marker?: J. E. Reyman; A. Sofiaer, V. Zinser, R. Sinclair

EDITORIAL

Reindustrialization of America: A. Etzioni

ARTICLES

The Einstein Observatory: New Perspectives in Astronomy: R. Giacconi and H. Tananbaum

Health Survey in High Background Radiation Areas in China: High Background Radiation Research Group, China

Innovation and Scientific Funding: R. A. Muller

NEWS AND COMMENT

France's All-out Nuclear Program Takes Shape

Briefing: Soviet Scientist Misses U.S. Parley; Jordanian Accused of Plagiarism Quits Job; NAS Panel Downgrades Radiation Risks

Malpractice Award rattles Johns Hopkins

Acid Rain Agreement

RESEARCH NEWS

Fighting the Spreading Chestnut Blight

But Do They Have Metal Detectors?

ASSOCIATION AFFAIRS

AAAS Annual Elections

BOOK REVIEWS

The Origins and Early Development of the Heavy Chemical Industry in France, reviewed by J. J. Beer; Progress in Biomass Conversion, F. Shafizadeh; The Biology and Physiology of the
REPORTS


Sulfur Dioxide Emissions from La Soufriere Volcano, St. Vincent, West Indies: R. M. Hoff and A. J. Gallant ..... 923

Geographic Variation and Episodic Evolution in an Ordovician Trilobite: J. L. Cisne et al. .......... 925


Preferred Sites of Strand Scission in DNA Modified by Anti-Diol Epoxide of Benzo[a]pyrene: W. A. Haseltine, K. M. Lo, A. D. D'Andrea ........ 929

Ozone Selectively Inhibits Growth of Human Cancer Cells: F. Sweet et al. ........ 931

Two Coronaviruses Isolated from Central Nervous System Tissue of Two Multiple Sclerosis Patients: J. S. Burks et al. .......... 933

Sodium-Induced Elevation of Blood Pressure in the Anephric State: P. Hatzinikolaou et al. .......... 935


Primate Memory: Retention of Serial List Items by a Rhesus Monkey: S. F. Sands and A. A. Wright .......... 938

Calicivirus Pathogenic for Swine: A New Serotype Isolated from Opaleye Girella nigricans, an Ocean Fish: A. W. Smith et al. .......... 940


PRODUCTS AND MATERIALS

Programmable Function Generator; Prostatic Acid Phosphatase Test Kit; Electronic Balances; Scanning Electron Microscope; Micropipettors; Centrifuge; Rhodamine Conjugates; Autoantibody Screening; Literature .......... 950

COVER

Time-phased x-ray images of the Crab Nebula and pulsar from the Einstein Observatory. The upper photograph, synchronized to the pulse peak, is dominated by the pulsar. The lower photograph, synchronized to the pulsar "off" state, is dominated by the extended nebular emission. The residual emission from the pulsar location is used to estimate a maximum temperature for the neutron star surface. See page 865. [F. R. Harnden, Jr., Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts]
Reindustrialization of America

It is part of the American genius—in the sense of a prevailing spirit and not necessarily an exceptional intellectual power—to stick to the particular and avoid the generic, to be preoccupied with the nearer future to the neglect of the longer run. Thus Americans would rather argue vehemently about a 10 cent gas tax than about our proper response to OPEC, or about the details of a rescue mission rather than the future of our relations with Iran. We are the masters of the short story, not the grand novel; of jazz, not symphonies; of functional design, not Gothic structure.

More deeply, our preoccupation reflects the antidogmatic, pragmatic, individualist orientation of our founding fathers. Indeed, over decades and centuries, this congenial limitation of vision has protected us from excessive planning, being captured by grand ideologies, or being mesmerized in the name of some world design.

There are moments, though, when one wishes that the national perspective would become at least somewhat more extended and encompassing. Otherwise, how are we to see that our problem is not that of hyperinflation, or weakening of the dollar, or declining productivity, or exhaustion of oil, but an underlying structural problem which deeply affects all these and most other elements of our socioeconomic condition? We have overburdened our industrial machine, the modern American economy, that previous generations labored to put together. We have indulged in overconsumption (public and private) and underinvestment. This is reflected in most, if not all, components of the industrial system: weakening of transportation systems, inadequate development of new energy sources, declining innovation rate, low savings rate, rising obsolescence of equipment and plants in several key industries, less satisfactory preparation of the labor force, and so on.

Once the broader picture is drawn, the corrective practically suggests itself: a decade or so of reindustrialization of America, to shore up the key elements of its productive capacity, instead of tinkering with some and taking a stab at fixing others. Such an encompassing program would require deferring increases in the standard of living, social services, and public expenditures during the reconstruction period. First priority would be accorded to shoring up the infrastructure, capital goods sector, and human capital. Fortunately, reindustrialization does not require planning commissions, government regulations, or new bureaucracies. It requires using economic incentives for certain sectors of the economy—not specific industries. Thus if we favor the development of alternatives to oil, we must not decide on the best mix of coal, solar, and nuclear for the 1990’s and beyond; mainly, we must provide incentives to all energy development.

This does not mean that we can or should simply retrace America’s first industrialization. Reindustrialization must take into account the new historical conditions, of which the end of cheap energy is primordial. We need to replace or retrofit large parts of our existing industrial plants, to make them more energy-efficient and able to use alternatives to oil.

One might take the position, as some people have, that all this is unnecessary—that we can have a “quality of life” society based on a slowed down economy, relaxation response, preoccupation with activities which are not energy-, capital-, or labor-intensive, from introspection to sex. However, there is one compelling reason for not allowing America’s industrial capacity to deteriorate further: it is the ultimate base for our defense. To depend on favor that the Third World might accord us if we were to consume less of the world’s resources is naive enough; to believe the U.S.S.R. could be stopped if our weakness unbalanced the deterrent system is outright dangerous. International considerations provide the ultimate justification for a domestic policy: a decade of reindustrialization. —AMITAI ETZIONI, University Professor, George Washington University, Washington, D.C. 20052 and Director, Center for Policy Research, Washington, D.C. 20036