Book Reviews

Quandaries for American Scholars

Soviet-American Academic Exchanges, 1958–1975. ROBERT F. BYRNES. Indiana University Press, Bloomington, 1976. xii, 276 pp. Paper, $10.

Nothing exciting has come of the Soviet-American academic exchanges, now almost 20 years old. Certainly no Marco Polos or Tocquevilles, nor even the lesser excitements of our blasé times. No brash new Watson has found his way to a Soviet equivalent of Crick; no Fuchs or Pontecorvo has fed our petty lust for tales of secrets betrayed. But then, what could we have expected? Great venturers across cultural frontiers have no place within a governmentally contracted, bureaucratically administered, police-supervised program of cultural exchange. Gradually the realization spreads that the program is contradictory in its basic concept, like planning scientific discovery or ordering works of art. Once again the alarm is sounded, as it was when the program started: cultural exchange may be another insidious invasion of our system by the Communist virus (*1*).

Robert Byrnes, one of the original organizers and managers of the program, ponders such charges, and the real issues underlying them, in this curious book—part history, part memoir, part administrative report. (Readers of *Science*, who may be most interested in the senior exchanges between the American and Soviet academies of science, should be warned that Byrnes tells very little about them. For the most part he analyzes the junior exchanges that he supervised.) On balance he is not alarmed but rather disappointed, if not depressed. The exchanges

> . . . remain a primitive form of barter or horse-trading, an artificial and unnatural arrangement with a quota system and a restrictive spirit, with access to a laboratory balanced against access to a library, and reciprocity, not equity or mutual advantage, being the guiding factor. . . . Progress has been slight and painful, when one considers the imagination, energy, and resolution expended [pp. 233–234].

Trying to vindicate the years he gave to an enterprise of such debatable merit and modest achievement, Byrnes is still too much the proper diplomat and discreet administrator to write a powerful apologia. But powerful works are rare; let us be grateful for a good, though sometimes tedious, book by an honest scholar and an undeviating patriot.

Sophisticates will wince at that last phrase, and primitives should be ashamed for not wincing. Either way, by primitive ignorance or sophisticated evasion, one cannot make the basic problem go away. It is hard to be scholar and patriot at once, as any casual tourist recognizes when he feels inner conflict between his curiosity about alien lands with offensive cultures and his revulsion against giving them the implicit benediction of a courteous visit. In the Soviet-American exchange program the tourist's dilemma is ever present, in the most complex and intense forms (*2*).

Byrnes is very informative on the forms of the dilemma, and quite frank on the net result: "We have all begun to accept some of the indecencies and indignities of the Soviet system (p. 6)." The most disturbing, in his opinion, is the implicit benediction that courteous American visits bestow on the Soviet regime. I disagree. I doubt that the American presence or absence has an important effect on such self-sufficient entities as Russia or China. I even doubt "the desperate Soviet necessity to obtain scientific and technical assitance from the West" (p. 49). More precisely, I doubt that they need our cooperation to obtain such assistance. In cultural diffusion the backward nation's will to take and capacity to use are far more important than the advanced nation's willingness to give or sell (*3*). If we offer to cooperate in a diffusion that has been and will be proceeding anyway, we stand to gain useful bargaining chips.

What I find most disturbing in the exchange program is the unnatural selection of scholars, and the alteration it may be effecting in American studies of the Soviet Union. American scholars can be vetoed if their research topics or interpretations are disapproved by the Soviet thought police. To be sure, the American side has reciprocal power, and it has systematically blocked as many of their people as they have of ours. The trouble is that almost 90 percent of the Soviet scholars who apply—or find themselves "volunteered," army style—are natural scientists or technical specialists. They are subject to veto because of the military sensitivity or the impracticality of their proposed research, or simply in retaliation for Soviet vetoes of American scholars. That tit for tat has had some influence. The Soviet authorities have recently accepted some American scholars with taboo topics and interpretations, even biographers of Stalin and Bukharin. But the overall pattern is still disturbing. U.S. historians of Russia, the largest group sent in from America, are overwhelmingly immersed in "safe," prerevolutionary research topics. It would seem that American scholars are timidly trying to improve their chance of getting past the Soviet thought police; to gain entrance into libraries and archives, or simply to gain first-hand experience of the country they intend to teach and write about for the rest of their lives, they are avoiding the most sensitive issues in Soviet studies.

I used to believe that, but Byrnes has changed my mind. He did so inadvertently, by passing on some startling figures. Of the Americans who earned Ph.D.'s in Russian studies during a well-selected span of years, 80 percent never bothered to apply for a place in the exchange program. Indeed, the better the graduate student, the less likely he was to apply: almost 90 percent of those who won fellowships in a national competition refrained from applying. Eagerness to get at Soviet libraries and archives is conspicuously slight. Overwhelming reluctance to spend a year in the Soviet Union is far more characteristic of American specialists in Russian studies. Thus, their lopsided immersion in prerevolutionary topics takes on a new significance—for me, let me stress. Byrnes does not draw this inference. I sense an intellectual paralysis among most of my colleagues in Russian studies, resembling that of the tourist who would like to learn about Russia at first hand but will not go there while the Communists are in power.

Of course I am exaggerating and oversimplifying, partly to get a rise out of my paralyzed colleagues, partly for lack of space, partly because an American

studying Russia experiences in the most exaggerated form the basic problem of values in the social sciences and the humanities. If such an American does not want to be either a morally arrogant missionary or a morally flaccid anthropologist, the only alternative seems to be the disdainful recluse, and that has been choice of most. By a missionary I mean a scholar whose underlying purpose is to prove the superiority of our culture over theirs (or, in rare cases of inversion, of their culture over ours). By an anthropologist I mean a scholar who strives to avoid moral judgment, to establish the social function of such cultural variables as concentration camps or saturation bombing. By a disdainful recluse I mean a social scientist or humanist who turns his back on modern horrors altogether.

It is touching to discover that such a romantic stance has been struck by most American students of Russia, specifying old Russia, when Pushkin "raised himself a monument not made by hands," above the masonry of the state. Nabokov would approve; Solzhenitsyn would not. Byrnes unwittingly takes Nabokov's side, when he confesses the philosophic assumption that guides his path in Russian studies. "We should distinguish between the temporary political condition and the eternal human condition" (p. 82). My own assumption is that the two are inseparable, which makes it impossible to avoid either the missionary, who claims to know eternal values, or the anthropologist, who knows only temporary conditions. Endless tension between irreconcilable commitments cannot be avoided.

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References and Notes

1. See *Commentary*, February, June, September, and November 1976, for Theodore Draper demanding an investigation and imputing bad faith or worse to the officials who rose to defend their labors.
2. And frequently amusing. Years ago, when I was starting my study of the Lysenko affair, an amiable young Machiavelli in the State Department encouraged me to apply for the cultural exchange, so that, when "they" vetoed me, "we" could veto a Soviet applicant who wanted to penetrate a militarily sensitive research program at the University of Illinois. The vetoes were duly exchanged, and I went to Russia on a tourist visa. Many years later "they" topped "our" joke, by giving me another tourist visa (my fifth), letting me get as far as Helsinki, and then phoning to say that the visa was revoked.
3. Philip Hanson, of the University of Birmingham, was quite persuasive on this point, against a passionate rebuttal by Michael Boretsky, of the Commerce Department, at a recent conference on Soviet science and technology, sponsored by the National Science Foundation and George Washington University. The proceedings of this conference are to be published by the George Washington University Program for Policy Studies in Science and Technology.

Advances with Lasers

Lasers in Physical Chemistry and Biophysics. Proceedings of a meeting, Thiais, France, June 1975. J. JOUSSOT-DUBIEN, Ed. Elsevier, New York, 1975. xvi, 522 pp., illus. $51.95.

In the past five years single-frequency and tunable lasers have played a crucial role in many of the advances made in understanding chemical and biological systems. In recognition of these advances the Societé de Chimie Physique devoted its 27th international meeting to "Lasers in Physical Chemistry and Biophysics." This collection of articles is the proceedings of that meeting. It was published rapidly, and the investigations reported do reflect current developments in the fields covered.

The 43 papers, which range in length from about 2 to about 15 pages, deal with a wide variety of topics. The subjects covered can broadly be classified into laser developments, dynamics of molecular processes, and molecular structure. Although these categories broadly delineate the uses chemists and biophysicists have made of lasers, there are a few laser applications that do not readily fit into them, and these are also dealt with in the volume. An example is provided by Michael Berns's elegant description of his recent studies of alterations in cell function produced by laser microirradiation.

In general the topics covered are appropriate to the goals implied in the title, and the reader is given a good appreciation of the areas in which significant progress is being made. For example, there is an excellent report on developments in vacuum ultraviolet lasers by D. J. Bradley, with a good set of references. Other articles present recent developments in dye lasers, and there are a couple of papers on organic and inorganic lasing materials.

One group of the "laser community" is particularly well represented in the book—those engaged in applying picosecond lasers to chemical and biological systems. The papers in this area cover a wide range of topics, including a report of a subpicosecond investigation and a good summary of the recent contributions made by picosecond spectroscopy to the understanding of the primary events of bacterial photosynthesis. There are also a few papers describing experiments with longer pulses in the nanosecond domain, including a good communication by Goldschmidt on the interpretation of laser flash photolysis in which many of the artifacts that are often obtained are pointed out.

Finally, there are reports relevant to laser isotope separation and several articles describing various applications of lasers in structural investigations. These investigations cover a variety of phenomena, biological and nonbiological. Particularly impressive is an account of the use of linear dichroism by photoselection to obtain the symmetry, orientation, and rotational mobility of cytochrome c oxidase in the inner membrane of mitochondria.

Many of the articles in the book have up-to-date references, some as late as 1976, but some of the bibliographies are quite inadequate. Questions posed by the participants and the authors' responses are included in most of the papers. The questions often bring out interesting and important aspects of the papers and in a few cases even indicate flaws in the arguments made in them.

Like most symposium volumes this one suffers from a heterogeneity in the material covered and in the quality of the papers included, and its usefulness is seriously limited by the lack of an index. It is, however, recommended as a rather complete account of the current applications of lasers to chemical and biological problems.

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Extragalactic Astronomy

Galaxies and the Universe. ALLAN SANDAGE, MARY SANDAGE, and JEROME KRISTIAN, Eds. Index prepared by Gustav A. Tammann. University of Chicago Press, Chicago, 1976. xxii, 818 pp., illus. $45. Stars and Stellar Systems, vol. 9.

This long-awaited volume is the most important collection of review articles ever published in extragalactic astronomy, and it will serve as a standard reference for years to come. Yet it is a disappointing book in some ways, because parts of it are out of date. The quality is excellent. Each chapter was written by a recognized leader in its area, and many of the chapters are outstanding summaries as of the date of submission. (The dates of submission of individual chapters range from 1965 to 1974, with a median date of 1971.) Unfortunately, however, the book has taken so long to appear that the currency of most chapters has suffered, and some of them are now seriously behind present knowledge.