

Book Review

**Soviet Scientific Reviews, Section A: Physics
Reviews, Volume 1**

**Volume Editor: I. M. Khalatnikov, Series Editors: V. I. Goldanskii,
R. Z. Sagdeev, G. Friedlander, and M. Levy. Hardwood Academic
Publishers, Switzerland, 1979, 305 pp.**

The above review series represents an effort to cure a problem. Because of linguistic, political, and sociological differences, the Soviet and Western scientific establishments are frequently not only independent but also totally disconnected. As one would expect, this separation quite naturally leads to needless duplication of research results and to concomitant, sometimes heated debate over priority of discovery. As each side struggles to wrest secrets of the universe from Nature, it tends to increasingly regard the other side, rather than Nature, as the enemy. Frequently both groups behave, individually and collectively, as if Nature's storehouse of hidden information were not only finite but also rapidly decreasing; all must therefore avariciously scrap over each precious remaining bit. These attitudes create problems within each camp, but they become more fierce and, in a sense, even more "justifiable" when they extend across an "iron curtain."

At the deepest level, these problems involve not just language, politics, or sociology, but profound unsolved difficulties in human psychology. However, as with the common cold, if we cannot cure the disease, may we not at least alleviate symptoms? Indeed, here some trifling bit of progress is being made. We do engage in limited scientific exchanges and research collaborations; we do translate each other's major journals, albeit slowly. Nonetheless, the inadequacy of these symptomatic treatments even for the simple problem, "Who are my foreign colleagues and what are they doing now?" is poignantly apparent in the *Uspekhi Mat. Nauk* 31:1(1976), 55-136 paper by Dubrovin, Matveev, and Novikov. In a special addendum to this

paper, the authors report that during the summer of 1975 Faddeev returned to the USSR bearing preprints obtained in the USA in May; there then follows a discussion of who did what first. Publication priority, duplication of research, East–West political cold war aside, this addendum is astounding! Is there no mail service, no telephone nor telegraph, no television satellite, no communication channel more effective or rapid than the hand carrying of preprints between the US and the USSR?

Recently, a more frontal attack has been made on the problem of symptomatic relief. The International Association of Mathematical Physics is distributing worldwide a newsletter which lists preprint titles giving author and address; in the same vein, the present reviewer distributes Nonlinear Science Abstracts, a more or less bimonthly listing of the full abstracts covering all areas of nonlinear research. In the near future, these abstracts will appear in the new journal, *Physica D: Nonlinear Phenomena*. Finally, Japanese workers annually publish *Reports on Progress in Lattice Dynamics in Japan*, which includes not only preprint–reprint lists but also progress reports on current research. But all of these are relatively small enterprises.

Returning now to the review series at hand, the newly initiated *Soviet Scientific Reviews*, Sections A–E, which raise the hope of truly major symptomatic relief, let us specifically examine *Physics Reviews*, Volume 1. Here indeed we find review papers on topical subjects written by internationally known Soviet experts of the highest caliber. To ensure the rapid English publication of news regarding the latest Soviet findings, these authors were deprived of the opportunity even to proofread the translated or typeset versions of their original Russian reviews. But alas, surveying the articles themselves, the reader sadly finds that this 1979 volume is reviewing Soviet papers published during (or before) 1977! Quite clearly, the papers being reviewed here have long since been translated into English via the standard routes and given the widest possible distribution. Thus, hope dims for even symptomatic relief. This is by no means to assert that the present volume serves no useful purpose.

Certainly, comprehensive review papers by our most esteemed Soviet colleagues will be widely read with great interest in the West. Even though they may not reveal the latest Soviet discoveries or contributions to science, they will nonetheless provide new insights and sometimes call attention to overlooked references. However, such reviews will not achieve the lofty goals explicitly stated by the editors of the series. Perhaps this glaring defect of the first volume will be remedied in future issues. A major step forward would occur if future reviewing authors were allowed to cover a subject not only through the latest published papers but also through the latest Soviet preprint literature. Because widespread distribution of preprints is not as common in the USSR as elsewhere, authors contributing to

this series should assume (or be given) the obligation of collecting and reviewing as many relevant Soviet preprints as possible. Finally, this reviewer could not too strongly urge the Editors of these series to include an "additional" article in each volume which lists current preprint titles (including abstracts if possible) with author and address or which illuminates current research directions and/or progress.

The series here being reviewed has the opportunity to serve a greater function than that of a Soviet-written *Reviews of Modern Physics*, however laudable that achievement might be. The present volume does not serve that greater function, but future volumes might.

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