Book Reviews

Against the Tide:

A Critical Review by Scientists of How Physics & Astronomy Get Done

by Martin Lopez Corredoira and Carlos Castro Perelman, eds.
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Review by T.E. Phipps, Jr.

The contributors to this *omnium gatherum* of dissident thoughts in the sciences of physics and astronomy best known to U.S. readers will be H.C. Arp and T. Van Flandern. Others are J.M. Campanario, B. Martin, W. Kundt, J.M. Herndon, M. Apostol, A.P. Kirilyuk, D. Rabounski, and H.H. Bauer, in addition to the two editors who each contribute a chapter and an essay, in addition to a well-written joint Foreword. As is usual in "edited by" collections, the most notable feature is a lack of editing—but this has become endemic among the publishing classes. The result here is a considerable unevenness of quality of English and idiomatic expression. Still, everything is quite intelligible, and we must be grateful to possess a close enough approach to a universal written communication medium to permit worldwide commentary on a worldwide problem.

There can be little doubt that the last fifty years have seen a steady slide toward decadence of the hard sciences. The quality of ideas, the capacity to judge "beauty," the status accorded to empirical fact vs. theory, even elemental ethical standards, have slipped intolerably—to the point where another fifty years of the same should write finis to science as a serious human enterprise (of value beyond entertainment). Readers of this magazine will need no further proof of such a drastic claim than a reminder of the history of the cold fusion "fiasco." For it was indeed a fiasco for the physics Establishment, which showed by its puerile rush to judgment precisely what its judgment was worth.

We now have scientific journal editors so stuck on themselves that they dare to reject papers—particularly submissions from home addresses—on their own initiative, without the formality of refereeing. And we have emperors of the Internet (located at Cornell) who automatically reject all arXiv.org submissions unless vouched for *passionately* by people with *academic* return addresses. So, now it is officially out in the open—real science is the Cosa Nostra of academia. . .all others need to apply (given such presumption) on their knees. Thus it is tacitly acknowledged that the graduate-level science education given to other than academia's own is worthless without additional academic endorsement. With blanket criteria like that in action, you can see without much study where things have got to and where they will go. Do the academic lovers of freedom raise irate voices in the sort of protest they have shown themselves so good at? Bless you, child, let us be academically precise. . .the freedom they love is academic freedom—that is, freedom for themselves. According to more than one of the authors in this book, there is even blacklisting by journal editors, that is, singling out of individual would-be contributors by name for automatic rejection. Why not? It's a logical conclusion. If not today, then tomorrow for sure.

So much for the merit system, which has quietly crashed in flames. In my youth, when I went to graduate school, I was encouraged to cherish the illusion that scientific *merit* would prevail. So, I thought I did not need to join the academic crowd nor curry favor with them—all I had to do was to do good science. Experience has taught me better. The system has developed during my lifetime in so many ways to prevent merit from prevailing that I can only marvel at my former state of mind. Yet I suspect that that state is still inculcated in each generation of youth by the solemn hypocrites of academia. . .including those (I'll bet) on the math faculties, as well as physics and astronomy. Some have wondered how Einstein, the lowly patent clerk, would make out today. I wonder the same about Ramanujan.

I liked particularly the articles by the editors. Corredoira possesses a measure of eloquence, balanced judgment, and the ability to make his case well. And Perelman had the clever inspiration, in recounting his epic "struggle with Ginsparg" (the Great Dictator imported by Cornell from Los Alamos to run arXiv.org), to speak of "the road to Cyberia: a scientific-Gulag in Cyberspace." Just so, and aptly put.

Dissidents face two levels of difficulty in getting across new ideas. The first is the basic one of initial communication, that is, of making their ideas available for public consumption and judgment. This means getting past editorial censorship—there is no reason to call it anything else. The best ideas, I am convinced, never make it. This is because they necessarily possess certain features that make them unacceptable, beginning with their rejection of some "accepted" shibboleth. That nowadays is enough to stop a paper right at the editor's desk. Supposing, however, by some freak of inattention the editor allows referees to see the paper, and supposing the referees have heard something good about someone with a name similar to that of the author or are too busy to pick up on his heresy, then the paper may actually be published. Now it faces the real difficulty. Either nobody reads it (reading being essentially a lost art) or those few who do read it react exactly as they would have done if asked to referee the paper—they stumble at the rejection of the shibboleth, or whatever made the paper unique and a contribution. For, truth to tell, most people, even (or particularly) those with doctorates, are not geniuses, nor equipped to recognize either genius or rightness, unless their colleagues are pressing it on them. So, there is a critical mass of approval of any worthwhile new idea that is essential for genuine progress. . .and virtually impossible to attain under the conditions I have sketched.

In fact the only kind of "progress" at all practically likely to occur is the sort offered historically by string theory: Some great Pooh-Bah (to wit, Ed Witten), laden with honors and

already much admired in the profession, heads a school of sycophants who automatically provide the critical mass needed to ensure that any rotten idea is perceived as beautiful. Editors bow down. Science marches on, crushing all untruths beneath its vengeful heel. Alternatives devolve inexorably from dubious to career-poisoning. This seems to be the story behind most of the media-trumpeted physics advances of the last half-century, beginning with the Big Bang and unlikely to stop anywhere short of the ludicrous, if there. Whom the Gods would laugh at, they first make theoretical physicists or—what has become the same thing—mathematicians *manqués*.

I have used so much space here expressing my own thoughts (a dirty trick of reviewers not at all fair to authors) that I must curtail any discussion of the book's actual contents. Perhaps this is for the good if I do not spoil it for the reader. It contains many little surprises. For instance, I'll wager the average reader has no realization of how bad things are for science these days in Romania. Well, here you can find out, in grim detail, by reading the account by Apostol. Herndon attributes the corruption of the current journal refereeing system to the anonymity of the process. That seems to me an over-simplification, but worth attention. The only downside to naming referees is that a tiny handful of truly nutty contributors are by nature litigious. The heavy shadow of the law dampens all genuine free speech in the land of the advertisedly free—despite Constitutional Amendments. I should like to make the case against all tort law, but not here. Arp and Van Flandern both contribute informative studies. Unfortunately, their papers were not written specifically for this book but are reprints of previous papers. That's another problem with "edited by" books.

Finally, I might mention a couple of papers I was not happy with. Kundt gives a fairly detailed account of his impressive career, which seems to have made little connection with what I would call true dissidence, as evidenced by the fact that he seems to have had minimal trouble getting his material published. That little matter of early rejection by one's very own segment of society is one of the things that marks a man for life; Kundt bears none of the marks. So, what we have here is a mini-autobiography, with much name-dropping, that says see what an important fellow am I. The Russian Kirilyuk gives us an interminably repetitious tirade against Newtonian and all positivist ways in physics and in favor of some ill-defined form of complexity theory known only to himself. He uses 30 pages essentially for advertising this whiz-bang that is going to solve all problems not only of physics but of society as well, by getting all the way in one jump clear to the true and final root of reality. In less space his method, whatever it is, could surely be described, and this would have been more interesting. But he keeps it close to his chest, revealing it only through about a dozen references (on arXiv, incidentally) that the reader is supposed to consult. Such exposition is essentially a waste of the reader's time—although he does provide valuable references to the work of others.

OK, so not every chapter scores a hit, at least with me. But there is gold here, plenty enough to be worth mining for. Pity that the people who would most profit from scratching it out will be too busy scratching each other's backs.