their true historical development. In each case (and for many other models and constructs), the newer view was not at all so readily accepted, frequently strongly resisted by the adherents of the older, former view.

While it may be true that at this stage of the scientific game physicists should recognize, as Brown states, that change is to be expected (and, by implication, accepted), Brown himself has not focused on the intellectual (and other kinds of) conflict that has ensued when new and old concepts in physics clashed. While there is obvious historical *process* involved here, Brown has not described the nature of the *process* at all. The nub of the process is *conflict*. In physics it is conflict that arises out of the constant seeking out and the discovery of new knowledge that develops in contradiction to the old, incomplete knowledge. In brief, this is the dialectical process that Brown merely skirts.

When Brown writes, "The creation of abstract mental structures that best represent the reality of his world and time, that gives significance to Man's existence, are his universal characteristics. From these abstract structures are crystallized human institutions to nourish and guard the symbols," he again leaves out the element of *conflict* inherent in the advocacy by human beings of different institutions within the same society.

My contention is that the nature of the process of change in physics and that of change in society, though both are marked by dialectical conflict, are only superficially similar. In science, except where scientists are "locked-in" by nonscientific aspects of their personalities (such as strong adherence to current religious, economic or political institutions, or by vanity or fear) that may be in conflict with new scientific ideas, they are more apt to be open to new ideas and concepts. But in the area of social, political and economic institutions men most frequently set up constructs of these institutions in terms of the position that men occupy in society. Hence, some men fear change in these institutions and in their concepts of these institutions, whereas others welcome it, depending on how the proposed change will affect them. Men's consciousness of the institutions governing their lives is mostly determined by their "total" position within the society in which they find themselves. Largely, but not solely, this is "economically" determined. Different classes in society see the same institution with different eyes and mind.

Hence, it is not true that Man has sated his appetite for material things; only some men, in some countries and societies, have done so. Also, it must be quite clear that those men, classes and countries that are a long way from having even *begun* to satisfy their "security-survival" needs will continue to press for their share of what is available. Physicists might well ponder what is the process that has driven some classes and countries to the counterproductive limits of "controlling" and "consuming" that are threatening not only themselves but others.

HYMAN R. COHEN
Brooklyn, N. Y.

The author comments: I cannot disagree too much with Hyman Cohen's comments regarding my article. I was seeking to present the science of physics as a good example of Man's adaptation to the process of change—the continuing revolution.

I am well aware of the problems of power and conflict involved in social and political change. This has been my vocation for many years. Only recently have scientists in the social field focused in their analyses on the importance of developing social and political institutions which can, nondestructively, generate and absorb continuing transformation. (For example, see Piaget's *Structuralism*, Halpern's *The Revolution of Modernization* and similar works.) There is much more to be said on both the parallels and the differences between the so-called "hard" and "soft" sciences. To my mind, the imperative need is for more trained minds looking at human problems in total perspective (Taoistically) rather than atomistically. I hope Cohen would agree.

GEORGE E. BROWN, JR
Los Angeles, California

Consumer complaint

Among the public (and some companies) these days there is a great deal of interest and concern about consumer protections. I wonder if it would be in order for AIP to establish an office or committee to review complaints from individuals who have had some difficulty with the suppliers of scientific equipment, especially those that supply apparatus for labs.

As it is with human nature, one does not become concerned until the problem becomes a personal one. In particular, I ordered a small amount (dollar-wise) of equipment on 5 August of last year and have not, as of this writing, (October) received even acknowledgment of my order. This is the second time I have had this large delay in receiving an order from this particular company. I know of at least two other people from schools with small budgets that have experienced the same problem. In relation to another problem

New IR detector has superior detectivity, ultrafast response.

Raytheon's improved IR101 detectors feature excellent detectivity plus a response time of less than 15 nanoseconds. These lead-tin-telluride units operate in the far infrared, with optimum performance at liquid nitrogen temperatures. Eliminated are bulky liquid helium dewars required by doped germanium photoconductive units.

Peak spectral response is 10-11 microns and the hermetically sealed BaF_2 window transmits more than 90% of the energy in the IR101's spectral range.

The package is a small glass dewar—with nitrogen capacity for more than one hour unattended operation—ruggedly potted into an aluminum shell. A variety of options are available, such as aperture, field of view, dewar size and configuration, and window material.

For more information, contact Raytheon Company, Special Microwave Devices Operation, Waltham, Mass. 02154. Telephone 617-890-8080.

Wavelength Range	8-12 microns
Sensitive Element	Lead-tin-telluride (PbSnTe)
Mode of Operation	Photovoltaic
Window Material	Barium fluoride
Detectivity:	
D* peak (λ, 900,1)	
for IR101	$>5x10^9$ cmHz$^{1/2}$ watt^{-1}
for IR101A	$>1x10^{10}$ cmHz$^{1/2}$ watt^{-1}
for IR101B	$>2x10^{10}$ cmHz$^{1/2}$ watt^{-1}
Active Detector Area	.010″x.010″ and .020″x.020″
Field of View	90°
Operating Temperature	~77°K
Impedance	20-150 ohms
Responsivity	20-60 volts watt^{-1}
Response Time	<15ns

Circle No. 11 on Reader Service Card

with this company, I wrote the president of the company (having not reached anyone else in the organization). The letter has never been acknowledged!

I wonder if the readers have had any similar difficulties with the scientific-apparatus suppliers.

GEORGE L. HAZELTON
Chowan College
Murfreesboro, North Carolina

Wrong affiliation

In your news story about second-class currents in beta decay (November 1971, page 18) you incorrectly state that both J. Delorme and M. Rho are affiliated with Saclay and CERN. Although this is true for Rho, who is a member of Saclay and was at CERN when this work was done, it is completely incorrect for Delorme who never belonged to either of these organizations. He is and has always been at Institut de Physique Nucléaire, Université de Lyon, and his paper is signed from the above address.

This may seem a minor point, but for an institute that is working to establish its reputation in intermediate-energy physics, such details do matter, both for external and internal recognition.

M. ERICSON
Institut de Physique Nucléaire
Villeurbanne, France

Why not *Solar Physics*?

Five years ago a new journal, *Solar Physics*, appeared on the information scene. As though of one mind, solar physicists the world over abandoned their traditional communication channels (*Astrophysical Journal, Physical Review, Monthly Notices of the Royal Astronomical Society* and so forth) and adopted this new journal. To active workers in this field the move has been a complete success. (No, I am not an agent of the publisher or in any way connected with it!)

English-speaking solar astronomers now publish almost exclusively in *Solar Physics*. Non-English workers, particularly the east Europeans, tend to publish first in their national journals; but papers of importance appear in short order in our journal. Having a dual editorship (C. de Jager for the West and Z. Svestka for the East) has no doubt put contributors at their ease. The absence of page charges is also an essential ingredient to its international acceptance.

There have been a few drawbacks to *Solar Physics*. At first the papers were inadequately refereed and more should have been rejected. But things have improved and I think the quality is now on a par with the prestige journals. More worrysome is the fact that, in solving our own communication gap, we have retreated in the interdisciplinary sense. Our nonsolar colleagues think we have stopped publishing. Significantly, Arthur Herschman did not include *Solar Physics* in SPIN (Searchable Physics Information Notices). I think in the future it should be included.

WILLIAM C. LIVINGSTON
Kitt Peak National Observatory
Tucson, Arizona

The author comments: William Livingston's letter echoes a number of others that I have received in suggesting additional journals for inclusion in the selected set covered by the AIP program for Current Physics Information. Such suggestions are very welcome; it is our intention to include all of the important physics journals in this set. However, budgetary limitations have forced us to begin operations while still somewhat short of this goal.

ARTHUR HERSCHMAN
American Institute of Physics

Lament of a scientist's wife

My husband is enamored
Of shining things that count,
Of bright metallic cases
That fit in tall steel mounts.
He polishes and lines things up
Until the dawn light breaks.
I often think I haven't got
Exactly what it takes.

I should be made of metal,
Of bright aluminum
With hair of burnished copper,
And when my husband comes,
Instead of vocal greetings
Like normal people make,
My response to him
Will be neatly placed
Upon magnetic tape.

SARA SINN
CERN
Geneva, Switzerland

Radiation exposures

In Table 2 of "Ionizing-Radiation Standards for Population Exposure" (November 1971, page 32), Joseph Lieberman estimates the exposure to the US population from nuclear power to be 400 man-rems and 56 000 man-rems for the years 1970 and 2000. These estimates are for releases from reactors alone, assuming 5 mrem at the site boundary and the population at risk being those that live within 50 miles of the reactor sites. If one adds the dose estimates for other nuclear power sources, namely,