

Van Valen's "restatement of the (exclusion) principle" in a "stronger" form is an unsupported assertion that, in the absence of immigration, two species actually limited by competition for the same "subniche" or "part of one" cannot coexist unless "they are equally fit in this environment." Now, most proponents of competitive exclusion believe that species can coexist if there are differences between them and my aim was to present a model in which they can coexist without such differences. In my boiled down version of Skellam's model I (not "they") undoubtedly made the species "equally fit" by assuming no

differences whatsoever. This limitation is not an essential part of Skellam's model.

If Van Valen will go to the original he will learn that, with no immigration, two species limited by the same "subniche" ("a place in which to live") can contribute different numbers of potential offspring per individual to the next generation (does this not make them unequally fit?) and can still coexist indefinitely—provided that we neglect the possibility of random extinction, which Van Valen asserts to be unimportant.

My report was not designed to advo-

cate any particular definitions or models of competition but to warn against uncritical acceptance of competitive exclusion as an axiom. I am confident that there remain great possibilities for contributing to our understanding by investigating species interactions under specified conditions in the field, in the laboratory, and in theory. For example, M. H. Williamson [*Nature* **180**, 422 (1957)] has given objective definitions of "controlling factors" and "competition" and has investigated objectively the circumstances under which competing species can and cannot coexist. I doubt that Van Valen will find much comfort in Williamson's conclusions but I commend the paper to him as an example where it is possible to debate the reality of the assumptions [H. G. Andrewartha and T. O. Browning, *Nature* **181**, 1415 (1958); M. H. Williamson, *ibid.*] and where we are left in no doubt about the nature of the conclusions or how they were reached.

LA MONT C. COLE

Department of Zoology, Cornell University, Ithaca, New York



Lighter! Stronger! Safer! Exclusive new expanded polystyrene case for B&A® "C.P." Acids!

AN EXCLUSIVE DEVELOPMENT of General Chemical, this new "one-way" case holds four 5-pint "C.P." acid bottles in contoured pockets formed of shock-resistant polystyrene.

SMALLER! LIGHTER! Tare weight of this substantially smaller case is less than 11 lbs. with empty bottles.

EASIER TO HANDLE! Finger grips make case easy to handle. Cases stack securely with interlocking top and bottom.

SAFER! The new polystyrene case is chemical and weather resistant. Form-

fitted pockets protect bottles.

STRONGER! The new case, far stronger than other "one-way" cases now in use, has met the most stringent ICC drop test requirements.

ORDER NOW! These new units are now ready for shipment from General Chemical's B&A distributing points coast to coast. More than a year of intensive research and testing prove this new case superior to any other type of "shipper." For information phone or write your nearest B&A office.



BAKER & ADAMSON® "C.P." ACIDS

GENERAL CHEMICAL DIVISION

40 Rector Street, New York 6, N. Y.

Offices: Albany* • Atlanta* • Baltimore* • Birmingham* • Boston* • Bridgeport* • Buffalo* • Charlotte* • Chicago* • Cincinnati* • Cleveland* • Denver* • Detroit* • Houston* • Jacksonville* • Kalamazoo* • Los Angeles* • Milwaukee* • Minneapolis* • New York* • Philadelphia* • Pittsburgh* • Portland (Ore.) • Providence* • St. Louis* • San Francisco* • Seattle • Kennewick*, Vancouver, Yakima (Wash.)
*Complete stocks carried here

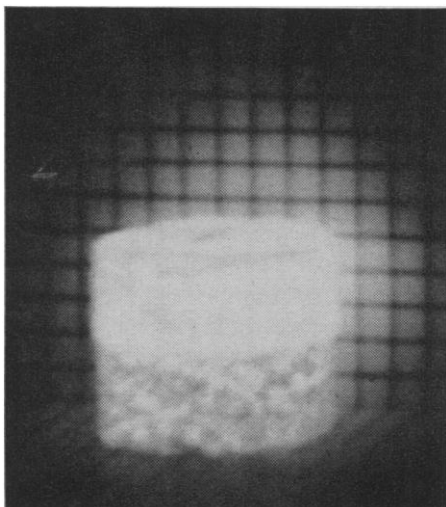
Social Responsibility

The report of the AAAS Committee on Science in the Promotion of Human Welfare, as published in the 8 July issue [*Science* **132**, 68 (1960)], is most interesting; I am writing with regard to three items in this report.

The report mentions, under the heading "Scientists' approaches to their social responsibilities," a third group, "typified by the Society for Social Responsibility in Science, which takes the view that scientists have a moral responsibility to try to limit to ethical uses the applications of science and technology." This statement, while completely correct, may yet give a wrong impression on one point: the members of the society believe that such limitation can be achieved only by a personal commitment. Thus, the members try to decide for themselves what an ethical use is; they try to foresee the applications of their work (and in part, of course, scientists today work directly on applications in any case) and limit their work to tasks which appear ethical to them in the light of the above criteria. They do so for the dual reason that they feel (i) that only so can they fulfill their social responsibilities and (ii) that such personal commitment is the best way of educating the national and international community to the awareness of moral and social implications. In the brief text of the report, the words "try to limit," might be taken to imply such means as strikes which would bring pressure to bear on scientists of opposite views. Such pres-

ISOTOPES

for Your Development Work



Oak Ridge National Laboratory offers more than 300 radioactive and stable isotope products.

RADIOISOTOPES

Processed Solutions—90 processed radioisotopes may be obtained, including many carrier-free and high specific activity products.

Now Available—Iridium-192 gamma sources with specific activity up to 100 curies per gram, and cobalt-60 radiography sources 1/8 and 1/16-inch in diameter with specific activity greater than 100 curies per gram. At a reduced price, carbon-14 barium carbonate is available at \$9.50 per millicurie.

STABLE ISOTOPES

More than 200 stable isotopes available from 50 elements.... Chemical processing and target fabrication services also offered.... Ultra-high isotopic purity in a number of isotopes.

For information or literature, write to: Isotopes Division, Oak Ridge National Laboratory, P. O. Box X, Oak Ridge, Tennessee.



**OAK RIDGE
NATIONAL LABORATORY**

Operated by
UNION CARBIDE CORPORATION
for the
U.S. ATOMIC ENERGY COMMISSION



sure is not part of the goal of the Society for Social Responsibility in Science.

With regard to item 5 (page 72) "How can scientists best meet their social responsibilities?" the authors of the report suggest "discussion among scientists." It is hoped that the AAAS may arrange, at an annual meeting, a forum to discuss the several means to achieve this end. It seems to me that there is no single means, either presently known or probable in the near future. Instead, a number of means will have to be utilized simultaneously. Such means include education of the public with regard to social issues; they include work with the legislature; they include, also, the personal commitment mentioned above.

Finally, with regard to the code of ethics mentioned in item 6, I recognize that there are scientists in several fields who put great emphasis on such a code. This is not the place to debate the usefulness of such codes per se; rather, I would enter a plea that if such a code is developed it should state clearly its basis: Does it deal only with what one might call the "production" end—namely, truthfulness, honesty, and so on in developing scientific insights—or does it deal also with the "consumption" end—the application of science to technological ends and to humanity in general?

VICTOR PASCHKIS

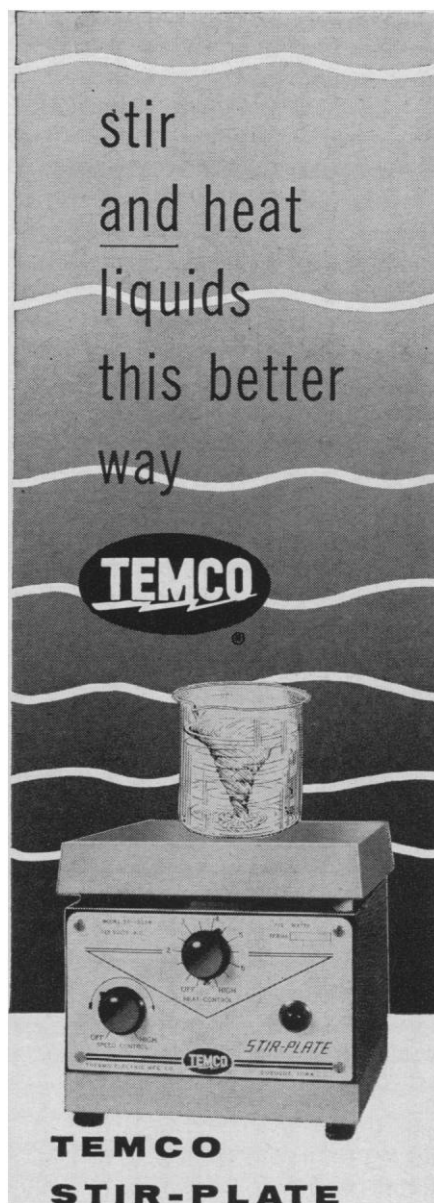
*School of Engineering, Columbia
University, New York*

American Men of Science

As editor of *American Men of Science*, I would like to call to the attention of the readers of *Science* the confusion caused by the titles which have been adopted by others in the biographical publishing field.

There has been published for several years a small directory called *Leaders in American Science*. This has been confusing to many busy scientists because of the similarity of the above title to *American Men of Science* and *Leaders in Education*.

Recently, the Institution for Research and Biography changed the name of its directory from *Who's Important in Medicine* to *American Men of Medicine*. The fact that both the name and the price of the volume are similar to *American Men of Science* has caused us to receive hundreds of questionnaires from persons believing it to be under the same editorship and publisher as *American Men of Science*. We wish to say that *Leaders in American Science* and *American Men of Medicine* are in no way connected with *American Men of Science* or *Leaders in Education*.



Combines a continuously variable magnetic stirrer and a stepless, precision-controlled hot plate. Lets you stir and heat liquids simultaneously... or do either independently. Magnetic stirring action stirs liquids in closed or vacuum-sealed systems, odd-shaped, narrow-necked, and other flat or curved-bottom containers. 7 1/8" square hot plate thermostatically controlled over entire range to 700°F. Price complete with two stirring magnets and 5' cord, \$84.50. Write for literature and name of nearest dealer.

THEROMOLYNE CORPORATION

(Formerly Thermo Electric Mfg. Co.)

568 Huff St., Dubuque, Iowa