policy laid down by Section 203. I have called for initiatives, common sense and prompt action so that Section 203 can be carried out with the least disruption." This seems like a reasonable goal to me. If this goal is not reached, perhaps it will be due, in part, to too many near-hysterical editorials about secondary issues. It is past time that the fundamental issue of financing basic, nonmilitary scientific research was faced: Who *should* pay?

MAURICE L. BLACKMON
Syracuse University

THE EDITOR COMMENTS: I did not quote Senator Mansfield as using the word "eliminate," and I do not believe that my own use of this word distorted his meaning. He spoke of reducing the total funding of academic research by the amount now provided by DOD, which to me means the same as eliminating this amount. However I am sure all of us are pleased to hear of the assurances that Senator Mansfield has given personally to Blackmon, which have also been reflected in his more recent public statements.

Kelvin instead of Rayleigh

The photograph on page 71 of your June issue is not of Lord Rayleigh but rather of Lord Kelvin. It is a cropped version of a picture that shows Rayleigh and Kelvin together in Rayleigh's laboratory during a visit of Kelvin to Terling. Lord Rayleigh was cropped out by your photographic department!

Both Rayleigh and Kelvin deserve better treatment.

JAMES LINDSAY WHITE
University of Tennessee

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In the book review of *The Life of Lord Rayleigh*, the accompanying illustration is one-half of a figure in the book showing Rayleigh and Kelvin in the laboratory. Unfortunately, the caption in the book is unclear, and you have illustrated Lord Kelvin instead. Here is a better picture of Rayleigh dating from the Cavendish period (1880–1885). The dates of R. J. Strutt should be 1875–1947.

JOHN N. HOWARD
Air Force Cambridge Laboratories
Bedford, Massachusetts

The employment crisis

The observations in your June editorial on the employment of physicists appear to me to be generally appropriate and well taken. A retrospective look at the rationales expressed for the many traineeship and fellowship programs instituted in past years for expanding graduate science education will show, indeed, that the principal motivation for that expansion was an anticipated need for capable scientists in areas other than fundamental research. For the physics community to have thought otherwise indicates either a failure to read the rec-

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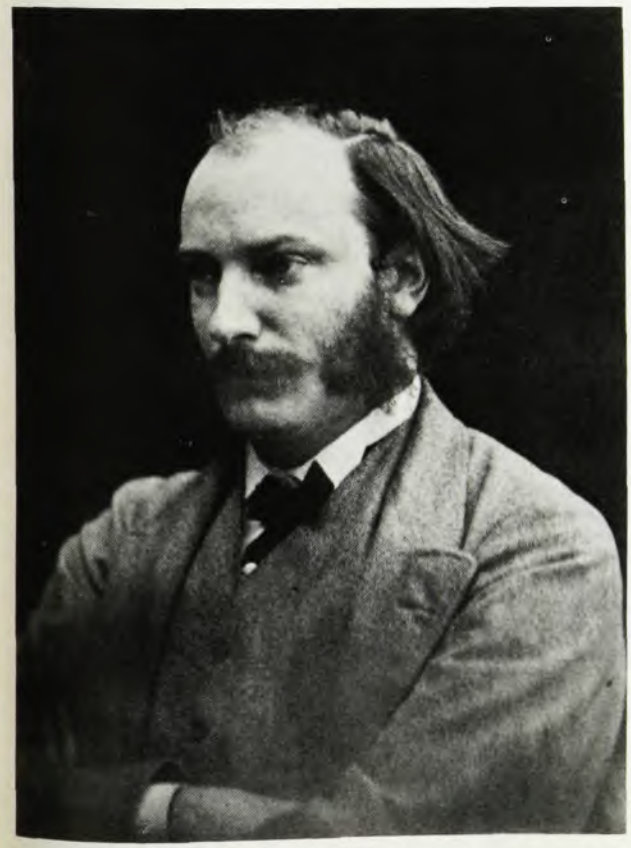

Lord Rayleigh (photograph taken by himself)

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ord or a capacity for self-delusion.

Recognition of the needs that you indicate has played a part in the recent development of several National Science Foundation programs. A program of postdoctoral training for interdisciplinary scientific activity such as you advocate is in fact being initiated by the NSF, although not on the scale you propose. This program, which in fiscal year 1971 will provide support for 30 postdoctoral scientists, will be administered as part of the Foundation's regular postdoctoral fellowship program. This program will obviously not suffice to support all scientists who are unable to find research or teaching jobs to their satisfaction.

Support for postdoctoral personnel is also a significant element in the first year's grants under the new NSF program of interdisciplinary research relevant to problems of our society. It is not self-evident, though, that physicists have the most appropriate training to work on such projects. Breadth of interest and depth of motivation must be coupled not just with scientific skills but also with an informed sense of national needs and a willingness to undergo the trauma of changing one's professional identity. As Wayne Gruner suggests in his article in the same issue (June, page 21), the next few years will challenge the adaptability and ingenuity not only of younger physicists but of their mentors as well.

JOEL A. SNOW
Head
Office of Interdisciplinary Research
National Science Foundation

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I have become a little annoyed by the unrealistic attitudes of some members regarding the unemployment crisis in physics. Nowhere in the editorials or letters has anyone proposed an urgent *voluntary* limitation on graduate admissions to reduce the present surplus of physicists. We continue to rationalize that this may cause a "serious shortage a few years from now," as written in a recent editorial. In actuality we have pitifully misjudged the present demand for scientists, which has seriously eroded the credibility of any of our future predictions. The only fact we can count on is that future levels of scientific support will continue to reflect the attitudes of the tax-paying public.

In addition to the sad situation in physics, other physical and life sciences have suffered funding cuts. In fact, in all fields of engineering and applied science, layoffs are widespread. At North American Aviation in Los Angeles, mass layoffs of engineers and scientists have recently been followed by a 20% cut in the salaries of the survivors. At McDonnell Douglas, the employment office has received resumés that stack eleven feet high from engineers in the Seattle (Boeing) area alone! Things are getting serious.

We must wake up and face the fact that no amount of argument on our part will significantly improve the funding situation, and therefore the only alternative is to reduce the number of new physicists injected into the market. The party's over! It is time for the university community to take some decisive action.

Specifically, we *must immediately* reduce the production rate of physicists *before* we are forced to do so by further budget cuts. Professors should encourage their present graduate students to leave school before receiving the PhD and attempt to find a job before they become "overqualified."

The illusionary "need for increased scientific manpower in the future" will just have to go unsatisfied until we do something to satisfy the immediate needs of food, clothing, and shelter for thousands of young physicists yet to be thrust upon the open market.

ANTHONY J. ARMINI
Los Angeles, California

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Your June editorial concerning the employment crisis for physicists contained the following interesting argument:

> "It may not be possible to return to the good old days of a 10% increase (in federal support) every year, but we should argue that research support should at least expand no more slowly than the rate at which the Gross National Product is expanding (4.3% in real dollars)."

This suggestion appears to be quite reasonable until one questions the desirability of a continually expanding Gross National Product and the associated increasing level of consumption of resources. Environmental considerations then provide a serious challenge to the widely held belief that such expansion is desirable or even likely.

DAVID A. RIGNEY
Ohio State University
Columbus

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As I am presently completing the second year of a two-year postdoctoral fellowship, I was most interested to read that the House Science and Astronautics Committee has found, in regard to the "PhD glut": "There is no indication that a surplus exists . . . their talents are badly needed in such areas as liberal-arts college teaching, junior-college teaching and administration of highly complex technology-oriented organizations in both the Government and the private sector of our economy."

letters

Obviously, these worthy and well informed gentlemen are in possession of a secret list of desperately understaffed liberal-arts and junior colleges. I urge them to declassify it immediately, as these places are difficult to find without the list. Of the 161 colleges in five countries that I have written to so far, none have made me an offer, and 81 liberal-arts and 13 junior colleges have sent letters of rejection.

It is particularly important that this list be made public, as the colleges on it are, apparently, too poor and desperate to fly to either Chicago or Washington –all the college representatives at the APS meetings there seemed to have more applicants than they could interview.

Because I do not know what a "highly complex, technology-oriented organization" is, I cannot say for sure that I have applied to any. I can say that 12 corporations and government agencies, including Westinghouse, RCA, and the Atomic Energy Commission must not be such organizations, for all have sent letters of rejection. Seemingly, the four technical employment agencies I have written to do not know the meaning of this term either. A more concrete definition, at least, would seem in order.

Name withheld

Inaccurate quote

In the report of the International Conference on the Science of Superconductivity (April, page 79) a comment on the invited talk by B. T. Matthias was inadvertently put into quotes in the manuscript sent to PHYSICS TODAY. Unfortunately, the quote did not accurately represent Matthias's views. The difference is substantial; the correct quote of Matthias's comment on the theorists' contributions to superconductivity reads:

"... Today, after 12 years of all these many excellent theoretical treatises one may ask: What are the actual experimental results with regard to the criterion for the occurrence of superconductivity or the increase in the superconducting transition temperature?

Without exaggeration one must say, in effect, not a single result was achieved. While extremely successful in print, these papers were unable to predict any real superconductivity ever, and at the same time failed to raise any of the existing superconducting transition temperatures. Until this day, it has been impossible to verify a single prediction along these lines and yet we are told again and again that the problem has been solved and is fully understood. We are also told that it is extremely difficult to predict transition temperatures or even superconductivity."

BRIAN B. SCHWARTZ
Massachusetts Institute of Technology

Orear views criticized

I am irked by the attitudes expressed by Jay Orear in his letter (May, page 9). He implies that the universities are degrading themselves when they conduct research projects for DOD and operate ROTC programs.

When we all become so affluent and soft that we are not willing to contribute to the national security, we are finished as a nation. This is exactly what happened to the Roman Empire.

One of the most important aspects of DOD-sponsored research and the ROTC in our universities is the influence the universities can have on the military establishment. If these are eliminated, the military establishment will become a closed society with essentially no contact with the civilian establishment.

I also am tired of such cliches as "the establishment-controlled Council of the American Physical Society." As K. Ross Toole has so aptly stated in his article, "Time To Halt Campus Tyranny," which appeared in the *Billings Montana Gazette* on 8 Feb. 1970, "Establishment is nothing but a euphemism for Society." The "Establishment" that controls the Council of the American Physical Society is the membership of the American Physical Society.

VERNON M. ALBERS
Pennsylvania State University

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Orear mentions the "illegal" presence of American troops in Vietnam, the "illegal" bombing of North Vietnam, and the massacres at Song My and other places. He does not mention the illegal presence of North Vietnamese and Viet Cong troops in South Vietnam, Cambodia and Laos.

These massacres that have taken place are indeed terrible things. History has shown that the longer any war is prolonged, the tendencies toward hatred and atrocities on either side increase. What Orear fails to mention is that the Viet Cong and the North Vietnamese Communists have used terror, atrocities and massacres all along *as a means of general policy* to cow these peoples into submission.

Just as the Nazis and Facists were in World War II, the Russian and Chinese Communists are cruel and brutal groups bent on world imperialism as they so often accuse us. However, the Nazis aimed at the domination of Europe and near Asia and the Japanese aimed at the domination of the Far East. At the present time the prime target of Russia