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APPLICATION MANUALS WORTH WRITING FOR

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Willipore FILTER CORPORATION

145 ASHBY ROAD, BEDFORD, MASS.

Millipore filters are cellulose plastic porous membranes made in twelve different pore-size grades from 8 microns down to 10 millimicrons. All particles larger than pore size are retained on the filter surface.

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Pasteur 70, 80 (1944)] in addition to the two references we cited.

We are familiar with the papers by Dufrenoy and Pratt on cytochemical mechanisms of penicillin action [J. Bacteriol. 53, 657 (1947); 54, 127 (1947)], but their relationship to our own work seems to be peripheral mention of bacteriolysis. We wish to observe that neither Pratt nor ourselves have claimed to be original discoverers of the lysis phenomenon. . . .

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How Can Science Teaching Be Improved

High-level planning for improvement in science teaching has progressed to the point where scientists and educators are concerned about the programs in the elementary and high schools. More school administrators are becoming aware of the role science must play in the lives of our students and are ready to look in and work with the science teacher to up-date the local program. Industrial leaders, long the kidnappers of our best science teachers, are now loaning capable scientists to the classroom for brief periods to present new concepts with excellent equipment.

Each of these efforts is worthy of much discussion and exploration, but we can improve science teaching best by improving the teacher of science. Teachers are part-time employees. A position for 36 weeks with 16 weeks of unemployment each year is not a profession. A salary based on part-time employment is not the economic status of a professional.

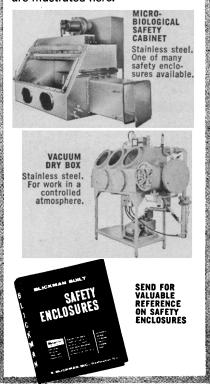
A program providing 48 weeks of employment for our teachers each year—36 weeks in the classroom to educate the students, and 12 weeks of advanced training in a program for educating the teacher—would permit each teacher to keep up with the rapid expansion of knowledge and the best ways for transmitting it.

The salary for teaching 36 weeks would continue to be provided by the school district under the present financial structure. Then the national community could assume the financial responsibility of employing the teacher for the twelve weeks of advanced study. The dividends to the nation would far

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The usual objections to federal aid on the grounds of control of state and local schools, religion, and private organizations cannot apply here. The proposed federal aid would be directed to individuals for providing a staff of qualified science teachers to serve the children in *all* the nation's schools.

It is not too late to start improving teachers of science, math, English and other subjects by improving their educational proficiency and economic status. To attract the best young minds into the teaching profession and to meet the challenge of new and better programs of instruction for American schools, we must get down to counting time, money, and people.

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Manpower or Mindpower

Among the letters elicited by the editorial, "Manpower or Mind Power" (11 January 1963), were two expressing opposing viewpoints that seemed to represent the opinions of graduate students and graduate faculty respectively [Science 139, 798 (1 March 1963)]. I would like to present impressions gained from association with recruitment activities in an industrial research laboratory.

Today's knowledgeable undergraduate knows that a graduate degree does not confer scientific prowess or creativity. He also knows that the Ph.D. is a prestige symbol, and he can estimate almost to the dollar his potential earnings both with and without this degree.

While graduate school administrators and professors respect the acquisition of research philosophy, techniques, and personal development as well as textbook knowledge, few students share this respect. They know that the top students get the top jobs, but with demand exceeding supply, almost every Ph.D. is assured of several job offers at salaries only slightly lower than those offered to the top men.

It is a paradox that while industry would like to hire more Ph.D.'s, it does not have enough research posts requiring their special training to utilize all the degree men it does hire. Therefore we see Ph.D.'s working as highly skilled laboratory technicians, doing routine analyses, or helping to commer-

