

Precision molded of linear polyethylene for extra strength, these new rectangular shape carboys offer big space saving advantages for every lab. Large neck openings for easy filling and cleaning. Both the tubulation of the aspirator bottle and the threaded boss of the carboy with spigot are integrally molded. No leaking. Each carboy has a built-in shoulder loop. Available in 2 gal. (O.D.-1332" high x $8\frac{1}{2}$ " long x $5\frac{1}{6}$ " wide) and 5 gal. (O.D.-141/8" high x $12\frac{1}{2}$ " long x $8\frac{5}{8}$ " wide) sizes. Molded hand grips on the 5 gal-Ion size.

The Nalgene name is molded right in—your assurance of highest quality. More labs specify Nalgene Labware than all other brands of plastic labware combined. How about you? Specify Nalgene Labware from your lab supply dealer. Ask for our 1967 Catalog or write Dept. 21131, Nalgene Labware Division, Rochester, N.Y. 14602.



teaching a subject develops a greater depth of knowledge than merely "taking courses." In addition, students who teach gain maturity and poise and should develop the ability to express themselves before a critical audience.

- 7) Many of our recent applications for faculty positions reveal that the individual has had *no* teaching experience. We should not be encouraging this same shortcoming in our better students.
- 8) Our teaching-assistant budget has been unable to provide funds for teaching assistance in advanced courses. Additional help would allow the faculty time for more meaningful teaching, for needed revisions, and for laboratory improvements.
- 9) Differentials in the dollar value of various types of support have led to a certain amount of discontent on the part of some of our students.
- 10) Departmental allocation of various types of support has proved difficult and complex.

Because of these concerns, we proposed to our administration that a Teaching Fellow Program be initiated and suggested the following procedures:

- 1) All graduate support funds (scholfellowships, arships, traineeships, NDEA's, NASA's, teaching assistantships, and various types of research assistantships) would be considered as one budget. This budget would determine our total support level. Individual stipends would be set at a level midway between the current experienced teaching assistantships and inexperienced teaching assistantships, less state and federal taxes. (The stipends should be tax-free as teaching would be made a degree requirement.)
- 2) Teaching and research assignments would be made equitably (research assistants would teach less) with everyone doing some teaching. Ideally, new graduate students would be assigned lighter teaching loads to speed their academic adjustment.
- 3) Annual raises for teaching fellows would be based on merit, not automatically awarded for "experience" as is done now. Another possibility would be to set aside a percentage of raise money to be administered automatically for "experience" while the rest would be awarded on "merit."

The proposed system, as outlined above, was tested "on paper," using our current budget, and it actually increased the number of graduate students we could support. In addition, the system proved easier to administer

at the departmental level. Various federal and state regulations prohibit our proposal from being tested locally, but there is a possibility that such a system might be funded by a granting agency on an experimental basis with the state of Wisconsin providing the financial support currently provided for the teaching assistant budget. Such an experiment should improve both undergraduate and graduate education.

RICHARD A. PAULL Department of Geology, University of Wisconsin-Milwaukee, Milwaukee 53201

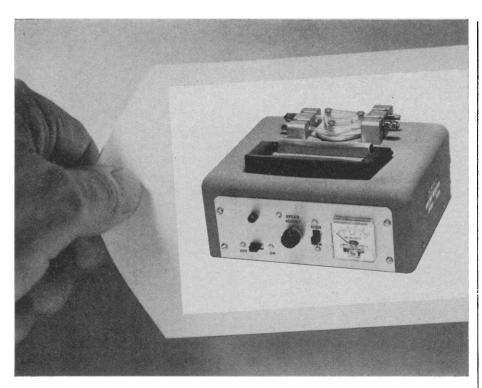
The Draft: Tormenting Uncertainty

Abelson's conclusion that the draft is the "focal source" of discontent ("Student anxiety," 1 Dec., p. 1139). coincides with my own observations. Many of the students themselves do not fully realize the degree to which the draft disturbs them. I believe the draft is at the root of an anxiety and disturbance which spreads to all youth. Although a professional army at the enlisted as well as officer level seems to me to be the best solution, there are alternatives. At any rate, the present draft program is unsatisfactory and a menace to our social equilibrium now and for the future.

LOWELL H. HATTERY School of Government and Public Administration, American University, 1901 F Street, NW, Washington, D.C.

Unrest on our college campuses . . . may very well result from our present draft policy, which exempts young men from military service while they remain in college. The immorality of this policy, especially during a war which, we must assume, is of limited duration, and which therefore will result in some youths' permanent exemption from the rigors of warfare, is very likely having a more profoundly disturbing effect than any question of the validity of the war itself. It is not easy for men to live with the knowledge that their lives are being spared because they have been born into a social class that achieves college. It is easier to grow cynical about everything, than to face that reality, and the tragedy is that the deeper the sense of justice, the greater the urge to selfabasement. . . .

JAMES MUNVES
230 West 78 Street, New York 10024



With this steady flow HOLTER™ pump you handle two fluids simultaneously at different rates (0-2500 ml/hr)

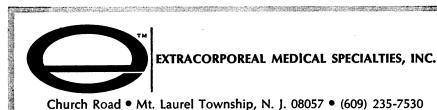
The RL175 Holter bilateral roller pump offers laboratory workers and clinicians the means of pumping two discrete systems at linearly related rates.

A high and a low RPM range for the roller head provide optimum control of pumping rates. Within each range, speed is infinitely variable. Internal solid state voltage regulation contributes to a pumping accuracy of ±1%. Delivery volume vs. pressure curves are flat up to 290 mm Hg positive pressure and 200 mm Hg negative pressure.

Precision molded silicone elastomer pumping chambers eliminate the hysteresis effects that make PVC and polyethylene undesirable in precision work. Useful life of the chambers is well over 2,000 hours. Provided in two internal diameters, they are autoclavable and easily interchangeable. Because the chambers are completely occluded by the head rollers, the RL175 does not "dribble" when shut off. You stop and start with identical, virtually non-pulsatile flows.

The circuitry and mechanical safety features of the RL175 suit it admirably to unattended operation.

Write or call today for full information and prices on this versatile laboratory pump, and on other pumps and devices from Extracorporeal.



... I am intrigued by the frequent omission in such discussions [of the draft policy] of one possible technique for eliminating this uncertainty. I refer to the simple process of enlistment, which is easily accomplished at a time to minimize interference with graduate school, career, or marriage, and offers in-service opportunities and choices not open to those drafted. Any student who finds himself living in "tormenting uncertainty" can expeditiously eliminate that uncertainty in this way, and failure to do so suggests that he at least prefers the uncertainty to this alternative.

JOHN L. PRATHER

Department of Physics, PMC Colleges, Chester, Pennsylvania 19013

... I think it is an exaggeration to attribute "tormenting uncertainty" and all the ills supposedly resulting from it solely to the threat of the draft. Many students will live in a state of major uncertainty regardless of the nation's military needs, because this is a natural condition of the transition from youth in an educational milieu to adulthood in a practical world.

The draft is not quite as bad as you seem to make it. Perhaps the malaise of some students is due not so much to the uncertainty of the draft as to the fact that they might be compelled to perform a service for their country that could be uncomfortable or might interfere with their private plans. In other words, if the draft were 100 percent certain, in the form of universal service, I suspect that these young men would be no happier than they are now. What are they really against, uncertainty or service?

Also, there are many reasons for doubting that a lottery would be any less uncertain than current methods of selection. Under the 1967 draft law, students are guaranteed a deferment until they have obtained a bachelor's degree, and many will be assured of deferment through graduate school as well. This gives them a great deal of certainty. Then too, about 50 percent of all young men are certain of avoiding service altogether because of disqualification on physical or other grounds. For these, there is no uncertainty. . . . Proponents of a lottery seem to think that by a simple casting of lots the country can decide once and for all whether or not a particular young man's services will be required for the national defense. This is an extremely simplistic view of the nation's security and of its military needs, since these change markedly from year to year. But in the case of the prospective college student, the coin you are suggesting be tossed has on one side, "military service" and on the other, "college education." I wonder whether you really mean to advocate that college admittance be determined by the laws of chance.

JOHN D. ALDEN

Engineering Manpower Commission, Engineers Joint Council, 345 East 47 Street. New York 10017

An interesting solution to the shortrange problem is presented in Wolfle's editorial "Selective service solution" (8 Dec., p. 1271). For the longer range, the academic and scientific communities generally endorse legislation embodying the "lottery" approach. I would like to suggest some guidelines for such legislation incorporating one important new concept:

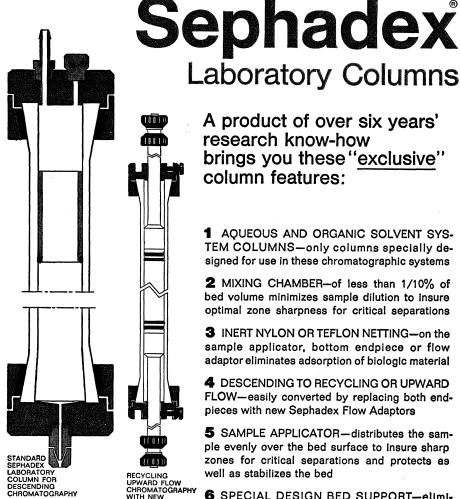
- 1) A lottery by which the individual, as close to the time of high school graduation as possible, is placed into one of two groups: exempt or eligible.
- 2) Exempt individuals would be free of any potential responsibility unless major new military requirements arose and the Congress took further action as a result.
- 3) Eligible individuals would be subject to call during a period of 2 years only. During this period, until and unless called to duty, they would be eligible for benefits for attending school identical with those already provided to veterans.

This plan would have all the advantages of equity and maximum possible certainty which make any lottery plan attractive. In addition, it provides an option of socially useful compensation to those who must live with the uncertainty, and it provides a financial incentive for the government to optimize the size of the pool of eligibles.

Details, of course, are optional. The essential points are equity in the determination of callable individuals, maximum possible certainty for our young men, and compensation and inducement for continued schooling for those who must live with an uncertainty not of their making.

WERNER A. BAUM Environmental Science Services Administration, Washington Science Center, Rockville, Maryland 20852

Especially designed for **Gel Filtration Chromatography** Ion Exchange Chromatography



A product of over six years' research know-how brings you these "exclusive" column features:

- 1 AQUEOUS AND ORGANIC SOLVENT SYS-TEM COLUMNS-only columns specially designed for use in these chromatographic systems
- 2 MIXING CHAMBER-of less than 1/10% of bed volume minimizes sample dilution to insure optimal zone sharpness for critical separations
- 3 INERT NYLON OR TEFLON NETTING-on the sample applicator, bottom endpiece or flow adaptor eliminates adsorption of biologic material
- 4 DESCENDING TO RECYCLING OR UPWARD FLOW-easily converted by replacing both endpieces with new Sephadex Flow Adaptors
- 5 SAMPLE APPLICATOR—distributes the sample evenly over the bed surface to insure sharp zones for critical separations and protects as well as stabilizes the bed
- 6 SPECIAL DESIGN BED SUPPORT-eliminates troublesome sintered glass disc

	050114	DEV 001111110		
		DEX COLUMNS		
	AQUE	OUS SYSTEMS		
	*	ACCESSORIES		
	Size	Cooling	Sample	Flow
Type	cm	Jacket	Applicator	Adaptors
K 9/15	0.9x15			_
K 9/30	0.9x30	_	-	_
K 9/60	0.9×60		-	_
K 15/30	1.5x30		-	_
K 15/90	1.5x90	-	_	
K 25/45	2.5x45	-	S	0
K 25/45 "Jacketed"	2.5x45	, S	S	. 0
K 25/100	2.5×100	-	S	0
K 25/100 "Jacketed"	2.5x100	S	S	0
K 50/100 "Jacketed"	5.0x100	S	_	S
		X COLUMNS "SR"		
	RESISTANT TO	ORGANIC SOLVEN	ITS	
SR25/45	2.5x45	_	_	S
SR25/100	2.5x100	_		S
	S = Standard Access	sories O=Optiona	I Accessories	
	FLOV	V ADAPTORS*		
Flow Adaptors	To fit all K 25 Sephadex Lab. Columns			

Information Service A comprehensive reference list, abstract cards, and other information on Sephadex products are available. Direct inquiries on your letterhead to the local Pharmacia representative or to:



PHARMACIA FINE CHEMICALS INC. 800 Centennial Avenue, Piscataway, N. J. 08854

FLOW ADAPTORS

Pharmacia (Canada) Ltd., 110 Place Crémazie, Suite 412, Montreal 11, P. Q.

(Inquiries outside U.S.A. and Canada should be directed to PHARMACIA FINE CHEMICALS, Uppsala, Sweden.)