

... because it won't break, crack, or chip—ever.

And, in the Nalgene[®] Separatory Funnel of polypropylene the separation line between phases can be clearly seen right down to the stopcock housing. It's precision molded to assure a smooth, continuous flow resists most chemicals, even HF.

Nalge... the innovator in the plastic labware business. Specify Nalgene Labware from your lab supply dealer. Ask for our 1968 Catalog or write Dept. 2614, Nalgene Labware Division, Rochester, N.Y. 14602.



NALGE RITTER PFAUDLER CORPORATION

Early Days at Woods Hole

A fairly common misconception concerns the genesis of the Marine Biological Laboratory ("Woods Hole: now and then," Letters, 17 Nov.). Although the unique seaside instruction begun by Louis Agassiz at the Anderson School of Natural History on Penekese Island in 1873 was in essence the forerunner of all of the marine and freshwater biology laboratories in this country, it was not the direct ancestor of the Marine Biological Laboratory in Woods Hole. Conklin, Lillie, Dexter, and perhaps others, have testified clearly on this point. MBL was the immediate outgrowth of a seaside laboratory at Annisquam, Massachusetts, directed by Alpheus Hyatt, a student of Agassiz and curator of the Boston Society of Natural History. The Annisquam Laboratory, organized by the Women's Educational Association of Boston to serve the same purposes as the Agassiz School on Penekese, existed from 1880 to 1886. It became too small for its Annisquam quarters (Hyatt's home) and eventually moved to Woods Hole. This village was selected as the site for the first marine U.S. Fish Commission Station, thanks to the wisdom of Spencer F. Baird, secretary of the Smithsonian Institution.

It is not out of order and wholly in the Agassizian tradition to reemphasize Zullo's 'point in the communication following Nunnemacher's letter that the current year around Systematics Ecology Program is "a necessity to the continued success of the MBL" in creating "another quiet but significant revolution in modern biology." DONALD J. ZINN

Department of Zoology, University of Rhode Island, Kingston 02881

Carter ("Woods Hole: Summer mecca for marine biology," 15 Sept., p. 1288) and Nunnemacher (Letters, 17 Nov.) referred to Hermon C. Bumpus in connection with the founding of the Marine Biological Laboratory at Woods Hole and his pioneering work on the American lobster. Recently, I uncovered letters (Archives, Library of Harvard University) written by C. O. Whitman, first director of the MBL, to Frederic W. Putnam which set the stage for the Bumpus monograph. They read as follows:

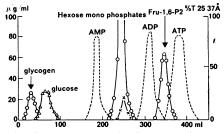
"Wood's Holl (sic—the original spelling), Massachusetts. June 12, 1889— Do you suppose the U.S. Fish Commission would be able to offer any

Now in <u>bead form</u> for chromatography of biologic substances... **Sephadex** Ion Exchangers

Because of its advantages—stability and inertness—Sephadex has been used to produce a new class of ion exchangers: DEAE-, CM- and SE-Sephadex. Since their introduction they have been used extensively, particularly in the biochemical and clinical field.

In the new bead form they will be more useful both for laboratory and manufacturing scale processes. Their spherical shape gives increased mechanical strength and leads to easier column packing. More uniform particles result in improved hydrodynamic properties.

All Sephadex Ion Exchangers have a high capacity and Iow nonspecific adsorption. They are available in two types that differ in porosity, thus offering flexibility for your specific requirements. Sephadex Ion Exchangers are of analytic grade purity and are produced under rigorous quality control, thus ensuring uniform products to give accurate and reproducible results.



Model experiment with glycogen, glucose, sugar phosphates and adenosine phosphates on a column of DEAE-Sephadex A-25. (from Biochim. Biophys. Acta 74 (1963) 588, by permission of the autor)

-						
Туре	Grade	lonic Form	Capacity (meq/g)	Bed Volume ¹ (ml/g)		
DEAE- Sephadex A-25	40 -120µ	CI-	3.5 ± 0.5	5-9		
DEAE- Sephadex A-50	40-120 <i>µ</i>	CI-	3.5±0.5	25-33		

Cation Exchangers (Bead Form)						
Туре	Grade	lonic Form	Capacity (meq/g)	Bed Volume ² (ml/g)		
CM- Sephadex C-25	40-120µ	Na⁺	4.5 ± 0.5	6-10		
CM- Sephadex C-50	40-120µ	Na⁺	4.5 ± 0.5	32-40		
SE- Sephadex C-25	40-120μ	Na⁺	2.3±03	5-9		
SE- Sephadex C-50	40-120µ	Na⁺	23±03	30-38		

In Tris-HCI buffer, pH = 8.3, ionic strength = 0.05.
In sodium phosphate buffer, pH = 6, ionic strength = 0.06.

For additional technical information, including booklet on Sephadex Ion Exchangers, write to:

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

SCIENCE, VOL. 159

pecuniary assistance to anyone who would undertake to work out thoroughly the development of the lobster? It is a good subject, but it would require some time—two years at least. I do not know that I can find a suitable person to do it, but I think I can."

Apparently Putnam promised a "small sum," not from the U.S. Fish Commission, however, but from the funds of the Massachusetts State Board of Fisheries and Game for which Putnam was a commissioner.

Whitman wrote to Putnam again on 26 June 1889, that "I have found a man who will undertake the lobster work. He will begin it and carry it along as far as possible. Now what will the 'small sum' be which you could give him? He is Prof. Bumpus of Olivet, Michigan, a fine young naturalist who takes hold of work most energetically and will undoubtedly do well. Give him all the encouragement you can."

In 1891 Bumpus published his classic study on "The Embryology of the American Lobster" (J. Morphol. 5, 215) based upon his Ph.D. dissertation developed under the direction of Whitman at Clark University.

RALPH W. DEXTER Department of Biological Sciences, Kent State University, Kent, Ohio

Parkinsonia Rampant

As a student of Parkinsonia (1), I would like to point out the potential for a new outbreak of this dread disease —in the universities. Over the past 15 years there has been a vast growth in federal funds for university science. This in turn led to a growth in the number of administrators, comptrollers, clerks, and others to handle this money and obey the regulations of "those people" in Washington. Of course the overhead rate went up too; what else did you expect?

Now the tide of federal funds appears to be receding; can we expect that universities will do with fewer administrators and comptrollers? Will there be a drop in the overhead? I predict an epidemic of Parkinsonia that will "curl your hair."

S. A. HOENIG Department of Electrical Engineering, University of Arizona, Tucson 85721

Reference

1. C. N. Parkinson, Parkinson's Law (Houghton Mifflin, Boston, 1957).

2 FEBRUARY 1968



... smoothly, evenly—the instant they touch the paper. We've been aware of your pen frustrations, and we've done something about it ... our exclusive sapphire-tipped pen. Its fine, clear trace shows every fluctuation. This pen fills easily, writes 2000-3000 feet per filling and requires less than 4-5 grams of pressure. The ink flow is regulated at all writing speeds and positions.

There's more to a V.O.M. Recorder than a great pen. It has an event marker and 5 chart speeds, a zener diode reference supply for continuous accuracy, plus high off-balance input impedance. It attaches easily to most analytical instruments. It's compact—you place it where you need it. Many other built-in features. Models available with the sensitivity you need. Write for Catalogs 37-2174 and 37-2194. Better yet, try one yourself in a no-obligation demonstration. Bausch & Lomb, Electronics Division, 20802 Bausch Street, Rochester, New York 14602.

BAUSCH & LOMB

NSTRUMENTATION