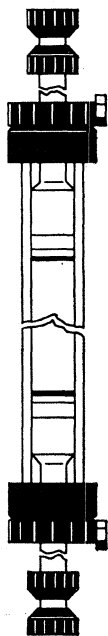


NEW from PHARMACIA

SEPHADEX® LH-20 extends gel filtration to organic solvents



Pharmacia Fine Chemicals now introduces the first lipophilic derivative—Sephadex LH-20—to extend the use of Sephadex to organic solvents. Since it swells in water, polar organic solvents and in mixtures of these solvents, Sephadex LH-20 makes it possible to apply the conventional Sephadex gel filtration technique in fields such as lipid chemistry, polymer chemistry and other areas of organic chemistry and biochemistry where organic solvents must be used.

Sephadex Solvent-Resistant Columns

The only laboratory columns especially designed for use in chromatographic separations with organic solvent systems. The columns are equipped with two specially designed adjustable flow adaptors for use with various bed heights and for ease of sample application. The columns have the advantage of allowing either descending, upward flow or recycling chromatography as one of their many features.

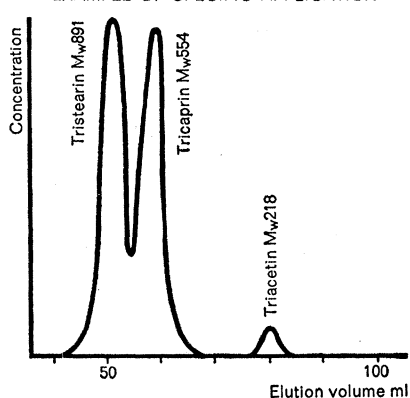
RANGE OF APPLICATION

Solvent	Approx. solvent regain ml solvent/g dry gel	Approx. bed volume ml/g dry gel
Dimethylformamide	2.2	4
Water	2.1	4
Methanol	1.9	3.5-4.0
Ethanol	1.8	3.0-3.5
Chloroform*	1.8	3.0-3.5
n-butanol	1.6	3
Dioxane	1.4	2.5-3.0
Tetrahydrofuran	1.4	2.5-3.0
Acetone	0.8	1.5

*Containing 1% ethanol.

Particle size: 25-100 μ .

EXAMPLE OF SPECIFIC APPLICATION



Separation of glycerol esters in chloroform. Bed dimensions: 2.5x32 cm. Sample: 2 ml containing 4 mg of each substance. Flow rate: 0.6 ml/min.

For additional technical information, including the booklets *Sephadex LH-20* and *The Sephadex Solvent-Resistant Columns*, write to:



PHARMACIA FINE CHEMICALS INC.
800 Centennial Avenue
Piscataway, New Jersey 08854
Pharmacia (Canada) Ltd., 110 Place Cr  mazie,
Suite 412, Montreal 11, P. Q.

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

of their body hair and skin pigmentation half a million years ago. But when it got cold they had to cover most of their skin to keep warm (or else retreat), and it is perhaps at this time that the nose came into prominence.

DONALD V. MCGRANAHAN

47, chemin Moise Duboule,
Geneva, Switzerland

Writers: Fancies and Foibles

We have had considerable discussion of "freight trains" in scientific writing. Another trick of poor writing perhaps deserves christening. Since it encourages freight trains to emerge, it might be called "verb switching." The principle behind verb switching is very simple: whenever a verb with a reasonably definite meaning threatens to appear, the poor writer carefully converts it to a noun or gerund and inserts a weak, essentially vacuous verb to fill out the grammar. Thus, instead of saying that some step improves the accuracy of a measurement, the writer will say that it "makes an improvement in..." or "aids in improving..." In place of "isolate," he will write "produce isolation." And so on. Once the principle has been grasped, endless examples can be constructed.

Verb switching is often aggravated by gerund phobia. Presumably, the victim was once frightened by a dangling participle and now avoids words ending in -ing whenever he can. Thus, instead of writing about calibrating the equipment, he will write, "the calibration of the equipment." This habit might be called "tioning."

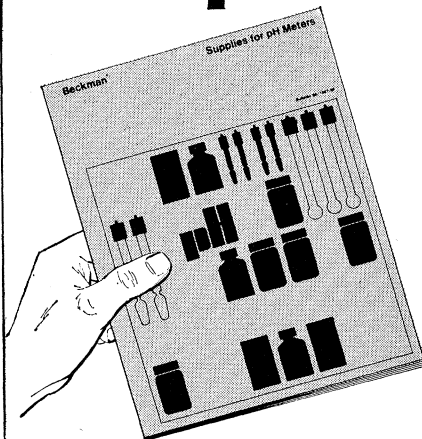
PAUL I. RICHARDS

*Technical Operations, Inc.,
Burlington, Massachusetts 01803*

Bad grammar is unfortunately not restricted to authors. It (and pedantry) are also to be found, although more rarely, among editors. In this latter case the problem is of course more serious. In addition to letting some of the bad grammar of their authors pass through, they sometimes make good grammar into bad or change correct but free sentences into stilted ones. It is disconcerting to have one's writing altered to a style one deliberately avoids using, or to have qualifiers such as "perhaps" omitted.

For example, in a paper of mine published in another journal in the past year the editor changed "The insecti-

pH supplies ?



Buy 'em from Beckman direct-order supply catalogs

and get same-day-shipment service on all these off-the-shelf pH items:

Glass Electrodes	Reference Electrodes
Specific Ion Electrodes	Combination Electrodes
Special-purpose Electrodes; thin probes, small samples, blood	Filling Solution for reference electrodes
Desicote® rinsing aid	Buffer standards—liquid and powder

and other original equipment supplies for Beckman pH Meters

from the nearest of our coast-to-coast stockpoints. Direct-to-you delivery means you can now fill every need whenever you feel the need. And who knows your analyzer supply requirements better than the instrument manufacturer? Other catalogs list supplies for IR, UV, GC, Nuclear, Atomic Absorption, Aquameters & Titrators, Pumps & Fittings. Order the specific catalogs you need now and take advantage of special introductory offers. Contact your nearest Beckman office or write direct for Data File No. 1303D.

Beckman®

INSTRUMENTS, INC.
SCIENTIFIC INSTRUMENTS DIVISION
FULLERTON, CALIFORNIA • 92634

INTERNATIONAL SUBSIDIARIES: GENEVA; MUNICH; GLENROTHES, SCOTLAND; TOKYO; PARIS; CAPE TOWN; LONDON; MEXICO CITY

NEW AUTOMATIC
diluting instrument

dispenses acids,
bases, solvents
without error,
waste,
contamination
or effort . . .
every time!



At last Manostat takes all the tedium out of this time-consuming lab chore. DILUTROL makes it a care-free push-button pleasure. Preset adjustable sample pick up with repeatable accuracy of $\pm .3\%$, continuous diluent delivery with an accuracy $\pm .5\%$. Removable dispensing head rotates through 120 degrees, makes possible operation at distances up to 4 feet. The exclusive electromagnetic check valve assures positive repeatability and provides exclusive airlock between sample and Diluent; fluids touch only Teflon and glass. Operates on 115 volts AC. Available either with 1.0 ML sample and 10 ML diluent max. capacity or with 0.5 ML sample and 10 ML diluent capacity. **DILUTROL is priced from \$295.**



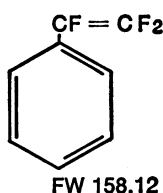
MANOSTAT Corporation 20 N. MOORE ST.,
DEPT 524, N.Y. 10013

Available through your laboratory supply dealers

Monomer for a new polymer

α BB-Trifluorostyrene (TX1306)

BP	68°C
MP	-24 to -23°C
RI, n_D^{20}	1.4741
Sp. Gr.	1.220
Dipole Moment	1.98 D



The current high interest in the polymer and copolymers of TFS, particularly for membranes for fuel cells and water purification, has led us to make this new monomer reagent available for laboratory use. Applications: Polymerized readily to polytrifluorostyrene, which combines many of the desirable properties of polytetrafluorostyrene and polystyrene. Polymer soluble in toluene, chloroform, and methyl ethyl ketone. Dielectric constant 2.56 with low dielectric loss. Monomer can be copolymerized with a variety of vinyl monomers.

MC&B distributors offer TFS monomer at 99% purity in 10, 25, and 100 grams. Write for technical bulletin.



Division of the Matheson Company Inc.
Norwood, Ohio/East Rutherford, N. J./Los Angeles

vore *Protentomon ursivalis* is . . ." so that the species was set off by commas, as if it were the only known insectivore. In a more recent paper "now" was changed to "presently," which is not of Anglo-Saxon origin and so more "scientific," but which usually means "in the near future." Neither editor would reverse himself.

The main function of grammar is, after all, to reduce ambiguity. Wider use of such a criterion might help in communication.

LEIGH VAN VALEN
Department of Anatomy, University of
Chicago, 1025 East 57 Street,
Chicago, Illinois 60637

Information Distribution:

A Plea for Efficiency

Harvey Brooks's comments ("Applied science and technological progress," 30 June, p. 1706) focus on many of the ramifications of basic-versus-applied science emphasis. In speaking of the transfer of federally-supported technology to private industry, he cites the encouragement provided by the Atomic Energy Act, and the desirability in government of a more hospitable attitude generally toward this objective.

It must also be remembered that the entire initial product of any research is information, and the dissemination of information generated at public expense has been of concern in many quarters. Often vast amounts of money and expertise have been expended in that research, but its product will not be utilized if there is no effort to make it available. The generating effort of the research is to a great extent wasted if the concluding step of efficient dissemination—good reporting and accessibility to the reports—is omitted.

Aside from some agencies (notably AEC and NASA), there has been lagging interest in such dissemination. Except for holders of defense contracts, it is a difficult and slow process for the general public to (i) learn what usable technology results from Department of Defense-sponsored research, and (ii) to examine or obtain copies of potentially interesting reports. Despite efforts to produce better announcement and indexing media, the jumbled jargon of identifying report numbers, the uncertainty of subject indication and long delays in obtaining copies are enough to discourage the belief that the govern-