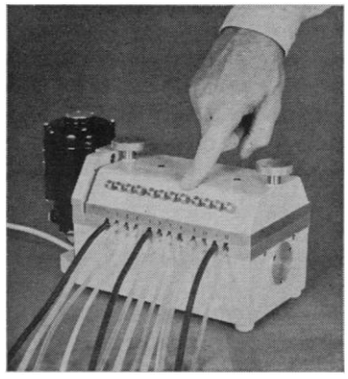
Durrum Dial-A-Pump™



Liquid metering in 12 channels

Each of the 12 channels is a separate pump with individually adjustable flow control. Flow rates range from 1 to 1,200 ml per hour **per channel!** Standard Tygon, rubber, or fluoroelastomer tubings allow a wide variety of applications.

Some Typical Uses

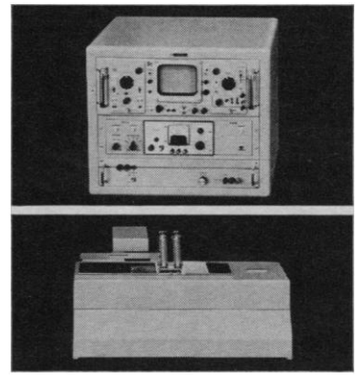
- Continuous culture media feeding
- Gradient column chromatography
- Continuous fermentation studies
- Continuous bioassay and toxicology studies
- Continuous perfusion
- Automated chemical analysis.

And many others!

More Information

For the new 6-page brochure describing the Durrum Dial-A-Pump, write to address below.

Durrum Stopped-Flow Spectrophotometer



Absorption recordings in 5 milliseconds

This new Durrum instrument simplifies rapid kinetic studies based on the stopped-flow technique. It mixes, measures, and records chemical reaction half times as short as 5 milliseconds, working with sample volumes down to 0.1 ml for each component. It operates in both visible and ultraviolet wavelengths, using a storage oscilloscope with permanent photographic recording. Use it for either elevated or reduced temperature operations.

Typical Uses

• Absorption • Fluorescence • Bioluminescence • Concentration jump • Enzyme-substrate reactions • Catalytic studies.

Complete or Partial Systems

Complete systems consist of monochromator, mixing chamber, electronics, oscilloscope, and camera. Partial systems also available.

DURRUM

Durrum Instrument Corp., 925 E. Meadow Dr., Palo Alto, Calif. 94303. Tel. (415) 321-6302

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as noun modifiers, run together by people too busy (or too indifferent? or too ignorant?) to develop more appropriate terminology. It is nothing but pidgin English. A piano is a piano—but to a Pacific aborigine it is '*Big black bokkis hit him in teeth he cry!*' Moreover, it raises the question 'Is that your kitten, honey chile?'—and evokes the answer, 'No'm, it's the little girl that lives two houses down the street's cat!' So much for nominal compounds which are merely a semiliterate substitute for sound word formation.

"The old scholars in botany and animal anatomy know how to develop fancy words which, however, had *exact meaning*. None of this 'male sex cell master container' stuff for the simple word 'anther.' Air space engineers are undoubted experts with many things, but not with language. They communicate with one another by *describing* the thing that they talk or write about, because they don't know how to invent a good word for it, one of sound Greek or Latin origin.

"Does Professor McNeill understand how working men communicate with one another? He may. But it seems rather obvious that the nominal compound is nothing but a proliferation of noun modifiers, used for lack of a *word*. All that he says about Zipf's law and the like may be true enough. The fact remains that somebody is putting forth a very fancy, unwarranted explanation for a simple phenomenon. Instead of ascribing scholarly motives to some atrocious new jargon, the experts should clobber the engineers for their palpable semiliteracy!"

A. E. FORD

4714 Cherokee Street,
College Park, Maryland 20740

Mohole: Cost versus Results

Despite Abelson's claim that the "morale of the scientific community has been damaged" by a reduction in expenditures for scientific research, and specifically, by the recent action on the Mohole Project, (Editorial, 3 June, p. 1332), I believe that far more damage to the morale of the scientific community has been and will be done by continued expenditures of large sums of money for non-scientific research.

The Mohole project may have great merit at a later date. In our current economic climate and in a period of

technical manpower shortage it appears to be a severe misallocation of our national resources. Abelson also stated that at stake are trillions of dollars worth of resources under the outer oceans. This is a surprisingly sweeping statement. It may well be true if we accept two modifications: (i) The cost of retrieval of these "reserves" may approach their economic value, a relationship neither stated nor implied in his comment. (ii) The time required for exploitation to reach any meaningful level may be so great that deferral of expenditures at this time will be of no real consequence.

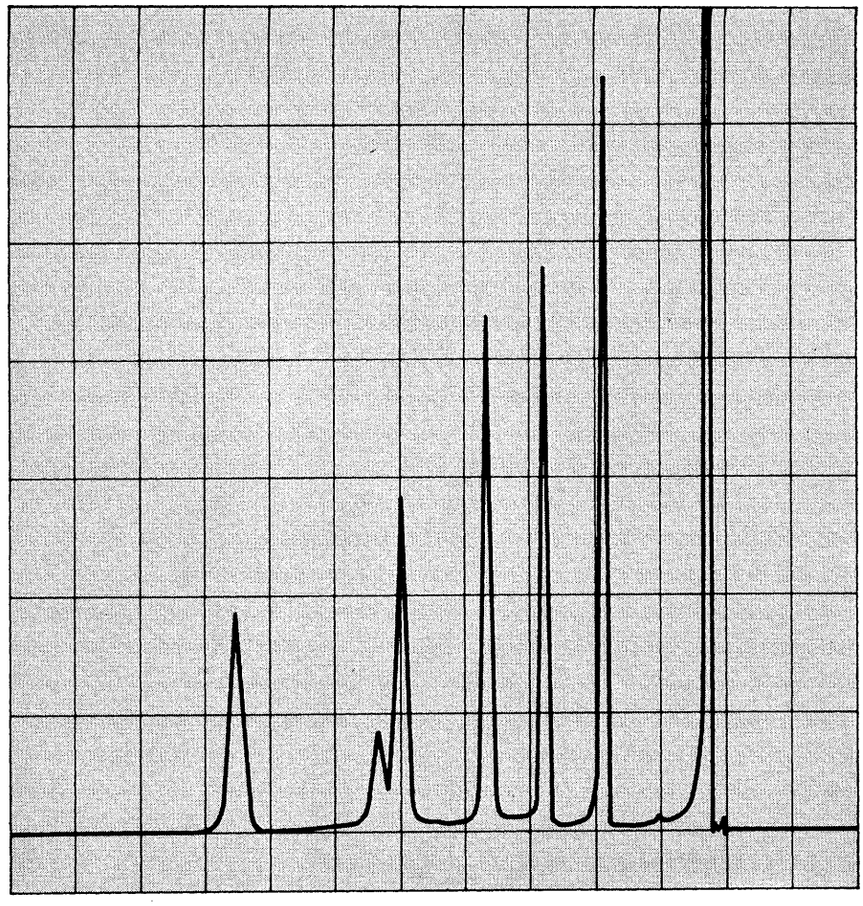
W. D. CARSON
Skelly Oil Company,
Tulsa, Oklahoma 74102

Scientific Exchange with the U.S.S.R.

John Walsh states that the "U.S.-Soviet exchange program negotiated this year reflected a reduction of about 25 percent in the overall level of exchange activity in science," (News and Comment, 17 June, p. 1605). He appears to refer to the exchange activities carried on through a formal agreement between the National Academy of Sciences of the USA and the Academy of Sciences of the USSR. The reduction should read 6 percent or 18 percent, depending on how one calculates: the new interacademy agreement for 1966-67 provides for exchange visits by 45 scientists totaling 170 months, as compared with the level of the previous two-year agreements of 55 scientists for 180 months. Thus, in terms of number of visitors the reduction is 18 percent; in total length of visits, the reduction is 6 percent. The initiative for the reduction was the Soviet Academy's, prompted presumably by political circumstances.

One must recognize that these quotas express intent, and have never been completely filled. As the degree of fulfillment has progressively increased since the beginnings of the interacademy exchange program six years ago, it is likely that the small reduction of quota in the new agreement with the Soviet Academy will result in little or no real reduction in overall exchange activity within the program.

LAWRENCE C. MITCHELL
Office of the Foreign Secretary,
National Academy of Sciences,
Washington, D.C. 20418



Beckman Sharpens Your Chromatograms

The Beckman high performance Ten-Inch Laboratory Recorder gives you a response *twice* as fast as other recorders now used with gas chromatographs. Its fast pen response—0.5 second—and high degree of sensitivity and accuracy make it best suited for recording the sharp slopes and peaks of any gas chromatogram.

This recorder was specifically designed for the laboratory. Included among its many features are a small dead band of less than 0.1% full scale and a panel control permitting instant selection of seven chart drive speeds. Performance specifications and versatility enable the Beckman Ten-Inch Recorder to meet virtually any recording requirement without modification.

Contact a Beckman Salesman. See the difference a Beckman Ten-Inch Recorder makes with your chromatograph. Or for additional product information write for Data File LR-266-Sp.

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