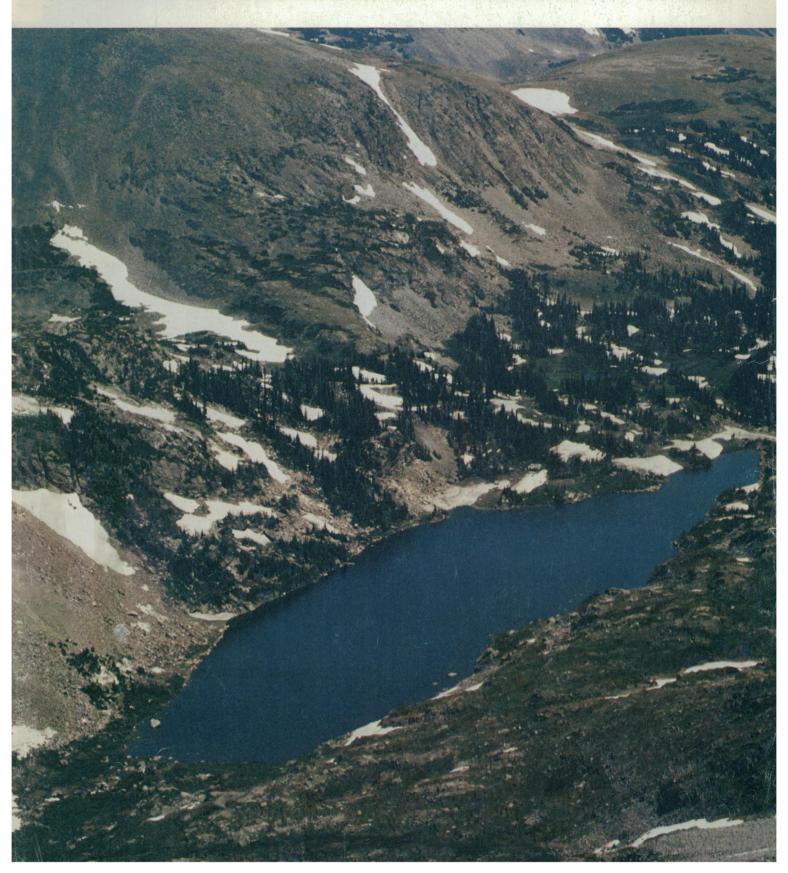
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# SCIENCE

Volume 207, No. 4427

	LETTERS	Wistar Journals: W. B. R. M. Welch; A S	Cheston; Phenac cientist's Tithe?: I	etin Safety: A. W. R. Roy	Macklin and	129
	EDITORIAL	Helsinki Final Act: M	. Gottesman, M. I	Kac, M. Mellman		137
	ARTICLES	Photoelectrochemistry	v: A. J. Bard			139
		Geology of the Athaba	sca Oil Sands: $G$ .	D. Mossop		145
		Privacy, Confidentialit L. Gordis and E. 6	y, and the Use of I	Medical Records i	in Research:	153
NEWS A	ND COMMENT	Rethinking the Dream	at Santa Cruz			157
		Pioneering Rural Tech	nology in India			159
		Briefing: Supporting I				
		Justice, EPA Begin Ha	azardous Wastes I	Orive		162
		Swifter Action Sought	on Food Contami	nation		163
RES	EARCH NEWS	Newly Made Proteins	Zip Through the C	ell		164
		Double Hubble, Age in	n Trouble			167
ВС	OOK REVIEWS	Making of Mind,	tun Ha, Belize, 19 I. V. Wertsch; Evo	64-1970, $D$ . $A$ . $Fr$ olution and the Ge	eidel; The	170
BOARD OF DIRECTORS	KENNETH E. BOULDII Retiring President, Cha		LER D. ALLAN BRO President-Elect		BE E. CLARK IN M. CUMMINGS	RENÉE C. FOX NANCIE L. GONZALEZ
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### AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

REPORTS	Acid Precipitation in the Western United States: W. M. Lewis, Jr., and M. C. Grant	176
	Direct Measurement of Solar Luminosity Variation: R. C. Willson, C. H. Duncan, J. Geist	177
	Ganymede: Radar Surface Characteristics: R. M. Goldstein and R. R. Green	179
	Images of Jupiter's Sulfur Ring: C. B. Pilcher	181
	Tectonic Tilt Rates Derived from Lake-Level Measurements, Salton Sea, California: M. E. Wilson and S. H. Wood	183
	Dimethyl and Monomethyl Sulfate: Presence in Coal Fly Ash and Airborne Particulate Matter: M. L. Lee et al	186
	A Palladium-Palladium Oxide Miniature pH Electrode: CC. Liu et al	188
	Human Rotavirus Type 2: Cultivation in vitro: R. G. Wyatt et al	189
	Retesting the Commitment Theory of Cellular Aging: C. B. Harley and S. Goldstein.	191
	Doridosine: A New Hypotensive N-Methylpurine Riboside from the Nudibranch Anisodoris nobilis: F. A. Fuhrman et al	193
	Pentobarbital: Stereospecific Actions of (+) and (-) Isomers Revealed on Cultured Mammalian Neurons: LY. M. Huang and J. L. Barker	195
	Synthesis of Lipid During Photosynthesis by Phytoplankton of the Southern Ocean: A. E. Smith and I. Morris	197
	Time: A New Parameter for Kinetic Measurements in Flow Cytometry:  J. C. Martin and D. E. Swartzendruber	199
	Aboriginal Indian Residence Patterns Preserved in Censuses and Allotments: J. H. Moore	201
	Reading Senseless Sentences: Brain Potentials Reflect Semantic Incongruity:  M. Kutas and S. A. Hillyard	203
	Prenatal Exposure to Diazepam Alters Behavioral Development in Rats: C. Kellogg et al	205
PRODUCTS AND Materials	Fiber Optic Light Source; Control of Noxious Fumes; Electrofocusing Grade Gel Chemicals; Silanized C-18 Columns for Reversed-Phase HPLC;	
	Centrifugal Grinding Mill; Liquid Chromatography System; Electronic Top-Loading Balance; Rotator for Test Tubes; Literature	208

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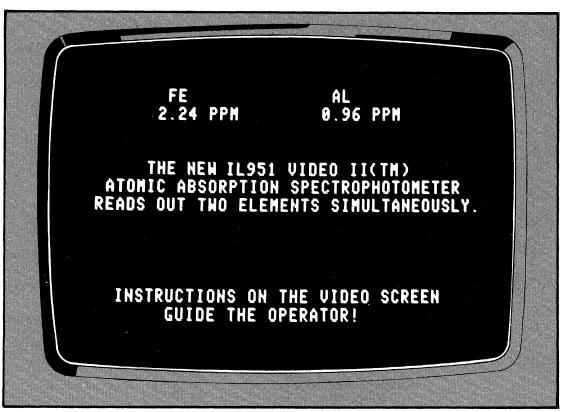
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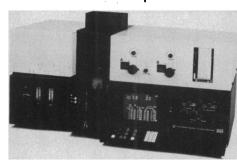
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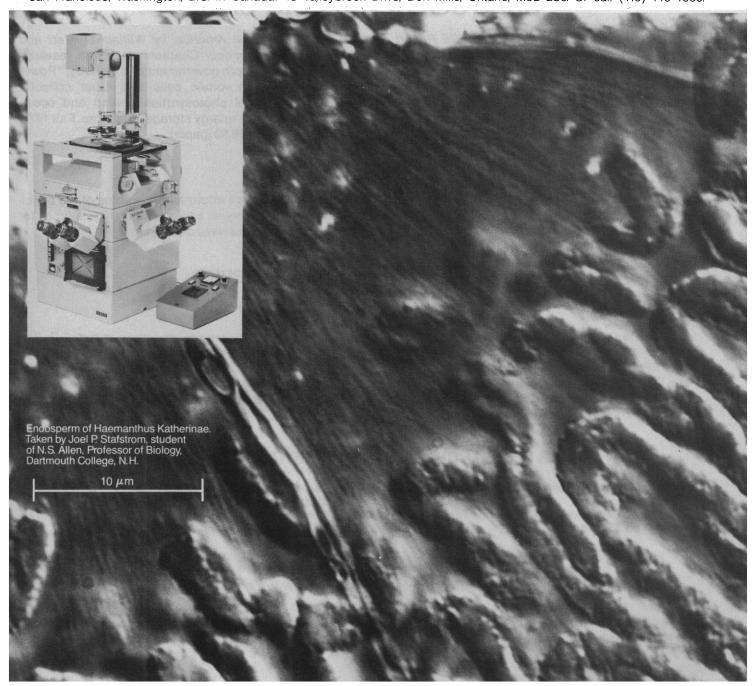
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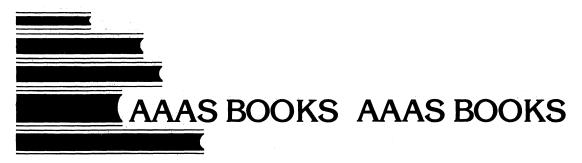
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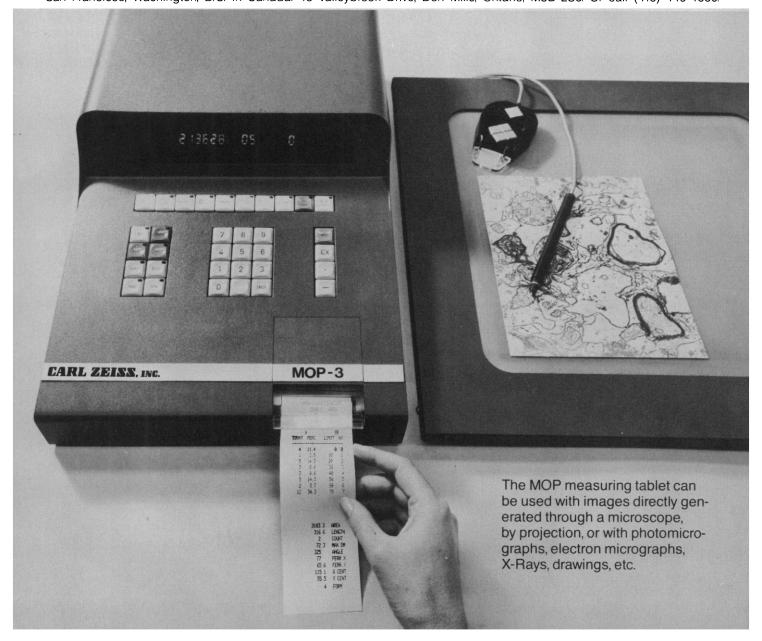
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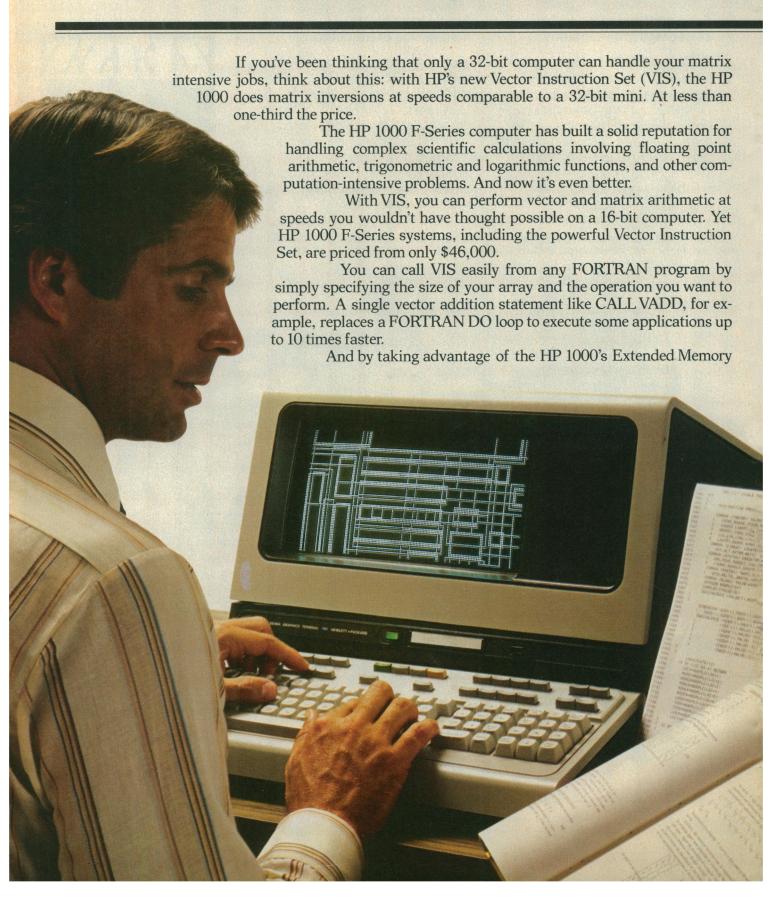
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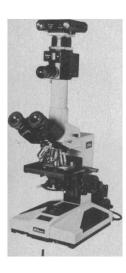
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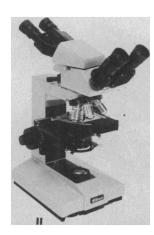
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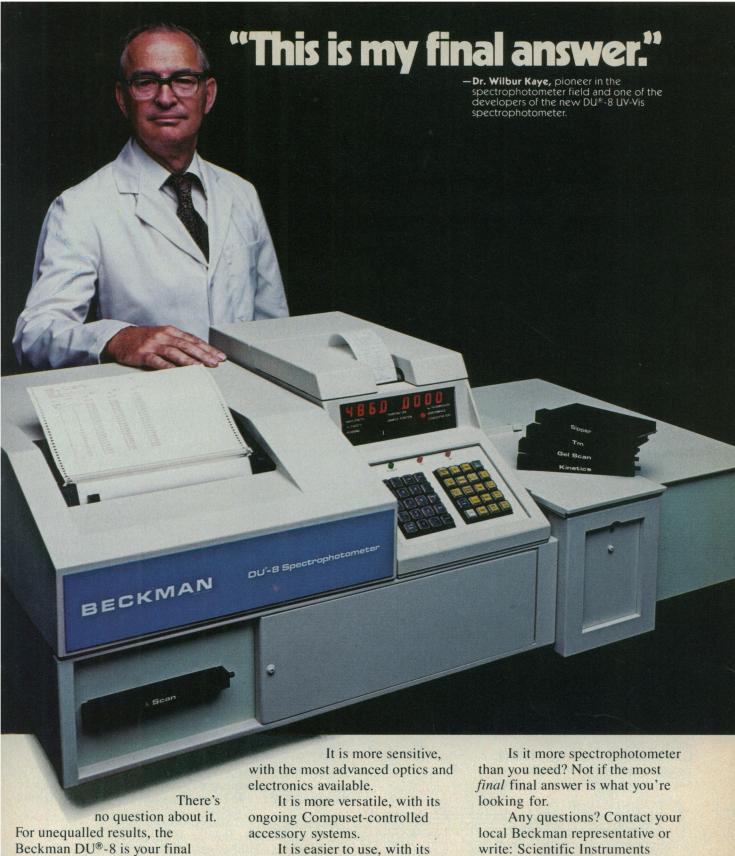
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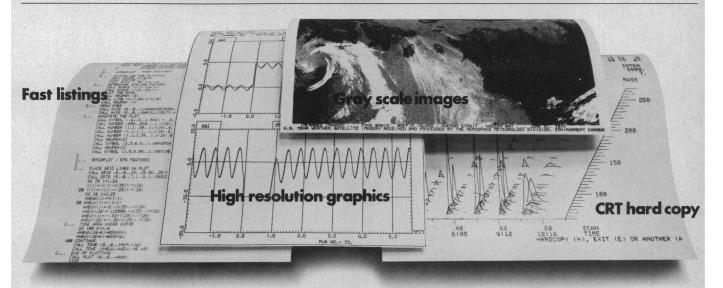
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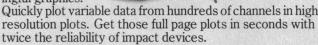
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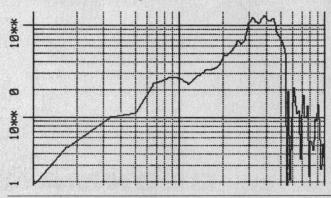
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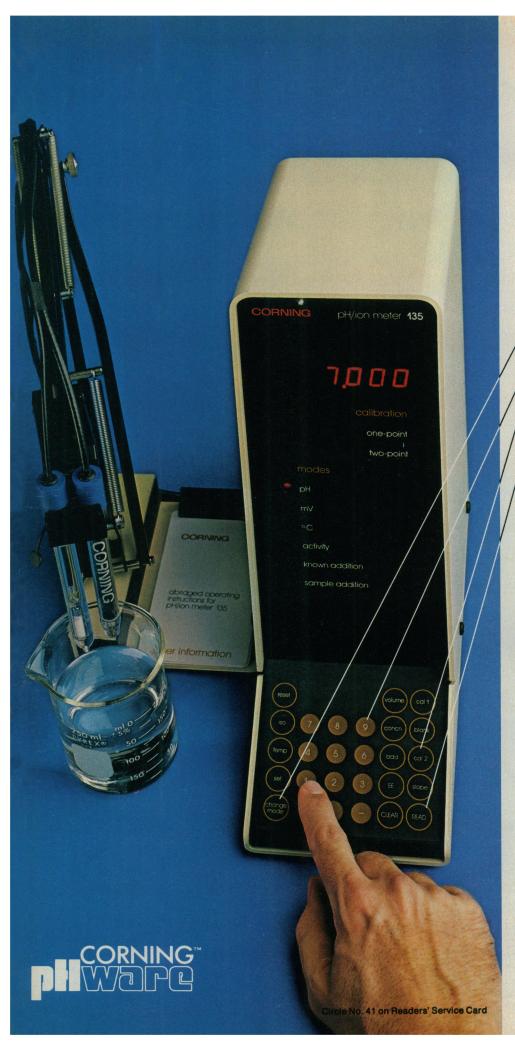
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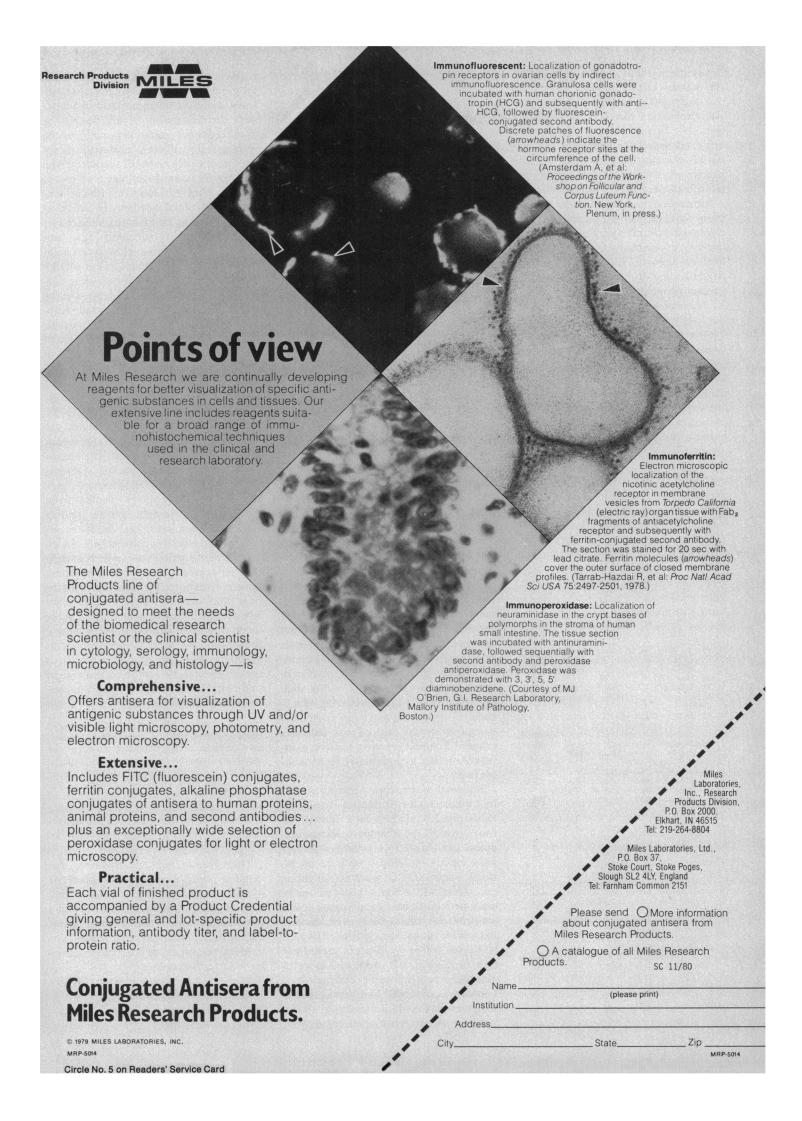
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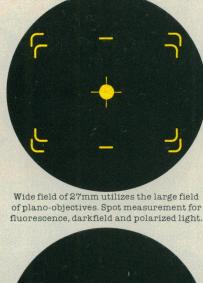


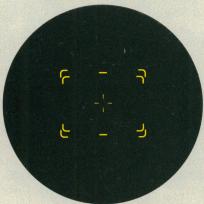
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# "A friendly operating system."

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"At Wellesley College we wanted to develop a plan that would encourage our faculty members to integrate computer usage into their courses.

"We needed a computer with a 'friendly' operating system, one that was both powerful and easy to use. A system simple enough for beginners but with extended capabilities for sophisticated research work.

"The DECSYSTEM-2040 with the TOPS-20 operating system was perfect for us. It's easy for the novice to use, yet has

the ability to run a wide variety of highlevel languages and applications software. We're also delighted with the large library of excellent courseware we've been able to obtain from other colleges and universities."



Gene Ott, Director of Computer Science, Wellesley College, Wellesley, Mass.

Versatility.

"AMS specializes in custom projects—where we design, write, and implement an application for a client's special needs and then sell it on a timesharing basis. Our mix of clients reflects a wide variety of needs. Some want instant information on manpower resources and management planning. Others need complex graphics capabilities. And others want data base inquiry for research and analysis.

"We wanted a system to improve efficiency, yet be flexible enough

to handle any application we might develop. That meant an interactive DECSYSTEM-2060.

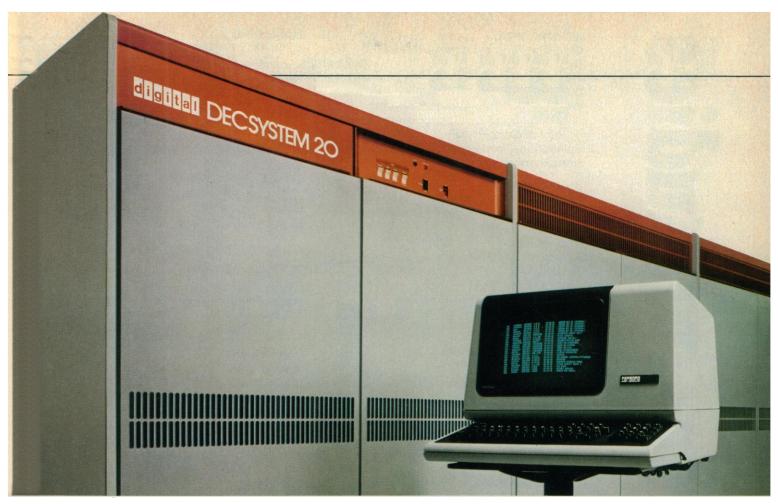
"Today, we have three 2060's supporting 200 users, performing such varied functions as data base maintenance, financial planning, production distribution, and program development.

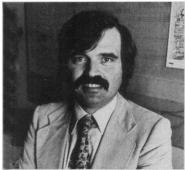
"We're so pleased with the versatility of our DECSYSTEM-2060's, we've already ordered another one to meet our growth

plans for 1980."



Charles Rossotti, President, American Management Systems, Washington, D.C.





D. Kornblicher, EDP Manager Dorsch Consult, Munich, West Germany

### **Productivity.** "At Dorsch Con-

"At Dorsch Consult, we were faced with an extremely sensitive problem. All our programs were running on a Univac operating system and obviously our programmers were comfortable with it. But, because we had to share the Univac with other

customers, turn-around time was increasing and we needed more productivity.

"In our search for more computer power, we became tremendously enthusiastic with the speed and capacity of the interactive DECSYSTEM-20.

"Once we had installed one, we were truly amazed. Turn-around time was dramatically cut. We could handle lots of large programs—some with up to 50,000 statements in them.

"And finally, thanks to the TOPS-20 operating system, our programmers had very little trouble switching to the new system."

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# Research Assistants for

### $\alpha$ -Adrenergic

Clonidine hydrochloride, [4-3H]Desmethylimipramine hydrochloride,
[2,4,6,8-3H]Dihydro-α-ergocryptine, 9,10-[9,10-3H(N)]WB-4101 (2,6-Dimethoxyphenoxyethyl)
aminomethyl-1, 4-benzodioxane,
2-[phenoxy-3-3H(N)]Epinephrine, levo-[methyl-3H]Norepinephrine, levo-[7,8-3H(N)]-

### **β-Adrenergic**

Carazolol, DL-[3,6-3H(N)]Dihydroalprenolol hydrochloride, *levo-*[*propyl*-2,3-3H]Epinephrine, *levo-*[*N-methyl-*3H]Hydroxybenzylisoproterenol, *p-*[7-3H]lodohydroxybenzylpindolol, [125I]Isoproterenol, DL-[7-3H(N)]Norepinephrine, *levo-*[7,8-3H(N)]Propranolol, L-[4-3H]-

### **Aspartate**

Aspartic acid, D-[2,3-3H]-Aspartic acid, L-[2,3-3H]-Methyl-D-aspartic acid, N-[methyl-3H]-

### Benzodiazepine

Diazepam, [methyl-3H]-Flunitrazepam, [methyl-3H]-

### Cholinergic

### Muscarinic

Acetylcholine chloride, [N-methyl-³H]-Choline chloride, [methyl-³H]-Pilocarpine, [³H⟨G)]-Quinuclidinyl benzilate,
DL-[benzilic-4,4'-³H(N)]-Scopolamine methyl chloride,
[N-methyl-³H]-

### **Nicotinic**

Acetylcholine chloride, [*N-methyl-*<sup>3</sup>H]α-Bungarotoxin, [<sup>125</sup>I]-Choline chloride, [*methyl-*<sup>3</sup>H]-Tubocurarine chloride, *dextro-*[13'-<sup>3</sup>H(N)]-

### **Dopaminergic**

ADTN Amino-6,7-dihydroxy1,2,3,4-tetrahydronaphthalene,
2-[5,8-3H]Amphetamine sulfate, D-[3H(G)]Apomorphine, [8,9-3H]Chlorpromazine, [3H]Dihydroxyphenylethylamine,
3,4-[ethyl-1-3H(N)]- or [ethyl-2-3H(N)]Haloperidol, [3H(G)]Propylnorapomorphine, N-[propyl-3H(N)]Spiroperidol, [1-phenyl-4-3H]-

### **GABA**

Alanine,  $\beta$ -[3-3H(N)]-Aminobutyric acid,  $\gamma$ -[2,3-3H(N)]-Dihydropicrotoxinin,  $\alpha$ -[8,10-3H]-Isoguvacine hydrochloride, [3H]-Muscimol, [methylene-3H(N)]- or [4-3H]-Nipecotic acid, [ring-3H]-

### Glutamate

Glutamic acid, L-[3,4-3H]-

### Glycine

Glycine, [2-3H]-

Histamine

Η₁

Histamine, [3H(G)]-Pyrilamine, [pyridinyl-5-3H]- (Mepyramine)

 $H_2$ 

Histamine, [3H(G)]-

### **Opiate**

Dihydromorphine, [7,8-3H(N)]Enkephalin (5-L-leucine), [tyrosyl-3,5-3H(N)]Enkephalin (5-L-methionine),
[tyrosyl-3,5-3H(N)]Enkephalinamide
(2-D-alanine-5-L-methionine),
[tyrosyl-ring-2,6-3H]Ethylketocyclazocine, [9-3H]Morphine, [6-3H(N)]-

### Serotonin

Hydroxytryptamine binoxalate, 5-[1,2-3H(N)]-Hydroxytryptamine creatinine sulfate, 5-[1,2-3H(N)]-

### **Steroid**

### Androgen

Dihydrotestosterone, [1,2,4,5,6,7,16,17- $^{3}$ H(N)]-Methyltrienolone, [17 $\alpha$ -methyl- $^{3}$ H]- (R1881)\* Testosterone, [1,2,6,7,16,17- $^{3}$ H(N)]-

### Estrogen

Estradiol, [2,4,6,7,16,17- $^3$ H(N)]lodo-3, 17 $\beta$ -estradiol, 16 $\alpha$ -[ $^{125}$ I]Moxestrol, [11 $\beta$ -methoxy- $^3$ H]- (R2858)\*

### **Glucocorticoid**

Dexamethasone, [6,7-3H(N)]-Prednisolone, [6,7-3H(N)]-Triamcinolone acetonide, [6,7-3H(N)]-

### Mineralocorticoid

Aldosterone, D-[1,2,6,7-3H(N)]-

### **Progesterone**

Dihydroprogesterone, [1,2- $^3$ H(N)]-Nor-17 $\alpha$ -ethynyltestosterone, 19-[6,7- $^3$ H(N)]-Progesterone, [1,2,6,7- $^3$ H(N)]-Promegestone, [17 $\alpha$ -methyl- $^3$ H]- (R5020)\* \*Manufactured by NEN under licensed agreement of ROUSSEL-UCLAF.

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### **Helsinki Final Act**

The Final Act of the Helsinki Conference on Security and Cooperation in Europe (CSCE) in 1975 called for a meeting of scientists to discuss "current and future developments in science and to promote the expansion of contacts, communications and exchange of information between scientific institutions and scientists." Planned by the participating National Commissions on Security and Cooperation in Europe, this first scientific forum will take place in Hamburg from 18 to 29 February 1980. A major part of the agenda includes three substantive areas of consideration by "appropriate subsidiary working bodies." They are the exact and natural sciences, medicine, and the humanities and social sciences.

It is the conviction of the Committee of Concerned Scientists that the scientific forum can make its most significant contribution by stressing the structure of international scientific relationships rather than the substantive scientific problems. By concentrating on current and future developments in science as such—the first part of the Final Act's mandate—the forum would cover the same ground as the hundreds of international scientific meetings that already take place annually. Moreover, it would only cover this ground inadequately, since the breadth of topics to be considered would make adequate coverage extremely difficult.

In our view, the U.S. delegation should focus primarily on the second portion of the Helsinki Final Act's mandate for the forum—that is, on evaluating current modes of scientific interaction among individuals and institutions of the signatory countries. This is, indeed, the position taken by the United States at the CSCE experts meeting in Bonn in July. In this area a large number of questions beg for discussion, including the following:

- Are international scientific organizations, as presently constituted, adequately furthering exchanges?
  - If they are not, what correctives need to be instituted?
- If, as discussions at the planning meeting last summer revealed, certain countries feel isolated from international science, why is this so and what can be done to remedy the situation?

In particular, delegates from the United States and other countries should discuss, in a constructive but forthright manner, the obstacles that exist to the kind of free scientific interchange envisioned in the Helsinki Final Act. They should attempt to determine why Soviet and Eastern bloc governments and academic officials exclude from scientific activities those who have sought permission to emigrate, in accordance with the Helsinki Final Act, or have spoken out for full implementation of the Act itself. They should also ask why Soviet and Eastern bloc scientists invited to international conferences are frequently not permitted to attend.

This discussion should by no means be limited to the Soviet Union and its allies. A number of American computer scientists have complained that our government is interfering, on grounds of national security, with their right to communicate freely the results of their research.

The forum should begin to formulate proposals designed to break down harmful intrusions on free interchange. For example, national security considerations have been invoked by both East and West to limit cooperation at various times and on various projects. At the forum, scientists could begin to formulate guidelines limiting the impingement of security interests on international scientific cooperation.

The signatories of the Helsinki Final Act recognized that scientific advancement brings "the effective solution of problems of common interest and the improvement of the conditions of human life." Scientific progress, however, is dependent on free international exchange of scientists and scientific information. With the proper focus, the scientific forum can do much to enhance the quality of international scientific exchanges.—Max GOTTESMAN and MARK KAC, Cochairmen, and MARK MELLMAN, former director, Committee of Concerned Scientists, 9 East 40 Street, New York

