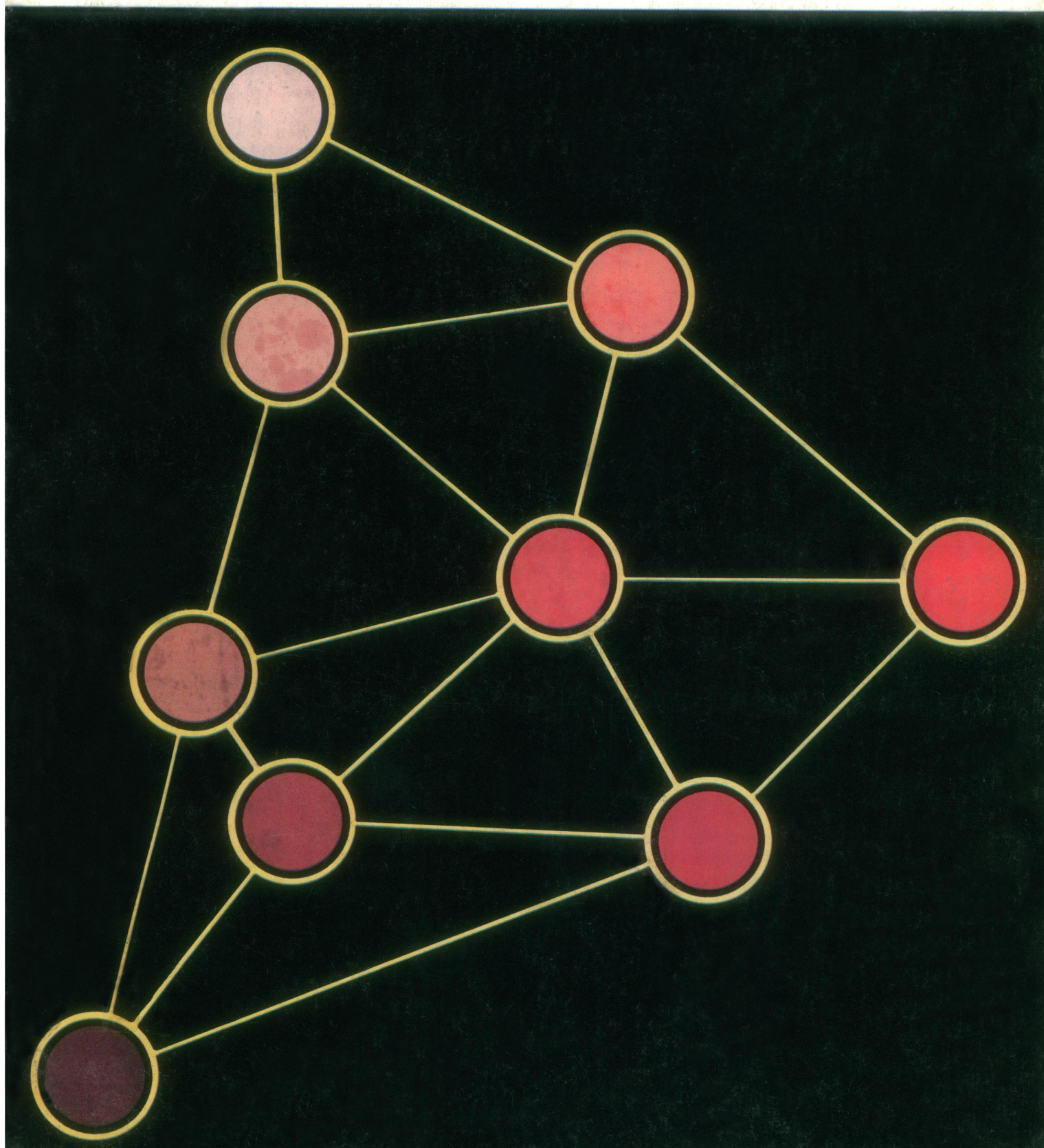


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A photograph of a Beckman Model TJ-6 Centrifuge. The machine is a dark blue, boxy unit with its lid propped open. Inside the lid is a large, polished metal bowl. Four rotors are mounted in the bowl, each holding several test tubes. The rotors are color-coded: one holds yellow tubes, another blue, one green, and one red. The control panel on the front of the machine has a large speed dial on the right, a timer dial, and a power switch. The text "BECKMAN Model TJ-6 Centrifuge" is printed on the panel. The background is a collage of text from various sources, including "The TJ-6 is an excellent product. We're delighted we have one," "It's a very quiet-running centrifuge," and "The lift-out rotors are an excellent feature."

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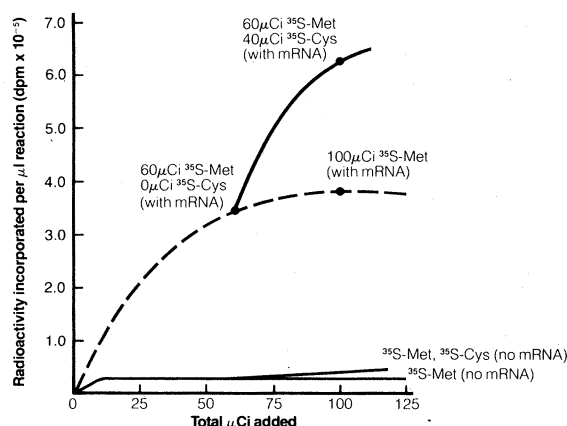
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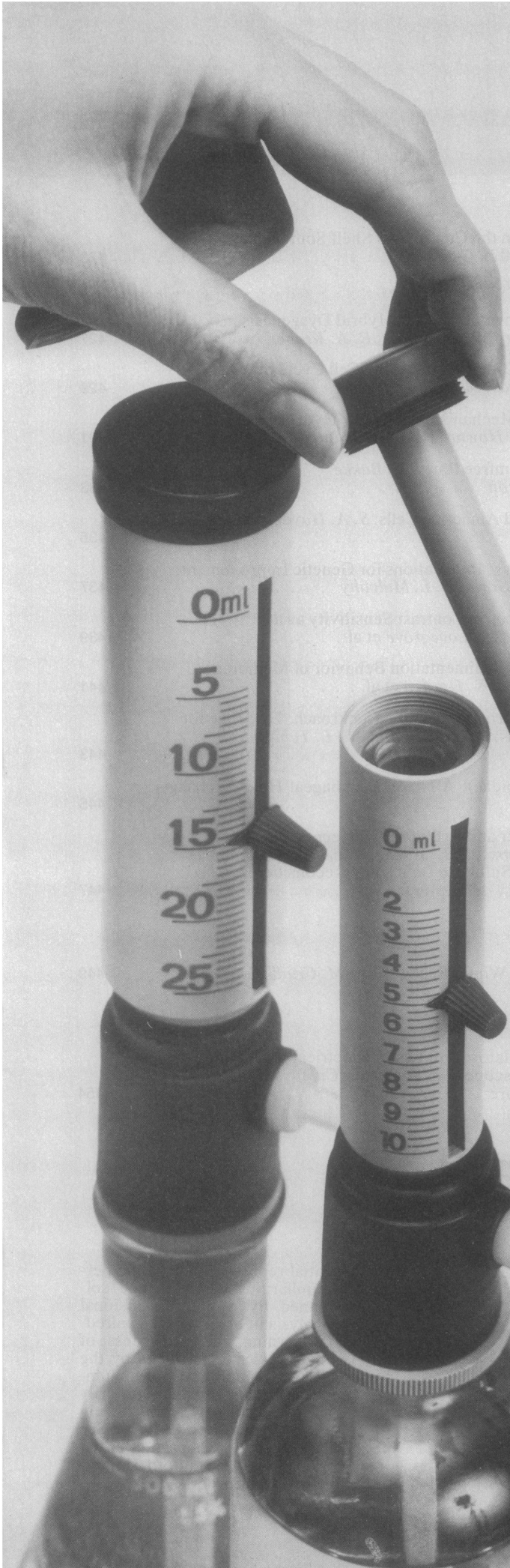
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Early spatial representation of the perceptual similarities between nine colors, obtained by a multidimensional scaling analysis of errors during paired-associate learning. The closeness of any two colors was determined by the frequency with which a response number ("one" through "nine") arbitrarily assigned to one color was mistakenly made to the other during learning. See page 390. [Roger N. Shepard, Department of Psychology, Stanford University, Stanford, California]

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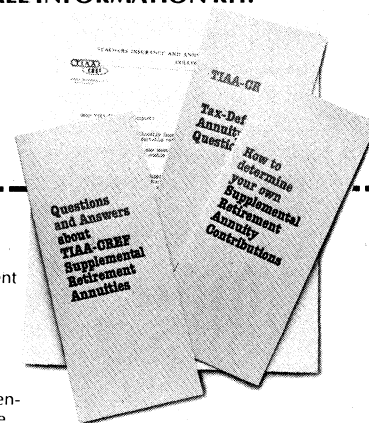
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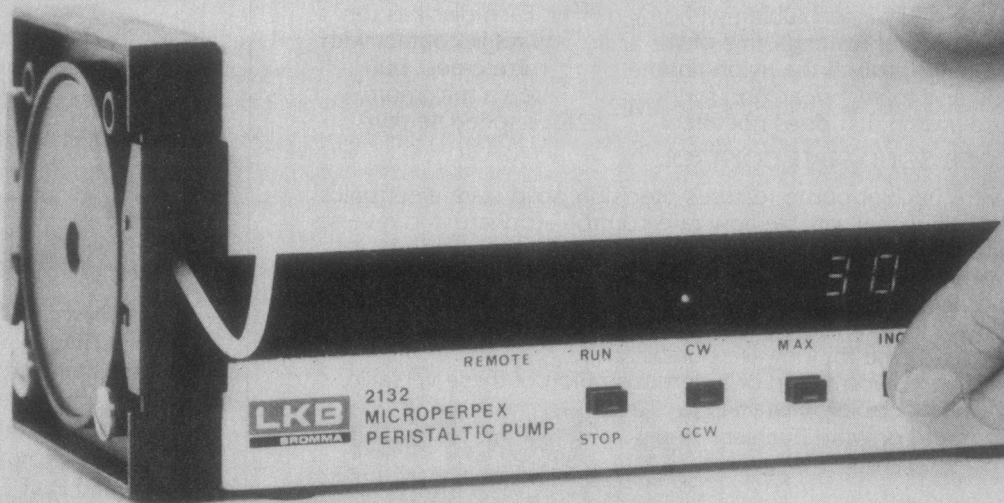
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"rapidly diminishing," at least not in the farm milieu, where penicillin and the tetracyclines retain their effectiveness as feed ingredients for farm animals after many years (2). There have been incidents, of course, in which prolonged use of antibiotics in clinical medicine has been followed by intractable resistance to pathogens. The disparity between the two sets of observations has not been explained.

THOMAS H. JUKES

Department of Biophysics and Medical Physics, University of California, Berkeley 94720

### References

1. T. H. Jukes, E. L. R. Stokstad, R. R. Taylor, T. J. Cunha, H. M. Edwards, G. B. Meadows, *Arch. Biochem.* **26**, 324 (1950).
2. V. W. Hayes, in *The Use of Drugs in Animal Feeds* (Publication 1679, National Academy of Sciences, Washington, D.C., 1969), p. 11; T. MacAuliffe, A. Pietraszek, J. McGinnis, *Poult. Sci.* **55**, 183 (1976).

## Coca, Not Cocoa

In the issue of 12 September, a letter of mine appeared protesting the confusion in a previous article (News and Comment, 11 July, p. 256) of coca leaf with isolated cocaine. However, you turned "coca" into "cocoa" in the text of the letter, the title, and the table of contents.

Cocoa is what some people drink for breakfast. It is a product of the cacao tree, *Theobroma cacao* L. Coca is the leaf of several species of *Erythroxylum*. *Erythroxylum* is unrelated to *Theobroma* botanically, chemically, and pharmacologically.

I do not advocate research on the therapeutic use of cocoa, although I consider it a pleasant and innocuous substance in moderation. I do urge research on coca, starting with an understanding of what it is and is not.

ANDREW T. WEIL

Botanical Museum of Harvard University, Oxford Street, Cambridge, Massachusetts 02138

## Kidney Transplants

The Research News article by Jean L. Marx on improving the success of kidney transplants (8 Aug., p. 673) greatly emphasizes the benefit of transfusions in reducing the risk of kidney graft rejection. Yet there is no mention that Gerhard Opelz and Paul Terasaki were the first to report (1), in 1973 and 1974, the beneficial effect of transfusion in kidney graft

survival, a finding which came as a surprise at a time when transfusion was considered a contraindication for kidney graft candidates.

Are we not forgetting the pioneers?

MARILENA FOTINO

New York Blood Center, 310 East 67 Street, and Cornell University Medical College, New York 10021

#### References

1. G. Opelz, D. P. S. Sengar, M. R. Mickey, P. I. Terasaki, *Transplant. Proc.* 5, 253 (1973); G. Opelz and P. I. Terasaki, *Lancet* 1974-II, 696 (1974).

With respect to Marx's article of 8 August, it should be noted that there is still isolated disagreement as to the beneficial effect of transfusion before transplant on survival of kidney grafts from cadaver donors. An analysis (1) of the transfusion effect on 514 transplants performed at seven centers in Illinois demonstrates that recipients who were given transfusions before transplant experienced fewer early graft failures than those who were not. However, the Illinois study also demonstrated an increase in late graft failure in recipients who were given such transfusions, leading to a 2- to 7-year cumulative graft survival that was not different in recipients who received transfusions before transplant and those who did not.

In our own small transplant series from cadaver donors (82), we have not been able to discern any beneficial effect of transfusion before transplant after 1 or 4 years of follow-up (among recipients who were given such transfusions, graft survival after 1 year was 75 percent and after 4 years, 53 percent; among recipients who were not, it was 70 percent and 50 percent, respectively). We certainly do not find the data in favor of transfusion before transplant "overwhelming." We electively give transfusions to all patients during transplant operations but find no justification for deliberately giving transfusions before a transplant.

P. R. McCONNACHIE

Memorial Medical Center,  
Springfield, Illinois 62702

A. G. BIRTCH

Southern Illinois University  
School of Medicine, Springfield 62708

#### References

1. O. M. Jonasson and M. F. Mozes, personal communication.

**Erratum:** In the report by R. Ganapathy (22 Aug., p. 921), Pd should have been 2 instead of 20 on line 2 in the middle column of p. 922, and Au should have been  $3 \times 10^{-2}$  instead of  $3 \times 10^{-1}$  on line 6 in the same column.

**Erratum:** In the article by R. Hekiniian *et al.* (28 Mar., p. 1433), in line 3 of the caption for Fig. 7 (p. 1440), "Fe-rich clay-like material" should have read "Fe-bearing opaline material."

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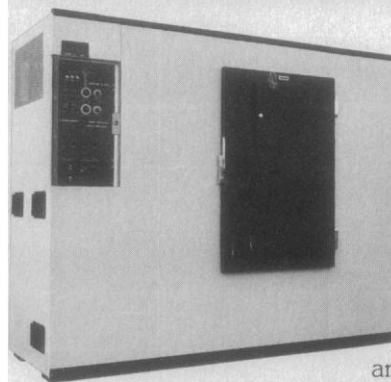
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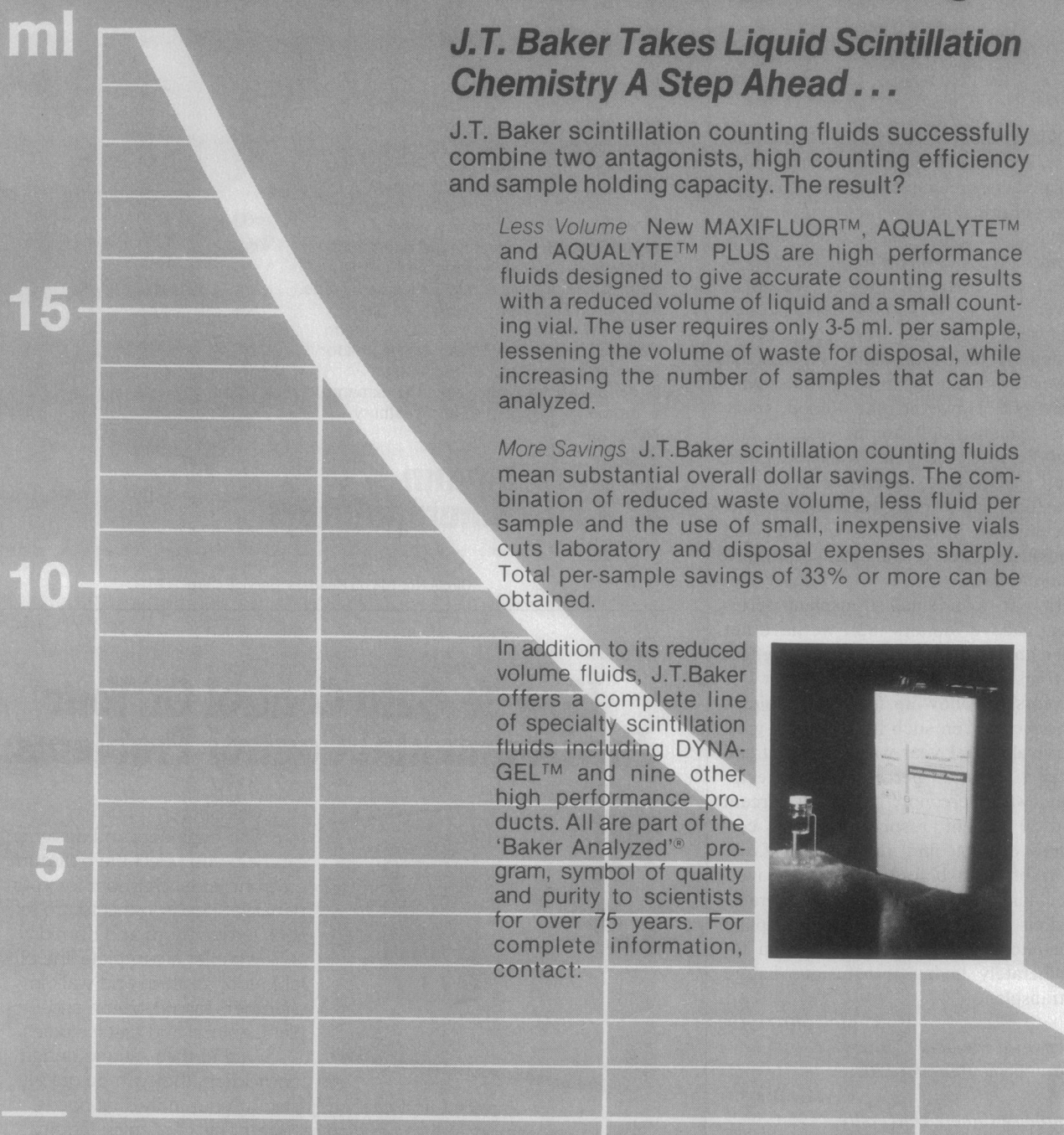
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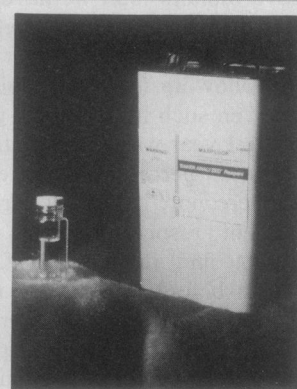
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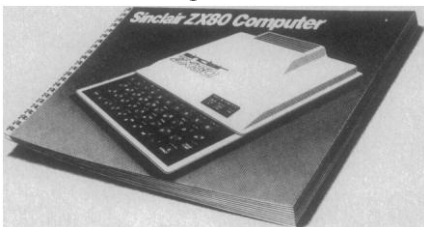
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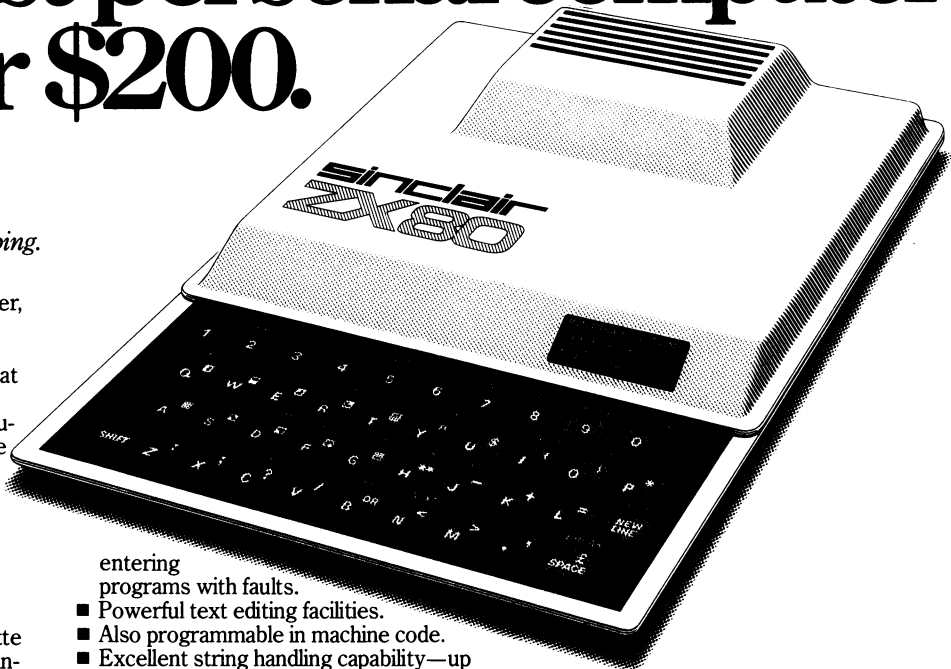
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## Drift and Danger in U.S.-Soviet Relations

The dismantling of meaningful scientific exchanges with the Soviet scientific community, provoked by the military occupation of Afghanistan and the subsequent internal exile of Sakharov, calls for second thoughts. It is not as though the uses of the scientific exchanges have zero value to diplomacy while advancing science. The fact is that in the Soviet system the scientific elites not only are extraordinarily valued professionally but also enjoy that rarest of socialist graces, an edge of independence. Turning a blind eye to that fact is shortsighted.

The temper of U.S.-Soviet political relations slides from bad to worse. As tensions increase, the risks of overreaction with awful consequences are enhanced. There is, on this side, talk of retargeting schemes, of new attack weapons hatched from supertechnology, and more than a hint of *Star Wars*. From the other side comes political adventurism and an internal tightening of the screws, but mostly a menacing silence. As far as can be judged, not a single diplomatic card is being turned up by either side, or by third parties that could bring the principals together to cool the temperature of growing crisis. Drift, governments need to be reminded, is the worst of all policies.

The evidence is that the boycott technique, as applied to scientific exchanges with the Soviets, is availing next to nothing. It has not relieved the besieged defenders of Afghanistan any more than it has restored such civil and professional rights as Sakharov ever enjoyed. When an instrument of policy turns up useless, the sooner it is put down the better. But that is a hard thing to do when it has been invested with the authority of the establishment. Such is the price that is paid for going too far and leaving no exit.

One does not have to eat crow, much less condone the behavior of the Soviets in repressing dissent through violence and police action, to press for a reopening of scientific traffic. The United States maintains what pass for friendly relations with a large class of nations whose political virtue does not meet the standards that we can afford, and we stomach it for reasons of expediency. When it comes to the matter of the Soviets, the difference is not trivial: it is central. The groundwater of a smoldering enmity is heating up, and it cannot be allowed to flash to steam. The conscience of science, however justified its outrage at Soviet behavior, nevertheless has the greater burden of striving to prevent the ultimate outrage, the dimensions of which are better known to scientists on both sides than to distracted and unprotected publics.

It violates no confidences to report that leaders in science in both countries view the present tension with undisguised alarm. Although the driving forces and emotions at work are remote from science, the blow, when and if it comes, will be a confrontation between Western science and technology and its Eastern equivalent. It is this tragic failure that is to be avoided, and when the politics of diplomacy are paralyzed, then a form of science as diplomacy can no longer wait to be exercised. This is what troubled scientists on both sides are now signaling to one another, and for good reasons.

The position is that we are very nearly out of safety valves as the nuclear superpowers drift toward impasse. If scientific responsibility is more than an idle phrase, it requires participation in the pursuit of peace and conflict resolution. The quarantining of Soviet science, however principled, defeats the chances for engaging a concerned and far from impotent cohort of opinion and influence in a dialogue of reason.

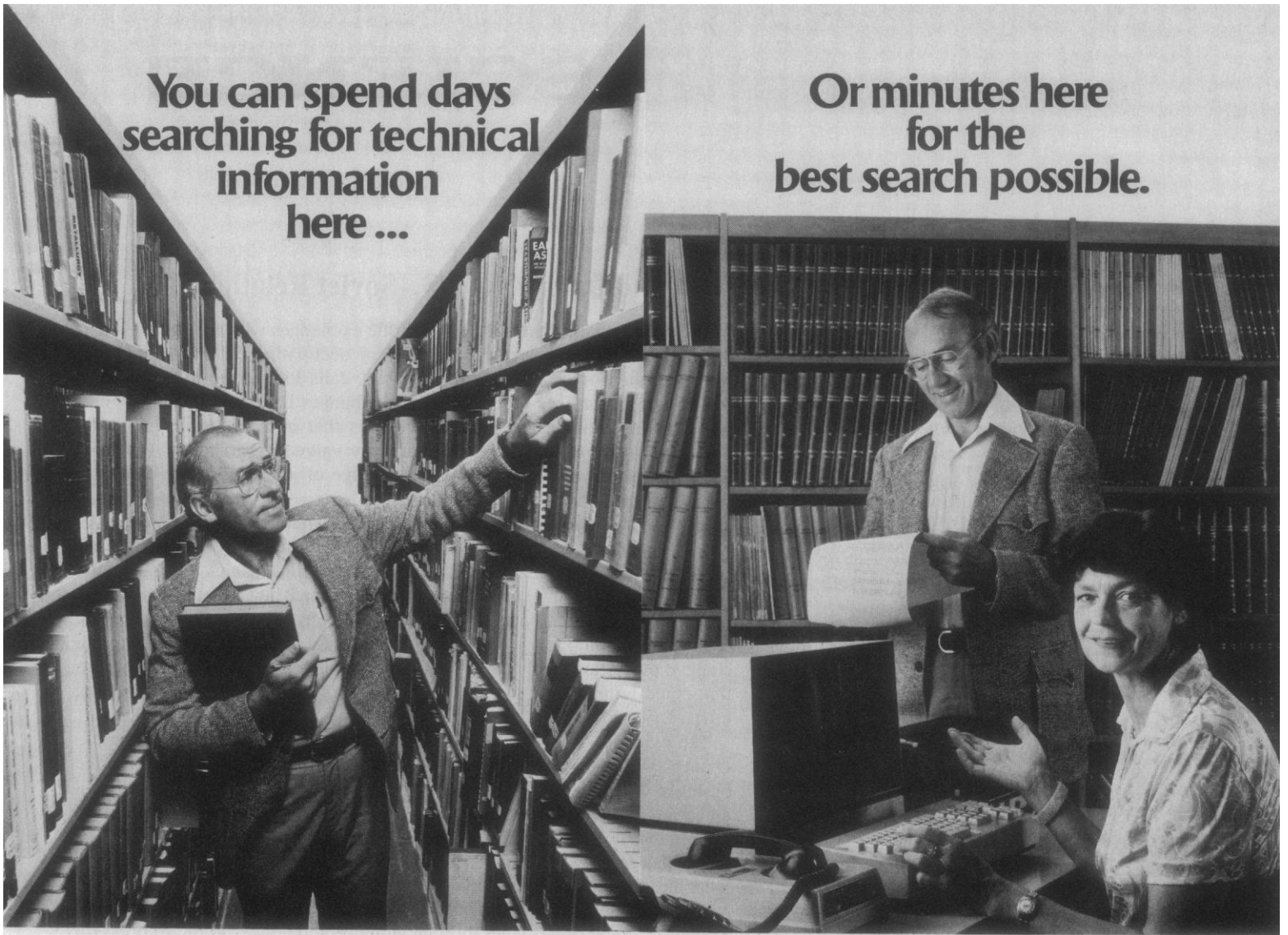
Disagree as we will with the actions and the philosophy of the Soviet system, we can find common ground in the shared dread of a collision of power. We should get on with it, before time runs out.

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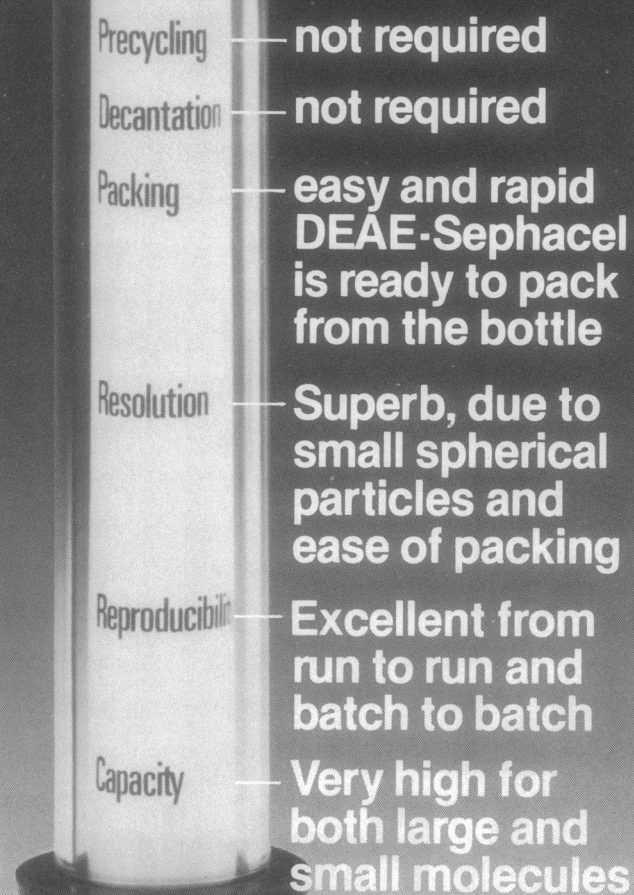
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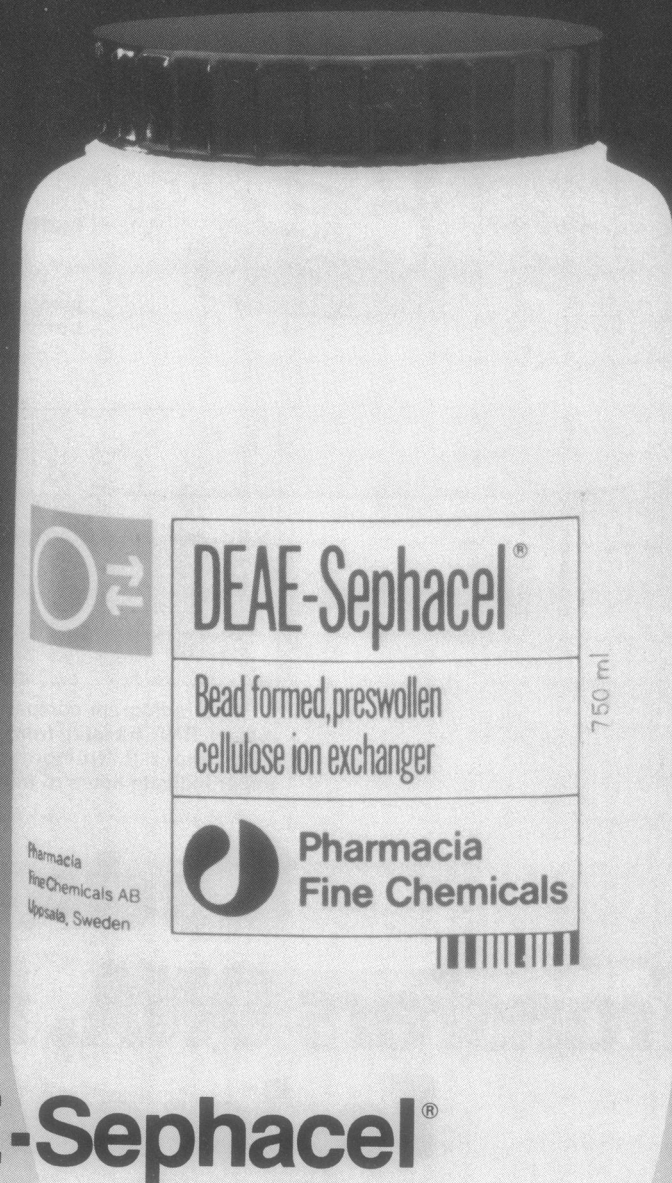
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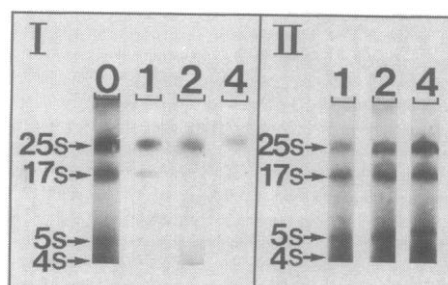


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• Stellwag, E. J. and Dahlberg, A. E., *Nucleic Acids Res.* 8: 299, 1980  
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