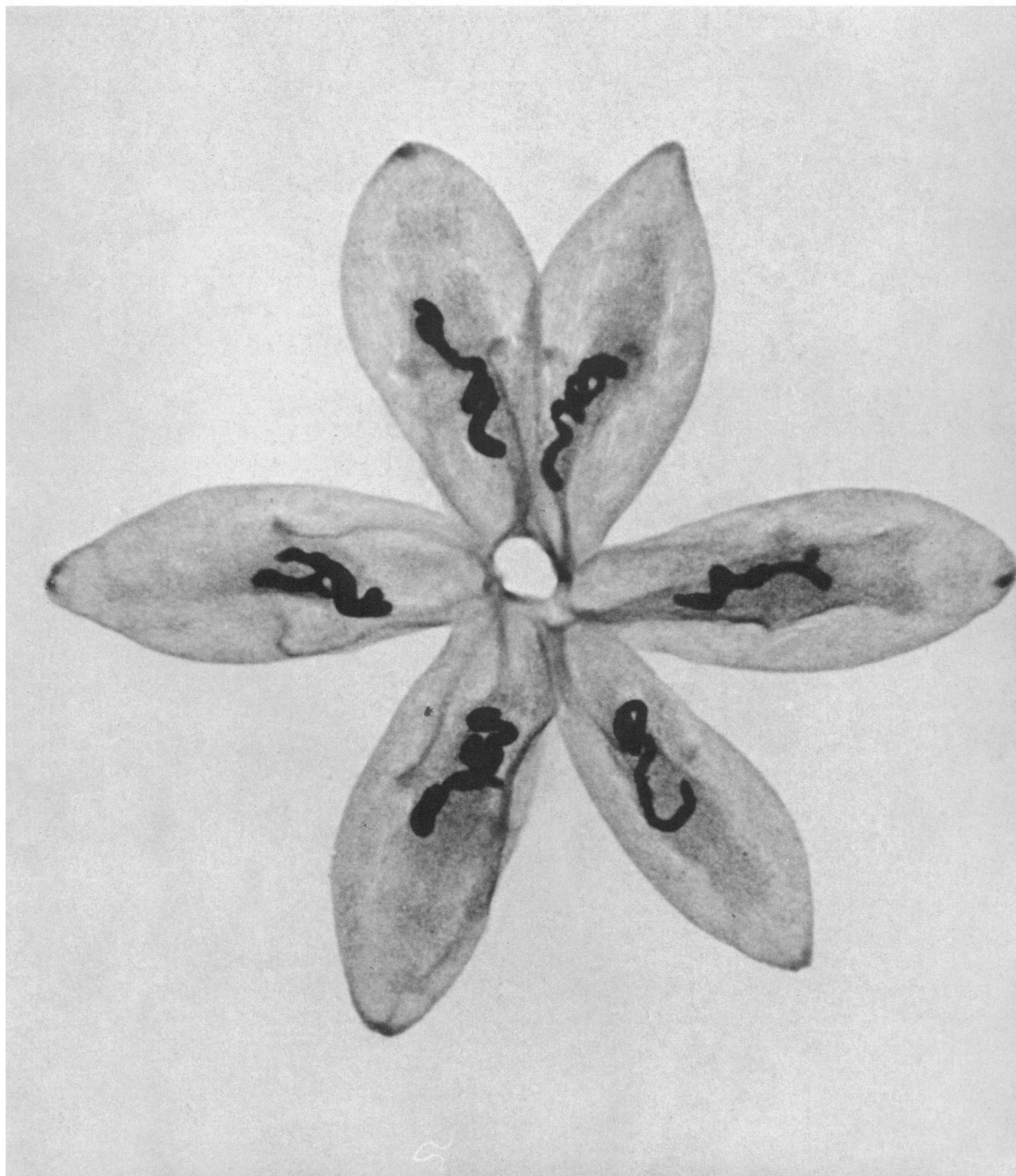


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4 July 1975

Volume 189, No. 4196

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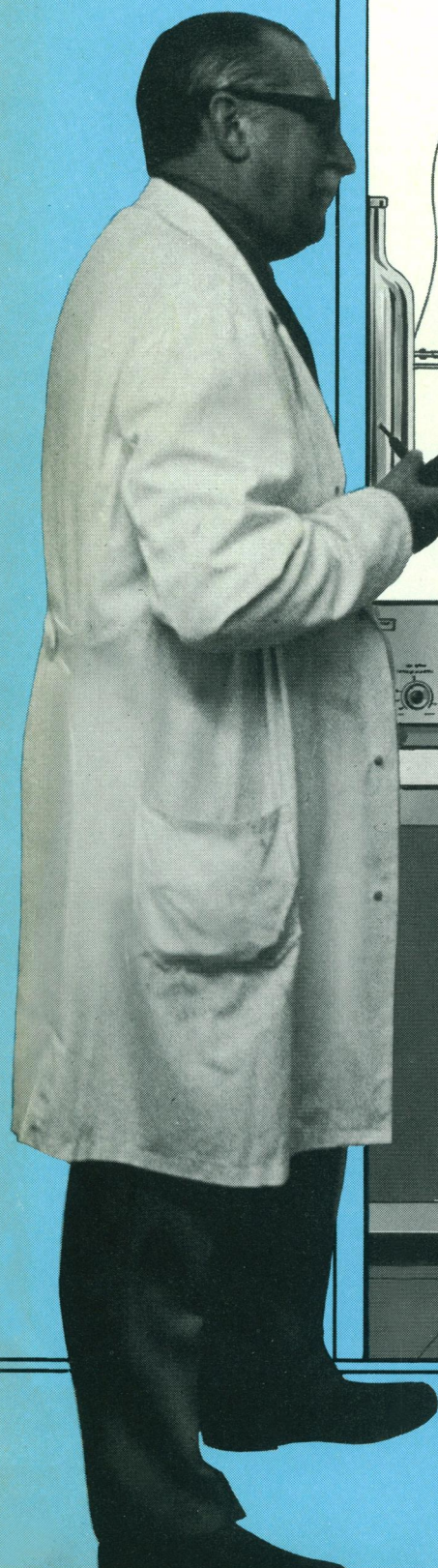
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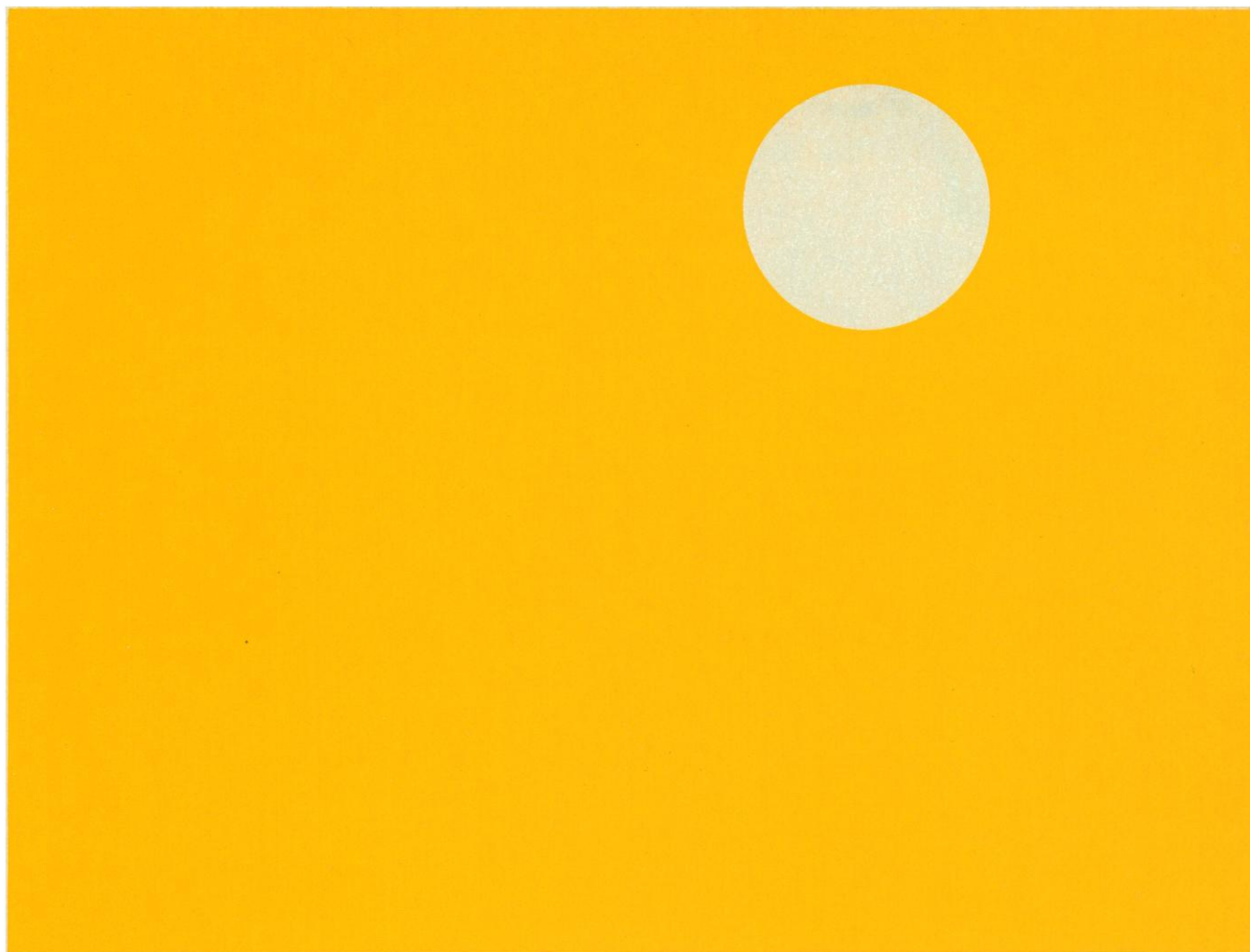
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## COVER

Multicellular complex of unicellular ciliate *Blepharisma intermedium*. Cells of doublet, a morphological mutant, unite side by side forming a chain if treated by the gamone of the other mating type. The chain may close, producing a flower-like formation. Such complexes are used to investigate the meiosis-initiating factor (about  $\times 389$ ). See page 53. [A. Miyake, Max-Planck-Institut für Molekulare Genetik, Berlin-Dahlem, Germany]

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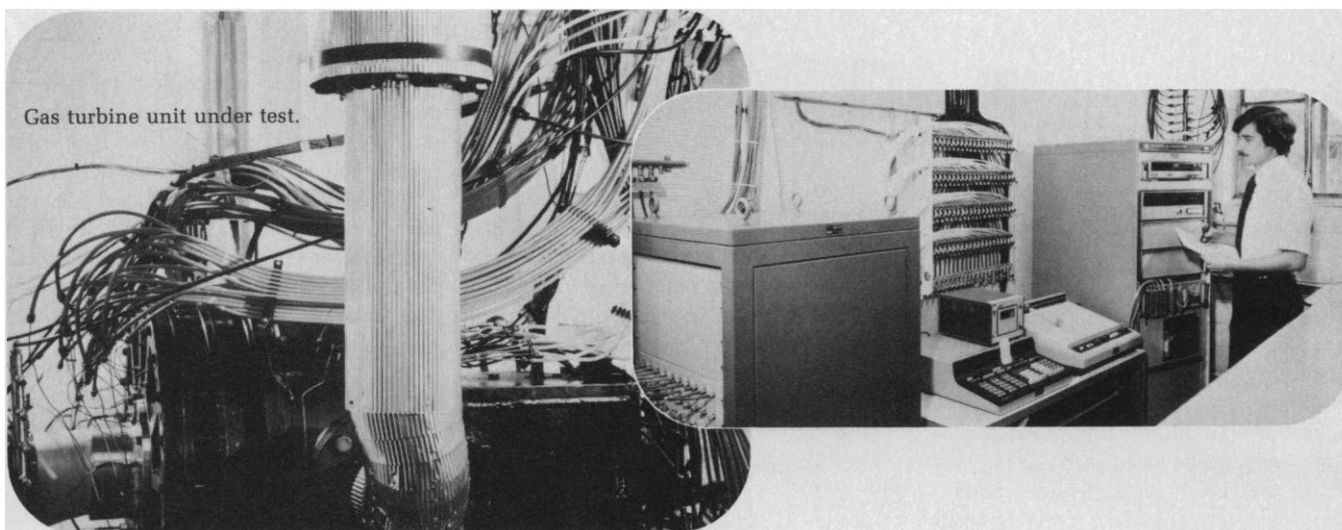
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Scientists and engineers, as well as lawyers, must be more willing to undertake cooperative pursuits as society's reliance on technology continues to increase. Readers who might desire a more legalistic discussion of technical experts in products liability cases are referred to the original authors' companion article (1) in the legal literature.

WILLIAM A. THOMAS

*American Bar Foundation,*

*1155 East 60 Street,*

*Chicago, Illinois 60637*

### References

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As Thomas has indicated, environmental litigation differs from products cases in that the former can sometimes be initiated by scientists and engineers. However, we feel that the technologist's role must be coextensive with that of counsel in both environmental and products litigation once it has been initiated. It is also worth noting that the issue of the placement of a gas tank in an automobile has no less societal significance than the determination of the appropriate emission standard for that same vehicle.

Thomas is unfortunately also correct in his observation that, currently, the focus in individual products cases is often exclusively directed toward narrow engineering points. We have tried to point out, however, that even these technical questions cannot be resolved appropriately if they are not viewed by the expert in terms of their broader societal consequences in addition to their technical detail. An expert must realize that he can characterize a product as defective only after he has balanced risks and utility on the basis of societal as well as technical standards. The litigation of products cases must involve societal considerations at the trial level; otherwise the societal significance of the legal doctrine will be meaningless.

H. R. PIEHLER

*Department of Metallurgy and*

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*Program in Engineering and Public*

*Affairs, Carnegie-Mellon University,*

*Pittsburgh, Pennsylvania 15213, and*

*Duquesne University School of Law,*

*Pittsburgh 15219*

A. D. TWERSKI

*Hofstra University School of Law,*

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## Absence of U.S. Energy Leadership

The United States continues to drift toward some form of drastic unpleasantness. Consumption of gasoline exceeds that of a year ago. Domestic reserves and production of oil and natural gas are steadily declining. Total U.S. inventories of oil and its products are below those of a year ago. Efforts aimed at liquefaction or gasification of coal move slowly. Estimates of costs for full-scale plants climb rapidly. After 5 months, Congress is unable to act. In contrast, the Organization of Petroleum Exporting Countries (OPEC) adjusts supply to demand and prepares for a large price increase.

In their actions and statements during the past 2 years, the leaders of OPEC have proved themselves to be highly intelligent. An example is the Shah of Iran. He has demonstrated more competence to guide his country's policies with respect to energy than has any leader of the Western world. The Shah understands that the oil reserves of Iran are limited, and he is determined to obtain for them all that can be had. He defends his actions well. Thus, the Shah has stated that in 1947 the posted price of oil in the Persian Gulf was \$2.17 per barrel and that in 1959 the oil companies lowered the price to \$1.79, where it remained until 1973. During those 26 years, the prices of most other goods and commodities increased markedly. The Shah has emphasized, and rightly, that oil is too precious to be used as a fuel. He has pointed out that the world's "petroleum reserves would be depleted in 30 years if we continued to exploit this vital substance. . . . To avoid their precipitate exhaustion, other sources of energy, especially nuclear fission or coal . . . must be substituted for oil and natural gas." He also has pointed to the desirability of harnessing other sources of energy such as solar radiation.

The Shah takes the realistic position that the price of oil should be set at a level equivalent to the costs of producing oil substitutes, such as liquids from coal. (The numbers now being bandied about in the United States run from \$15 to \$25 per barrel.) Thus the Shah has established a rationale for doubling the price of petroleum. Moreover, he has staked out a position as a farsighted international leader, and history may so regard him.

In moves with respect to prices for oil, OPEC has been astute. Following the quadrupling of prices in 1973-1974, the level was held relatively unchanged while it became clear that worldwide economic disaster was not going to occur. Trial balloons have now been launched to test reactions to a 30 to 40 percent increase in October at the beginning of the period of maximum demand. Reaction has been muted. It seems clear the OPEC could easily get by with a price boost of 35 percent and with further steps later.

But unpleasant as a sharp increase in oil prices might be, it is not the worst hazard. With its depleted resources of hydrocarbons the United States is considerably more vulnerable to an oil embargo today than it was in 1973. At that time Arab production of oil was cut only 25 percent. The Arabs have now accumulated large monetary reserves, and some could easily forego all revenues for an extended period. In the face of a weakening position there has been no U.S. program to provide reserves.

Perhaps the most discouraging feature of the present scene is a failure of U.S. leadership. President Ford's program is limited and not imaginative, but at least he tries. The performance of Congress has been awful. Congress found itself unable to stomach the prospect of even a small increase in gasoline taxes designed to cut consumption. Such revenues would stay in the United States and be returned to the public. Instead, we are destined to pay much higher taxes, but they will be collected by the Shah and his colleagues.

The excuse for Congress is that the public is not educated—not ready for meaningful measures. Perhaps that is correct. However, the public is not rushing to buy gas guzzlers. Somebody knows something.

But failure of leadership is not confined to the politicians. What have intellectuals done? What have the universities contributed? Perhaps the worst failure has been that of the mass media. Supposedly one of their major functions is to inform accurately. The behavior of Congress testifies to their performance.

—PHILIP H. ABELSON



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