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Kodak Publication No. JJ-7, Bibliography on the Use of EASTMAN CHROMAGRAM Sheet in Thin-Layer Chromatography, has been revised and updated. With the addition of many new abstracts, the current edition contains 213 references to the use of EASTMAN CHROMAGRAM Sheet in TLC. References are divided into 34 categories, from "alcohols" to "vitamins," and from "apparatus" to "techniques and methods." If you have an earlier version of JJ-7, let us bring you up to date. If you are involved in TLC and don't yet have a copy, use the coupon to request Kodak Publication No. JJ-7.

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For a complete list of these products including prices and package sizes, request Kodak Publication No. JJ-11, Reagents for Acrylamide Gel Electrophoresis.
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<td>Pre-Bedded Disposable Cage</td>
<td>11⅛x7¼x5</td>
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Knowledge Factory

The following excerpt from Sinclair Lewis’s novel Arrowsmith (1) is an interesting addition to Harold L. Enarson’s editorial “University or knowledge factory?” (7 Sept., p. 897).

The University of Winnemac is at Mohalis, fifteen miles from Zenith. There are twelve thousand students; beside this prodigy Oxford is a tiny theological school and Harvard a select college for young gentlemen. The University has a baseball field under glass; its buildings are measured by the mile; it hires hundreds of young Doctors of Philosophy to give rapid instruction in Sanskrit, navigation, accountancy, spectacle-fitting, sanitary engineering, Provençal poetry, rutabaga-growing, motor-car designing, the history of Voronezh, the style of Matthew Arnold, the diagnosis of myohypertrophia kymoparalctica, and department-store advertising. Its president is the best money-raiser and the best after-dinner speaker in the United States; and Winnemac was the first school in the world to conduct its extension courses by radio. It is not a snobbish rich-man’s college, devoted to leisurely nonsense. It is the property of the people of the state, and what they want—or what they are told they want—is a mill to turn out men and women who will lead moral lives, play bridge, mention books, though they are not expected to have time to read them. It is a Ford Motor Factory, and if its products rattle, they are beautifully standardized, with perfectly interchangeable parts. Hourly the University of Winnemac grows in numbers and influence, and by 1950 one may expect it to have created an entirely new world-civilization, a civilization larger and brisker and purer.

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References

Marital Status and Mobility

Beverley R. Green (Letters, 10 Aug. p. 496) reports that only 5 percent of the applicants for a biochemistry position and 3 percent of the applicants for a botany position at the University of British Columbia were women. She implies that, since between 10 and 20 percent of those receiving Ph.D.’s in these fields are women, women are giving up without trying; that women make up a small proportion of faculty because they do not apply for jobs; and that men cannot be blamed for this.

We analyzed the applications received for five positions in the department of biology at Michigan Technological University as a result of an advertisement in the 2 March issue of Science. We found that the percentages of women applicants compared well with the percentages reported by Green. However, our interpretation of these results is quite different from Green’s.

In addition to classifying applicants according to sex, we also noted marital status. We found that more than 90 percent of the male applicants were married, while all but one (93 percent) of the female applicants were single.
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A Visit to Bulgaria

In 1971, D. E. Hathaway (Letters, 17 Dec., p. 1182) reported bureaucratic foul-ups and other unfavorable experiences that led to a forced cancellation of an exchange trip to eastern Europe. I should like to report the opposite experience in Bulgaria in late 1972, which may be of interest to those planning to apply for NAS (National Academy of Sciences) exchange visits to the Soviet Union and eastern European countries.

As an earth scientist, I visited Bulgaria for 1 month in October and November 1972. Officials at NAS were efficient and helpful. I was not impressed with American Embassy staffers in Sofia, but Bulgarians were the salt of the earth. Few kinder or more generous people can be found anywhere. They have bureaucratic difficulties but make a vigorous effort to minimize them for their guests. I was even allowed to return alone at night to an office in the Geological Institute of the Bulgarian Academy of Sciences (Sofia), something which I am given to understand would not be likely in the Soviet Union.

Bulgarian earth science is poorly known in the United States, but R. M. Foose (a coparticipant in the U.S.-Bulgarian exchange program) and I were impressed by its quality and scope. Unexpectedly, we found that Bulgarian articles and books tend to be succinct, unlike many Soviet and Western counterparts. If this is due in part to a serious paper shortage, as Bulgarian academy officials indicated (publications must be "defended" before appointed publication committees), then some benefit has come from adversity.

Those interested in exchange visits and wishing more detail may write to me for a copy of my report to NAS.

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in the region covered by the radar. Dual Doppler radar systems are also being used and developed by the National Oceanic and Atmospheric Administration, the National Severe Storms Laboratory, and also by the National Center for Atmospheric Research in conjunction with the National Hail Research Experiment sponsored by the National Science Foundation.

The method offers a unique opportunity to observe the wind field in precipitating convective storms at all stages of their development. The probing of convergence/updraft structures inside the precipitation regions in a manner discussed above will allow better description and study of a storm’s inflow and outflow. The presence of vorticity and its vertical transport can also be assessed. Suspected interactions between the circulation of adjacent convective storms can be monitored and studied. Mixing processes can be identified from Doppler spectrum width and related to the structure of the organized wind field.

In addition, it should be possible to extend the dual Doppler method to the storm environment by release of man-made targets. This will bring a wealth of new information about convective storms and, therefore, should provide a significant contribution to the study of intense small-scale convective processes.

Note

Contribution No. 1669 from the Rosenstiel School of Marine and Atmospheric Science, University of Miami, Coral Gables, Florida 33124.

Bibliography


A. G. Gorelik, V. V. Kustarev, A. A. Chernikov, Meteorol. Gidrol. (1962), No. 7, p. 34.


L. J. Miller, ibid., p. 309.


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NEWS AND COMMENT

(Continued from page 269)

What could be more helpful would be to have projects planned according to all relevant values and goals, but with their final evaluation to be made by a high-level board of review free to render its judgments independently of the construction agencies and the OMB. Recommendations to that effect were made in 1949 and 1955 by the first and second Hoover commissions on executive reorganization and, again this year, by the NWC.

The reasons why such a review board is needed, the NWC has indicated, are (i) that the project evaluations of the construction agencies tend to be colored by bureaucratic self-interest; (ii) that neither the OMB nor the Congress has the staff necessary to review the agency evaluations with the thoroughness required; and (iii) that the OMB is not in any case unbiased in its reviews, because of its overriding commitment to carrying out the President's budgetary policies.

In the judgment of the NWC, the review board should be structured as an independent agency, "nominally within the executive branch but insulated from presidential politics by appointments which extend beyond the term of the President." The chairman of the board, the NWC has suggested, should also be chairman of the Water Resources Council, the latter no longer to be headed by the Secretary of the Interior, as at present. The WRC has, to date, been notably weak in its review of the policies and programs of the construction agencies.

If the Nixon Administration should succeed in the difficult task of persuading Congress to establish its proposed Department of Energy and Natural Resources (DENR), the WRC will be abolished and the project construction agencies will all be placed in the new department (in the case of the Corps of Engineers, only part of its planning staff would be transferred to DENR). Under these circumstances, however, the establishment of an independent review board could be more important than ever, for a counterweight to this big new bureaucratic conglomerate could be vitally needed.

As an adviser to the President and the Congress, the review board could function in two ways. One would be to point up broad policy issues, such as how water resource policy may affect the production of food and energy or how it would relate to a strategy for redirecting patterns of national growth. The other would be to scrutinize water resource development in individual regions, watersheds, and projects, assaying the need for a particular project in the light of all available alternatives, the degree of citizen participation in plan formulation, the protection of environmental values, and the honesty of cost and benefit projections.

To keep its staff from ballooning to excessive size, the review board could (as the NWC suggests) rely on the construction agencies to provide most of the data needed for its review. Such information would not in every case be sufficient, but, as RFF's John Krutilla observes, "If you really made some internal checks for consistency, for plausibility, for reasonableness, project benefits would often be significantly deflated." In addition, the review board would be able to obtain much information from the comments made by entities such as the Environment Protection Agency (EPA), the U.S. Fish and Wildlife Service, and the private environmental groups on the environmental impact statements prepared by the project construction agencies, as required by the National Environmental Policy Act (NEPA).

NEPA itself has contributed remarkably to opening up the process of water project evaluation—this being most strikingly demonstrated in an opinion early this year by Judge Carl O. Bue, Jr., of the U.S. District Court in Houston. Judge Bue pronounced the benefit-cost analysis made by the Corps of Engineers for the Wallisville Dam—Trinity River navigation project to be grossly defective, particularly in that environmental benefits were claimed but environmental "costs" were not. A review board of the kind proposed by the NWC could, to the extent that the White House was willing to act on its advice, actually serve as an arbiter in water project controversies. The arbiter's role is not one that the courts have been able to assume because NEPA does not go much beyond demanding full disclosure.

In sum, a competent review board, assisted by NEPA and the natural adversary relationship that exists between agencies such as the Corp of Engineer and the EPA, may be able to do far more than even the best thought-out Principles and Standards in erasing water resource development's pork barrel image.—LUTHER J. CARTER