veloped, travel is a necessary evil, but unmistakably an evil.

Finally, I give one more simple piece of advice. Leave the laboratory as though you are going to come back to it. Make plans for what apparatus you will need tomorrow or this afternoon or this evening, and write down in the laboratory book the next things you are going to do. One of the greatest obstacles to entering the lab is the fact that laboratory work can seem to be diffuse and unsubstantial if a good deal of it is being done by others. It will never pull you. On the other hand office work can seem to be continually demanding. By making plans for the next moment of entering the lab so that you feel frustrated when you don't get there, the equivalent of a demand is created. This is very important.

Postscript

It is interesting that I find, after writing this article, that I am in the lab even more. In other words, affirming both to yourself and to others that you are going to work in the laboratory has the effect of consolidating your position as a research man and strengthening your resolution.

Good Luck.

News and Comment

Tobacco: After Publicity Surge, Surgeon General's Report Seems To Have Little Enduring Effect

Following the release of *Smoking and Health*, the widely publicized report condemning tobacco as a health hazard, Surgeon General Luther L. Terry proclaimed an "era of action" to discourage smoking. But he warned that "To change a nation's smoking habits, we must think in terms of a program of 10 years plus."

On the basis of what has happened since his advisory committee issued the report last January, Terry appears to have been justified in keeping matters open-ended, for the nation's smokers have demonstrated that their affection for tobacco easily overcomes any fears cast up by scientific research, and the tobacco industry has demonstrated that it can seriously impede government efforts to spread those fears. Perhaps the most revealing index of the report's effect is to be found in figures on cigarette consumption. In the 6-month period immediately following the release of the report, cigarette sales declined 5.74 percent, as compared with the same period in the previous year, according to figures supplied by the industry. But toward the end of the period this year they started to go up again, and sales for June 1964 were 8.64 percent above sales for June 1963.

The rise in consumption can in very large part be attributed to nothing more than the fact that some 70 million Americans find tobacco delicious to use and painful to discard; but a fair amount of credit for the restoration of sales must necessarily go to the tobacco industry, which has handled its peculiar problem with extreme shrewdness.

The problem, in brief, was that the industry's product had been unanimously labeled detrimental to public health by a prestigious body of researchers in whose appointment the industry had a hand (*Science*, 17 January and 27 March, 1964). Thus, the report not only had a quality of impartiality to it but it bore the imprint of the U.S. Government (though, actually, it was only an advisory report, and need not necessarily have been adopted by the PHS) and its release was skillfully managed to attract a great deal of publicity.

As was anticipated, the immediate effect of the report was to depress cigarette sales, but previous experience, with similar reports by volunteer health organizations, had demonstrated that the yen for tobacco is only temporarily overwhelmed by reports of its effect on health. However, now the expectation was that since the PHS had explicitly indicted tobacco as detrimental to health, the Federal Trade Commission would feel that it had a sufficiently strong scientific case to require that tobacco packages and advertising carry a warning of health hazards. With such a warning staring him in the face every time he reached for a cigarette, the smoker would not find it easy to forget the health hazards of lighting up. This was the long-term strategy to get the Public Health Service to issue a definitive statement on tobacco.

It was a strategy steeped in political reality, since, in coming out against tobacco, the PHS and the FTC were taking on an industry whose economics give it political power to look after its own interests. The industry, located almost entirely in southern states whose one-party dominance provides high congressional seniority, was quick to advertise that tobacco is the fifth largest cash crop in the country; that in 1962 it produced $1.3 billion income for farmers in North Carolina, Kentucky, South Carolina, Virginia, Georgia, and Tennessee; and that tobacco manufacturers provided $379 million in wages for 96,000 employes. Furthermore it was pointed out, about 750,000 farm families in 21 states derive income from tobacco, and tobacco sales in 1963 totaled $8.08 billion, of which $3.3 billion went to federal, state, and local governments in excise taxes. As one news release from the industry put it: "Tobacco products pass across sales counters more frequently than anything else—except money."

This boast might be open to dispute, but it gives some measure of the struggle undertaken by the PHS and the FTC, neither of which is notable for its political muscle.

Following the release of the report, the FTC announced that, starting 1 January, all cigarette packages would have to carry a warning that smoking may cause death from cancer and

other diseases. Earlier this month, however, at the request of the House Interstate and Foreign Commerce Committee, the FTC agreed to postpone this requirement until July 1965. The postponement, which was grudgingly agreed to by the FTC, was at the request of committee chairman Oren Harris (D–Ark.), who said he felt it might be preferable to regulate the matter through legislation rather than by administrative decree. Harris added that, since the cigarette industry had said it would challenge the FTC regulations in court, the ensuing litigation might delay any regulation for as long as 4 years. The length of delay that might be involved in taking the congressional route is, of course, uncertain, but since congressional procedures offer ample opportunity for those who want to stretch out matters, it would not be surprising if more than 4 years were to pass with the labeling issue still under congressional consideration. Harris, in asking the FTC to hold off, stated that there seems to be a "prevailing sentiment" among the committee members "that appropriate requirements with respect to a warning on the label of cigarettes may be advisable." And he announced that hearings would be held next year as a follow-up to hearings that were held in June. Just what might be elucidated by a second round of hearings is not clear.

Self-regulation

While Congress ponders its role in the regulation of tobacco, the cigarette industry itself favors self-regulation. Toward this end it has drawn up a Cigarette Advertising Code, which is a sort of confession of past sins and a promise to go straight. The code specifies, for example, that "cigarette advertising shall not represent that cigarette smoking is essential to social prominence, distinction, success, or sexual attraction." "Sample cigarettes shall not be distributed to persons under twenty-one years of age." "Cigarette advertising may use attractive, healthy looking models . . . provided that there is no suggestion that their attractive appearance or good health is due to cigarette smoking."

Violations of these or other regulations are punishable by a fine up to $100,000, at the discretion of the administrator of the code, who is Robert B. Meyner, former governor of New Jersey.

In addition to looking after its interests in Washington, the cigarette industry has also been attentive to the importance of scientific research in its struggles with the health issue. The organization charged with handling this function was once known as The Tobacco Industry Research Committee, but it recently changed its name to The Council for Tobacco Research—U.S.A. The reason for this, it explained, is to "clarify the fact that the organization is devoted to health research rather than to industry, commercial or technological study." Since it was established in 1954, the Council, under the direction of a scientific advisory board, has reported grants totaling $7.2 million to 155 researchers in hospitals, universities, and research institutions. In its latest report, it observes that "after 10 years, the fact remains that knowledge is insufficient either to provide adequate proof of *any* [original italics] hypothesis or to define the basic mechanisms of health and disease with which we are concerned. It is true now as it was in 1954 that continued research in all areas where knowledge is deficient offers the best hope for the future."

Thus, in its struggles against the Surgeon General's indictment, the tobacco industry has staked its case on self-regulation, congressional study, and scientific research, none of which seems to bear very much relation to the PHS study's flat assertion that "Cigarette smoking is a health hazard of sufficient importance in the United States to warrant appropriate remedial action."

Meanwhile, amid indications that the Johnson administration is not inclined to go to war with the tobacco states, the PHS has taken a few steps in accord with the recommendations of its advisory report. It has awarded 10 grants, totaling $266,000 for studies of why people smoke and how they may be counseled to give up the habit; and the Children's Bureau, which along with the PHS comes under the Department of Health, Education, and Welfare, held a National Conference several months ago on Smoking and Youth. Out of this conference have come two pamphlets, "Your Teenage Children and Smoking," and "Smoking, Health, and You." Neither pamphlet can be faulted by those concerned about adolescents acquiring a taste for tobacco, but with the cigarette industry spending around $135 million a year on advertising, the efforts to date by the PHS fully justify Terry's prophesy of "10 years plus."—D. S. GREENBERG

Water Resources: Congress Votes Research Centers for States; River Basin Planning Bill Advances

It may be too much to say that the cup runneth over for the advocates of water resources research and planning, but their cause has been prospering lately in and out of Congress.

Enacted this summer was a Water Resources Research Act (P.L. 88-379) which will foster with federal funds the establishment of water research centers in land-grant colleges and state universities and further encourage water research through grants and contracts with other institutions. Congress also appears on the verge of passing legislation to help finance river basin planning by groups of states. In view of the original opposition to this latter measure, its passage could be likened to Eliza's carrying her baby safely across the ice.

In two special fields of water research, desalinization and weather modification, which have attracted much more attention and bigger expenditures than have other more prosaic or, at any rate, less well publicized forms of research, there are clear signs of heightened activity. (Desalinization and weather modification will be dealt with separately and in more detail in later articles in this space.)

The water research act is one evidence of a sharpening realization by Congress and the public of the serious and immediate implications of the nation's available water being of fixed amount while the use of water increases very rapidly. The legislative history of the bill, however, bears the sharp imprint of national politics, of some strong political personalities and interagency rivalries.

In a pattern not uncommon where federal science is concerned, authority to do research on water is diffused through more than a score of government bureaus answering to a half dozen standing committees in each of the houses of Congress.

In years past, much of the water research performed was done by agencies with responsibilities in reclamation and irrigation, conservation, flood control, and agriculture. Congress was conditioned to think about water in terms of large public works projects rather than in terms of research.

The Eisenhower administration saw a contradiction in the government's paying subsidies for agricultural surpluses while at the same time spending