

# BEHAVIOR

## Alcoholism—back to the drawing board?

Alcoholics who undergo a year of intensive therapy apparently are no better off than those who receive only a single session of counseling, according to the results of a study by The Institute of Psychiatry in London.

The researchers followed two groups of 50 male alcoholics each for a period of a year. In one group, the alcoholic and his wife sat for several hours with a psychiatrist, psychologist and social worker and received advice on the drinking problem, marital difficulties, work problems and other matters. After that, they were on their own except for a social worker's monthly home visit that was limited strictly to information gathering.

The members of the second group came to the clinic regularly for outpatient treatment that included intensive counseling, psychotherapy, medication (if desired) and referral to Alcoholics Anonymous. Those who needed it were offered a six-week in-patient stay.

A year after the program had begun, the results for both groups were virtually identical. One-third of those in each group had improved to the point of having little or no problem in drinking or marital relations, the researchers report in the *MAY JOURNAL OF STUDIES ON ALCOHOL*. Also, the groups did not differ in work absenteeism or psychiatric hospital admissions.

The findings suggest that present treatment concepts for alcoholism need to be revised, say the researchers. They add that until there is better proof of the effectiveness of such concepts, the concentration should be on prevention rather than treatment.

## Children and a sense of justice

Children apparently progress steadily from an "eye for an eye" view of justice to a more tolerant social perspective of legal rights and political realities, a study of 450 U.S. school children reports. The youngsters—4th to 12th graders in "a small midwestern U.S. city"—were questioned about the assassination of Martin Luther King.

Linda S. Siegel of the McMaster University Medical Center in Hamilton, Canada, reports in the *MAY DEVELOPMENTAL PSYCHOLOGY* that older youngsters recognized the law as an instrument to serve society, and not one of personal revenge. In response to the question "How should the killer be treated?", 83 percent of the 4th to 6th graders chose punishment over a fair trial; 66 percent of 7th to 9th graders chose punishment; but 71 percent of 10th to 12th graders selected a fair trial.

Similar shifts occurred in response to *why* King was shot and what made the person do it. Older students felt more often that the killer's action was connected to a cause, or conspiracy, rather than a personal reason. Younger children felt the opposite. And while 4th to 9th graders favored a personal motive in the shooting, older class members overwhelmingly attributed the act to "hate and prejudice."

The sample consisted of 403 white and 47 black youngsters. "Both the development of the understanding of the law and the increasing depersonalization of events and motives represent the growth of the child's ability to form abstractions about the political process," concludes Siegel.

## Farmers on the decline

America is continuing to lose its farmers. In 1976, only 8.3 million people—3.9 percent of the population—lived on the nation's farms, USDA and the Census Bureau report. There has been a net loss of 1.5 million farm dwellers, primarily younger persons, since 1970. The number of U.S. farms has dropped from 6.8 million in 1935 to 2.8 million in 1976.

# TECHNOLOGY

## Industry R&D: 'Vigorous pace'

In 1976, for the first time, two U.S. companies each spent more than \$1 billion on research and development. IBM, which spent \$1.012 billion, joined General Motors, which at \$1.257 billion leads the list of the 50 largest R&D spenders in U.S. industry. These figures were compiled by *INSIDE R&D*, a New York-based newsletter, in its second annual survey.

Rounding out the top 10 were Ford, AT&T, General Electric, DuPont, United Technologies, Eastman Kodak, Chrysler and ITT. All appeared in last year's top 10, with only minor changes in order. To make the top 50 (Gulf Oil was 50th), a company had to spend at least \$64 million on R&D.

Again, as last year, Hewlett-Packard led the top 50 in R&D expressed as a percentage of sales, 9.6 percent. Other top R&D spenders, as measured by this ratio, were Upjohn, Lilly, Procter & Gamble and Polaroid.

The survey found that overall R&D spending by industry came to \$16.6 billion in 1976. This figure includes only industry funds and not government dollars spent through industry contracts. The top 10 companies accounted for 33 percent of this total. The general trend was clearly upward. Only 4 of the top 50 reduced R&D spending; 25 increased it by more than 10 percent. The newsletter notes that this "vigorous pace" seems to be continuing this year. It estimates that industry will spend \$19 billion of its own funds on R&D in 1977.

## Past employment decline documented

Statistics recently released indicate that employment of scientists and engineers by U.S. industry during 1970-75 decreased by 5 percent, even though more recent vigor in industrial R&D spending (see above) suggests a departure from this past trend. The decline, documented in a report by the National Science Foundation, followed two consecutive increases of 14 percent during 1965-70 and 19 percent between 1960-65.

Within the context of this overall decline, there was an increase of 11 percent among engineers and scientists involved in nonmanufacturing jobs. Simultaneously, however, there were employment downturns of 13 and 12 percent for groups in manufacturing and R&D activities, respectively.

The reported results demonstrate that private industry was easily the largest benefactor, employing two-thirds of all scientists and engineers. Of these, 72 percent were engineers and the specialties most popularly represented were electrical and mechanical/aeronautical engineering. Among the scientists in this group, the greatest number employed were computer scientists.

Some of the statistics reflect the United States' recent preoccupation with energy. Of the 1.2 million scientists and engineers employed by industry, 16 percent were in energy-related activities. Specifically, two-thirds of these were concerned with electric power and petroleum energy sources and research problems such as energy distribution and improved conservation and efficiency.

## Space colonization study published

The results of a major NASA study on space settlements has now been published. The new book, *Space Settlements: A Design Study* (Government Printing Office, \$5), describes in detail the construction and operation of permanent space colonies that can support up to 10,000 people. The study includes such topics as the physical properties of space, human needs in space, habitat designs, space manufacturing, agriculture and settlement locations. The report concludes that obstacles to this new frontier are "philosophical, political and social rather than technical."