

## Preventing rear-end collision

A safer car—that's what everyone is trying to build. But there is another way of protecting passengers—preventing the accident in the first place. John Voevodsky of Portola Valley, Calif., says that many rear-end collisions can be prevented by the use of a lighting system to warn drivers that the car ahead is slowing down. He tested such a system on a fleet of taxi cabs in San Francisco. The results are in the June *JOURNAL OF APPLIED PSYCHOLOGY*.

The warning system is an amber light, center mounted on the rear of cars at the same height as the regular brake lights. An inertial pendulum measures deceleration and causes the light to flash at an increasing rate as deceleration increases. The experiment with 503 taxi cabs lasted 13 months. The lighted cars traveled 12.3 million miles with a rear-end collision rate of 3.51 collisions per million miles. Injury to drivers was .65 per million miles, and rear-end repair costs were \$398 per million miles. The lighted cars showed a reduction of more than 60 percent in all three categories. Considering that the U.S. public drives more than 100 million miles per year, the savings in personal and property damage could be enormous. If the warning lights could actually prevent 60 percent of rear-end collisions, 1,200 lives per year could be saved.

## Vibrators and the mentally retarded

Sensory stimulation is necessary to normal brain development and functioning. Without it people deteriorate both mentally and physically. The same is true for the mentally retarded, and institutions for such persons generally offer activities and programs that provide social and sensory stimulation. For some severely retarded individuals, participation in such activities is impossible. If these people are further handicapped by deafness and/or blindness, they get almost no stimulation (social or sensory).

Gordon W. Halliday and Joseph H. Evans have found one possible way of enriching the lives of these people who can not otherwise be reached or helped. They report in the June *PERCEPTUAL AND MOTOR SKILLS* that vibration can have a positive effect on sensory deprived individuals.

A blind, hearing impaired, profoundly retarded young woman was tested. She could neither speak nor walk and there was almost no way the researchers could get in touch with her, but she could smile. A battery powered tooth brush provided the vibration. It was applied to the joints, fingers, palm and other parts of the woman's hand. During a number of sessions, smiling time was measured with the vibrator applied in the off and on positions. As expected, the vibration did increase smiling and the researchers suggest that this is one way the restricted environmental input to severely handicapped people can be expanded.

## Rape and alcoholism

Alcoholism has been linked to the commission of violent crimes by many studies but few researchers have reported any relationship between alcoholism and forcible rape. Richard T. Rada of the University of New Mexico in Albuquerque reported at the recent meeting of the American Psychiatric Association that alcoholism is significantly related to rape. He worked at a treatment center for convicted rapists and found that of 77 rapists, 35 percent were alcoholics—and 50 percent were drinking at the time of the offense. Rada suggests that therapy for such offenders must focus on alcoholic as well as sexual problems.

## What price Project Independence?

Responding to the frightening exponential growth of imported oil prices—which have doubled, redoubled and redoubled again since 1970—President Nixon announced Project Independence, an ambitious program “to make the nation self-sufficient in energy by 1980.” Almost immediately a chorus of voices from the technical and economic communities began to cry that it couldn't—and probably shouldn't—be done (SN: 2/9/74, p. 90). Now, the Policy Study Group of the MIT Energy Laboratory, in association with some dozen other scientists and engineers, has attempted to estimate what Project Independence might cost and what alternatives might be more practical, in a detailed study published in the May *TECHNOLOGY REVIEW*.

The United States uses 17 million barrels of oil a day, at an approximate price of \$5.64 per barrel for domestic oil and \$9 for imported oil. Stepping up domestic production enough to meet the self-sufficiency deadline (even with alternative energy sources developed concurrently) would result in domestic prices of around \$11 per barrel, according to the report. Meanwhile, the cost of imported oil would most likely drop from present inflated levels, for if the Arabs continue to expand their own aggressive drilling programs, by 1980 the world may well be producing substantially more oil than it consumes.

Rather than setting such an urgent deadline for total self-sufficiency, the report recommends letting alternative energy sources develop naturally, a development almost certain to proceed as long as oil remains above roughly \$7 a barrel. To prevent “blackmail,” a stockpile of oil could be established. Assuming that replacement of some interrupted source of petroleum would take about a year, the report estimates that a stockpile of 750 million barrels should be adequate, at an annual cost of \$1.35 per barrel.

The report also concludes that various anomalies of the present energy-production system should be eliminated: letting natural gas prices rise from their present, artificially low levels, clearing administrative roadblocks to natural resource leasing and atomic reactor approval, ending the oil depletion allowance and special tax breaks to oil companies, and pegging environmental legislation more to ambient air quality standards than emission standards.

## Second thoughts on population

The renowned Swedish economist Gunnar Myrdal admits to some second thoughts on how to curb the population explosion, in the June *BULLETIN OF THE ATOMIC SCIENTISTS*. Once concerned mainly with the problem of how effective birth control programs could be set up and administered in poor countries, Myrdal now sees the problem as one of producing basic changes in society to help motivate families to limit the number of their children.

The direct role of foreign aid, he says, is very limited: contraceptives can be manufactured inside developing countries and native administrators and medical personnel can do a better job than foreign “experts” in dispensing them. Also, any attempt at compulsory regulation of births, no matter how imposed, is doomed to failure—quite aside from ethical considerations.

The responsibility for developed countries, he concludes, is to help make life better for the rest of humanity “so that the masses feel that birth control offers them a real opportunity to improve their lot in a substantial way.” As fewer children die in infancy, families will naturally understand that not so many need to be born, he says.