

In time, because the oil fly ash clump is cellular and contains globules of air, microbial action will degrade the oil. But that would be a slow process.

The idea examined at Cardiff involves the incorporation of appropriate microorganisms in the silicone-treated fly ash. This could be done very simply, and on a vast scale, at the same time as the treatment with silicones.

The world is full of microorganisms which cannot easily be seen except by their effects, and it is one of the problems of the oil-refining and storage in-

dustry that it accidentally and routinely provides the right conditions for oil-consuming microorganisms to breed in ton quantities.

There are two stages in the bacterial breakdown of oil; the first involves organisms which need air, the second carrying the process forward without oxygen. The fly ash clump therefore provides exactly the right conditions for a rapid breakdown process. Experiments show that if the right microorganisms exist in the fly ash at the time it is used on oil, then the population explodes and consumes the oil. ♦

the FAA's regulations, the FAA itself is planning to increase the size of its task force working in the other end of the air safety problem—air traffic control. Both President Johnson and Senator John Stennis (D-Miss.), head of the Senate Transportation Appropriations Subcommittee, are in favor of substantially increased funds, especially for additional manpower. With that promising combination a multimillion-dollar boost seems likely. ♦

OFFICIAL "COP-OUT"

Scientists' cliché blocks family planning

To the middle class, family planning usually means a short visit to the doctor, a prescription for birth control pills and a few words of advice from the friendly physician.

The situation is somewhat different for an estimated 5.3 million impoverished women in the United States. Only 15 percent of them have access to family planning clinics where they can get modern contraceptives. And even where the clinics are available or planned, the simple processes of securing a prescription for pills is often drowned in the lore of the social scientists. The poor are supposedly products of a "culture of poverty" who must have special, intensive counseling services before they will or can accept birth control. So the counseling comes before—or instead of—the help.

One state health department, for example, in its plans for a family planning program, calls for a staff of 14 psychologists, social workers, psychiatrists and genetic counselors—and only five obstetricians.

"Is it contemplated, as a matter of public policy, that each impoverished woman must undergo a psychiatric, social and genetic work-up before she is examined and issued a prescription for pills?" asks Frederick S. Jaffe, a vice president of the Planned Parenthood-World Population organization in New York.

In Jaffe's opinion, the culture of poverty concept has become a "cop-out" for slow-moving, change-resistant agencies that haven't gotten around to providing any services at all to the great majority of the poor.

Cop-out or not, the fact that services are not yet available to 85 percent of the poor had direct implications for two welfare developments late last month.

In one, the House Ways and Means Committee moved to freeze the aid to dependent children program at or near levels that held last January. In the second, a Maryland judge ruled three women—all welfare recipients—guilty of child neglect for having two or more

AIR SAFETY

New FAA standards set guidelines

Last year, 59 people died in crashes of U.S. commercial airliners. Though the airlines' safety record is the envy of highway planners, the number of people flying is growing so fast that air safety measures have long needed a shove to keep up with the increased traffic. The Federal Aviation Agency has now provided at least a gentle push, with a set of safety standards to be implemented both by the plane makers and by airlines.

The first of the new regulations take effect Oct. 24; others will be delayed as long as two years to allow changes to be made in the more than 2,000 commercial liners in use in the U.S. The cost of modifications could reach as high as \$700 million in the two years, and the long-term cost—particularly if some changes require even as little as three or four percent sacrifice in passenger load—may be in the billions.

The speediest changes are the easy ones: free access to all emergency exits, even on crowded flights; attendants near all exits during takeoffs and landings; and passenger instruction cards in the seat pockets rewritten to describe only the aircraft they are on. In addition, emergency evacuation time will be cut from its present two minutes down to 90 seconds, and the aircraft manufacturers, instead of the airlines, who have had the responsibility in the past, will have to prove it can be done. The airlines will then have to prove it again every time they wish to reconfigure their planes to raise their capacity by five percent or more.

Complying with the rest of the regulations will take a little more doing. One rule says that after Oct. 24, 1968, any seat whose back blocks an exit, even if only when fully reclined, will have to be moved. On aircraft with only one aisle, no more than three seats may be on either side. This means that the upcoming giant barnliners such as the Boeing 747 and the Lockheed L-500

(possible passenger version of the military C-5A) will almost surely have two aisles.

A particularly expensive requirement is that interior sidewall and ceiling material will have to be completely self-extinguishing, rather than flash- and flame-resistant as is presently required. All new planes which are certificated after Oct. 24, 1968, will have to be so equipped at the factory, while existing aircraft will be converted at their first major cabin overhaul after that date. Six months later, every airplane will have to have installed some system—FAA doesn't care what—for holding carry-on baggage in place in a crash equivalent to decelerating from 197 miles per hour in one second.

Some of the final batch of rules (which will take effect in October of 1969) seem like no trouble at all—well-marked, slip-resistant escape routes from each over-wing exit and an emergency switch in the passenger compartment to control the interior lights.

Still tougher in the event of a "vertical separation of the fuselage," such as if the tail section snaps off, 75 percent of the undamaged lighting must be operative, as well as all exit signs and at least one exterior light on each side. This could require elaborate and expensive individual power supplies installed at intervals along the fuselage.

Other regulations require better insulation of fuel and power lines. After April 25, 1969, landing gear must be designed so that any gear structure that collapses to the rear will not puncture or rupture any fuel system components; this will require rerouting of fuel lines in some planes. A new classification of emergency exit, one of two that will be permitted in airliners of 300 or more passengers, will measure 42 by 72 inches, far larger than present types.

While the airlines and aircraft manufacturers are working to comply with

illegitimate children. The ruling, handed down by Judge Perry G. Bowen in Maryland's Prince Georges County, opens the way to criminal prosecution of the mothers.

If further measures are needed, said the judge, he may in the future require unwed mothers—meaning those on welfare—to learn methods of birth control and practice them “at the risk of losing their children if they do not.”

Both moves seem to assume that birth control means are readily available and that the women are unwilling to use them.

But when Planned Parenthood looked into Prince Georges County's services this summer it found only three public health clinics dispensing birth control help in the entire county. Each was open three hours a week. “The clinics were so jammed they couldn't take appointments for three months,” says Jaffe.

A similar story could be found in many other cities and counties of the nation.

An estimated \$100 million would be needed to provide family planning services to the 5.3 million impoverished women, says Planned Parenthood. In June, the Office of Economic Opportunity, which now gives the largest Federal grants for family planning, set aside \$4.6 million for such services. The money will reach about 120,000 people. Next year OEO hopes to come up with \$10 million for this purpose.

The new Social Security legislation, which also includes the welfare freeze, earmarks \$15 million for family plan-

ning, but the legislation is not yet passed.

“Despite 32 Presidential exhortations, no Federal agency has yet formulated even a rudimentary plan to overcome this deficit or taken the initiative to seek the appropriations needed to carry out a plan,” charges Jaffe.

Jaffe estimates that perhaps 10 to 15 percent of the poor need intensive help and education in family planning, but “it's a poor conjecture because no one has gotten to that end of the caseload,” he says.

However a survey of Michigan welfare clinics indicates that something like five percent of the welfare clientele—less than one percent of the total poverty group—need such counseling. Most poor people, it seems, want birth control and would use it if they could get to it.

“It is disconcerting how rapidly the culture of poverty concept has been co-opted as the explanation for slow progress,” says Jaffe. “In effect, a health and welfare establishment which spent half a century claiming that insurmountable religious opposition prevented it from providing family planning to the poor, discovered, almost as soon as the religious controversy waned, that it is the culture of poverty which prevents the poor from adopting modern family planning.

“I have no quarrel with Jaffe's statistics or claims,” says Gary D. London, who heads family planning at OEO. The problem he says, has been that there are “lots of good causes and lots of priorities in public health.”

NATIONAL SCIENCE FOUNDATION

\$500 million budget breakthrough possible

The chances look good that this year the National Science Foundation budget will pass through what many have regarded as an unbreakable monetary barrier, the half billion dollar mark.

If the Senate-House conferees, scheduled to meet in early October, agree to the Senate's recommended figure of \$505 million, the NSF will actually have exactly what President Johnson recommended it should spend before next June 30—\$526 million. The extra \$21 million is money appropriated but never spent for Project Mohole, the ambitious plan to sample earth's mantle that was killed by Congress last year. (SN: 12/26/66).

Since the House recommended \$495 million for NSF expenditures (SN: 6/3), the compromise to be worked out in conference is likely to be at least half a billion, possibly more. For the past two years, National Science Foundation appropriations had been held at the

same level, \$479,999,000.

One factor entering the Senate's approval of the \$505 million figure was the requirement that the NSF submit, for consideration with next year's budget, “a report surveying all significant efforts in pure science, private and public.” The report was called for “in view of the proliferation of basic research in pure science conducted by private industry as well as the Government.”

The Senate action authorizing \$505 million overruled its Appropriations Committee's recommendation to cut NSF funds back to \$459 million. The increased \$46 million would be spent as follows:

- Support of basic research: \$19 million, including roughly \$4 million for increased support of social science research. The four areas of emphasis for this \$19 million are social science, oceanography, atmospheric sciences and chemistry.

- Science education and institutional development programs, part of the national Centers of Excellence plan—an effort to create more such centers in more parts of the country: approximately \$18 million.

- Sea grant college program: \$3 million, plus \$1 million added to the 1967 fiscal year budget, bringing the total to \$4 million.

- Science information programs: \$4 million, for development of national information retrieval systems using computers.

- Other small programs will make up the difference.

The program for institutional development, if the Senate's version is agreed to in conference, would have a total of \$52 million in newly appropriated funds, plus \$16.4 million carried over from fiscal 1967. ♦

MARIJUANA

Confusion over effects

The already-heated marijuana issue gained several degrees last week with new reports of adverse reactions to the drug and a court trial that challenges the criminal laws now surrounding marijuana.

Both the reports and the trial serve to illustrate the basic marijuana situation: Medical opinion is split a dozen ways over the relative dangers of the drug and solid evidence is not available.

In a Boston courtroom, the medical authorities spoke as though they had two different drugs in mind, depending on whether they testified for the defense or the prosecution. Some claimed marijuana does not cause mental illness and is no more dangerous than alcohol. Others said chronic marijuana smoking produces distinct and harmful effect on personality, including anxiety, loss of drive and sometimes, psychotic changes.

At stake in Boston is the constitutionality of laws that lump marijuana with narcotics like heroin and impose harsh criminal penalties for its possession. Chemically, marijuana is classified as a mild hallucinogen, not a narcotic. Also at stake is the fate of two Philadelphia men arrested last March at Boston's Logan International Airport when they claimed a footlocker containing marijuana.

The same contradictions were evident in new medical reports on marijuana.

In its Sept. 22 issue, *The Medical Letter*, an independent, professional newsletter published in New York, claimed that reports of serious adverse reactions to marijuana are increasing. “Panic, gross confusion, impulsive and