increasing the exposure of animals, including man, to their toxic effects. The report published last week, which was prepared under the chairmanship of Dr L. A. Woods of the University of Virginia, refutes the last two of these suggestions, but says that there are insufficient data available to decide whether or not NTA is either carcinogenic or mutagenic.

The Department of Health, Education and Welfare, which last year caused considerable confusion and consternation when three of its top officials recommended that phosphate detergents should be used in preference to those containing caustic substitutes, is therefore biding its time by suggesting that manufacturers stick to their voluntary ban on NTA until sufficient evidence is available to declare it safe for use.

The committee's conclusions, based on a survey of the literature and on the experience of heavy use of NTA in Canada and Sweden, are summed up in the report with the view that apart from "major reservations" about its carcinogenicity and mutagenicity, "NTA is not likely to be toxic to man in levels encountered in daily use". Studies of its acute toxicity have shown it to be about as toxic as the polyphosphates which it would replace in detergents, and "eye irritation, percutaneous toxicity, primary irritation and sensitization studies are essentially negative". As for longer term chronic toxicity studies, the report suggests that changes have so far been limited to only one organ, the kidney, with vacuolar lesions found in the tubules when NTA is fed to rats at about 0.5 per cent of the daily diet.

Such studies are, however, "insufficient to define a dose level unaccompanied by toxicity", and long term, low exposure hazards to man "cannot be confidently evaluated from examination of the available data", the committee suggests. Similarly, although submammalian tests fail to show any increase in gene mutations due to NTA, there have been conflicting results from studies of the effect of NTA on chromosome integrity. There is therefore room for doubt about the mutagenic potential of the additive. The committee also has reservations about the design and conduct of the study of Procter and Gamble scientists, which came up with the possible finding that NTA is carcinogenic. The strain of rats used in the study, for example, had a high incidence of spontaneous mammary tumours, kidney disease and early death, but nevertheless the doubts cannot be resolved unless further studies are carried out.

The committee believes that NTA would pose little threat to the environment chiefly because it is degraded by sewage plants and diluted to such an extent that its ability to form complexes with metals is small, and estimates based on the maximum probable use of NTA indicate that it would increase the level of nitrate in lakes and streams by less than 1 per cent. Phosphates from detergents, on the other hand, are believed to contribute as much as 60 per cent of the phosphorus input into some waters and phosphorus is widely claimed to be the limiting nutrient for the growth of algae.

The report also points out that in Canada, where NTA is widely used, tapwater contains on average 1 or 2 parts per billion of NTA, and that the average daily intake of the additive is about 100 μg. This level of intake is several orders of magnitude less than those used for long term feeding studies in rats.

NATIONAL CANCER INSTITUTE

New Hand on the Helm

PRESIDENT NIXON last week formally announced that he has appointed Dr Frank J. Rauscher jun. to replace Dr Carl Baker as director of the National Cancer Institute. The widely predicted appointment puts Rauscher at the head of the much publicized campaign against cancer that was launched in the bill which was passed by Congress last December.

Although the directorship of the institute is technically a new position since it is a Presidential appointment, the job will not be greatly different from that performed by Dr Baker. Rauscher, aged 40, is at present Scientific Director for Etiology at the National Cancer Institute. A microbiologist who received his training at Rutgers University, he is best known for his discovery of the Rauscher leukaemia virus. Dr Baker will be staying on at the National Institutes of Health as "Special Assistant to the Director for Technology Implementation", a position created for him which is at present no less vague than its title.

One thing that Rauscher can be sure of is that his budget will increase steadily in the next few years. President Nixon, for example, recently sent to Congress a request for an extra $40 million for the institute in 1973 for construction of new facilities and for providing fellowship and training grants.

If Congress accepts the supplementary appropriation would give the NCI $378 million in 1973—a 100 per cent increase since 1970.

Short Notes

Sickle Cell Anaemia

CONGRESS has finally passed a bill which authorizes $115 million to be spent over the next three years on research, screening and counselling programmes designed to combat sickle cell anaemia. The bill now goes to President Nixon for his signature, and no opposition by the Administration is expected. The funding proposed in the bill would represent a huge increase compared to present expenditures, which are running at less than $10 million a year, and it would be earmarked chiefly for the setting up of new centres to offer screening and genetic counselling services. A hereditary disease that afflicts some 2 million, chiefly black, Americans, sickle cell anaemia is the product of a gene mutation believed to have occurred in Africa several centuries ago as a protection from malaria. The recessive gene mutation is carried by about 10 per cent of the black population in the United States, and the thrust of the programme outlined in the bill is to pinpoint carriers of the trait and to provide counselling services for those couples that run the risk of bearing children with the disease. The disease itself is characterized by painful "crises" which occur when red blood corpuscles form themselves into the characteristic sickle cell shape, blocking blood vessels and restricting blood flow to the extremities.

OU for US

BRITAIN'S Open University is scheduled to make its debut on North American campuses later this year. Rutgers University and three other institutions, one of which will probably be the University of California, are planning to experiment with the Open University idea in the 1972–73 academic session. A total of about 800 students will take part in the trial run, and the venture is being financed by a grant from the Carnegie Corporation of New York. Britain's Open University should have a welcome financial stake in the project, for it will probably supply teaching materials and systems information to the participating institutions.

Lunar Science in Arizona

THE Lunar and Planetary Laboratory of the University of Arizona will soon have its own undergraduate students. Since 1960, the institution has been entirely a research facility, although a few graduate students from other departments in the university have carried out their PhD studies there. But last week it was designated as the Department of Lunar and Planetary Sciences, a status which allows undergraduate and graduate courses to be taught there.