of the rigors of the Apollo 13 mission, when three American astronauts survived by using one compartment of their vehicle as an emergency lifeboat, and of the eighteen day spaceflight by two Soviet cosmonauts in Soyuz 9 last May. Reporting on the Soyuz 9 flight, the ship's captain, Andrian Nikolayev, commented that month-long flights already seemed feasible, but anything longer called for additional and more effective conditioning procedures and new medical treatments. He reported that the post-flight effects lasted much longer than anything encountered on shorter flights. During the first few days both cosmonauts found walking a considerable strain, they were red in the face and they stumbled frequently. It was almost impossible to climb stairs and hard to stand upright. There had been considerable wasting of their lower limbs—as much as 4 cm round the hips and 2 cm in the measurement of the shins. This is attributed to the loss of muscle tissue in the legs, used to supporting the body's full weight at 1 G. Loss of total body weight was about 5 kg for the novice cosmonaut, Sevastianov, and rather less for Nikolayev, but both took about three weeks to recover the loss. This was in contrast to earlier post-flight experience, when lost weight was regained within a day or two. In spite of the weight loss both men felt two to three times heavier than usual for the first few days back on Earth.

In a report on the successful flight of Luna 16 (see illustration), which took place two weeks before the Congress, the deputy director of the Moscow Institute of Space Research, Mr Y. Hodarev, and Mr J. Surkov of the Geochemistry Institute of the Academy of Sciences said little more than the account released last week through the Novosti press agency. Privately, however, the experts revealed that Luna 16 had recovered 200 grams of lunar material, all contained in a single core 35 cm long and 4 cm in diameter. The Soviet members of the congress stressed the role of man in space with as much vigour as the role of automated instruments. There was no sign that NASA intends to revise or review its plans for the remaining four Apollo flights in the light of the new proof of what instruments alone can do.

SEWAGE

River at Risk

THE emphasis during the second week of the strike by British sewage workers shifted suddenly from the exaggerated concern over the danger to human health (*Nature*, **228**, 102; 1970) to justifiable anxiety about the threat to river life. Only two years after the lower reaches of the Thames had become so clean that more than forty species of fish were recorded there, a conservation specialist described the situation as "very serious, if not yet desperate".

Limited stretches of the Thames only have been affected so far, but it has been estimated that 10–20,000 fish may have been destroyed. It will take from three to five years for the rivers to recover completely from the damage caused by the sewage which has poured into them during the past two weeks. Lord Nugent, chairman of the Thames Conservancy Board, said last Sunday that if the strike was settled in a week, normal conditions could be substantially restored by early November. A spokesman for the board said later that as long as the sewage works remained in operation the situation would remain in hand; the staffing problem was getting worse each day, however, and if breakdown or closure of any of the sewage works resulted in further pollution of the river, the threat to river life would be grave.

Toxic substances apart, the presence of sewage in a river makes heavy demands on the amount of oxygen available to the inhabitants of the river. A heavy deposit of sewage on the river-bed requires a great deal of oxygen over a very long period for complete oxidation. Many fish are extremely sensitive to the amount of oxygen in the water in which they live, and cannot survive if the concentration falls below a particular value. Furthermore, the upper reaches of the Thames have, in recent years, become very clear with increasing sewage control, and in consequence the growth of algae and rooted water plants has been much encouraged. Such growth would be sadly cut back in the cloudy and turbid conditions which inevitably follow gross river pollution. Fish and plants will not be the only organisms affected. Invertebrates, such as water fleas and insect larvae, would perish, with disastrous consequences for the short and long term ecological balance of the river.

If the worst comes to the worst it will take a conservatively estimated ten years for the Thames to return to its former healthy state. It is unlikely, however, that the river could again become devoid of life, for fish, insects and plants will quickly return when pollution decreases to a tolerable level. But it would be a pity if the time and money spent during the past ten years in cleaning the Thames were to go to waste for the sake of an extra few thousand pounds on the municipal wage bill.

OCEANOGRAPHY

Mountains under the Mediterranean

from a Correspondent

FRESH information about the geological history of the Mediterranean Basin has been gleaned during the most recent stage of the National Science Foundation's Deep Sea Drilling Project (DSDP). On its voyage through the Mediterranean between August 13 and October 6—leg 13 of the DSDP—the Glomar Challenger collected twenty-seven corings from fourteen sites. Part of NSF's broader National Ocean Sediment Coring Programme, leg 13 was planned by an advisory panel of JOIDES, the Joint Oceanographic Institutions for Deep Earth Sampling.

According to Dr Kenneth J. Hsu, speaking in Paris on October 9, Glomar Challenger's scientific team recovered "long cores of sediments and rocks astonishingly similar to those found in many parts of the Alpine chains of Europe and North Africa". Using these cores it will be possible, for the first time, to compare the nature, age, thickness and sequential relationships of the material of the ocean with those of the surrounding land.

Signs were detected that in at least two places sedimentary formations have been displaced from their original sites of deposition beneath the floor of the Mediterranean. In one case, in the Hellenic Trough, 120 million year old Lower Cretaceous limestones were found immediately above young, soft Pliocene oozes not more than a few million years old. In another place,