BIOCHEMICAL MEETING

All Change

THE unruly students of Italy's universities and the University of Rome in particular will no doubt be more than a little amused by the latest outcome of their frequent rebellions. Their activities will oblige many of the world's most eminent biochemists to spend a week next year hopping on and off commuter transport between Lucerne, Interlaken and Montreux. By all accounts, because of the proclivity of Rome's students to sit-down strikes, seizure of their university buildings and tear gas and water cannon tussles with the local police, the city of Rome and its police force told the organizers of the Eighth International Congress of Biochemistry that the personal safety of all the many thousands of biochemists likely to turn up for an international junket could not be guaranteed. As a result the meeting's organizers, after touting around, have decided to hold their meeting at the three Swiss centres from September 3–9 next year. Once the demand for places at the ten different symposia has been assessed, the organizers will apparently decide the venue for each. Anyone wanting to go to symposia in different towns will simply have to commute.

To lay all this at the door of Italy's university students may, however, be to credit them with too much influence It is alleged that Rome was not in any case proving to be the ideal place for the meeting anyway for a whole series of organizational reasons.

Moreover, some biochemists are saying that the Italian Government had had second thoughts about underwriting the cost of the conference, and that it wishes to devote all its energies and funds to putting the Italian universities in order. To act as host to an international meeting on the scale of the International Biochemical Congresses would be nothing but an unwanted distraction. But whatever the real reasons for the change in venue, and there are probably elements of truth in all those that are currently being gossiped about, the show will go on even if it does come to resemble a three ringed circus.

ROYAL ASTRONOMICAL SOCIETY

Room to Breathe

from our Astronomy Correspondent

THE restoration of the premises of the Royal Astronomical Society in the corner of Burlington House which was promised once the Royal Society had moved out to more fashionable Carlton House Terrace is at last taking place. Afficionados of the RAS meetings will no longer have to endure the narrow wooden benches of the society's lecture room, more appropriate to Dotheboy's Hall than a learned society with a Royal Charter, and the piercing draughts which seem to afflict the room on all but the hottest days. But one also hopes that the portraits of ciliated past presidents and other astronomical worthies which glower disconcertingly from the walls at near eye-level—at least for members of the audience on the rearmost benches of the stepped lecture room—will have an honourable place in the reconstruction.

The opportunity for expansion came after the move of the Royal Society in 1967, which allowed more room for the plethora of societies which still inhabit Burlington House, a nineteenth century building encircling a courtyard off Piccadilly, and looking rather the worse for the sort of atmosphere which used to afflict Londoners until only quite recently. As it was, the need for more space has been pressing the Royal Astronomical Society for years. Although it must be gratifying for speakers to have a full house, even though a shifty, fidgety, uncomfortable one, there have often been members of the audience sitting on chairs brought into the aisles and blocking the doors to the extent of becoming almost a fire risk. Closed-circuit television with a monitor in the library upstairs has been tried—for the first time at a crowded meeting on pulsars in April last year—but could never be more than an emergency solution. What the society has been up against, it has been recognized, is what is called McNally's law, after one of the secretaries of the society, Dr D. McNally of the University of London Observatory. According to this, the attendance N follows the linear law $N = 2{\cdot}3(t - 1957) + 88$, with probably a second order term of positive coefficient. Within a year or two, the lecture room would have been too small to accommodate even the average minimum attendance.

As a result of the redistribution of space in Burlington House, the old lecture room will be split into three to make a fellows' room and the extra office accommodation which the society badly needs. In future, the society will meet in a room across the courtyard by invitation of the British Academy, and a larger meeting room will be made available by the Ministry of Public Building and Works in nearby Savile Row. Space left in Burlington House by the Royal Society has been taken over by the Chemical Society, and in turn the Royal Astronomical Society has been allocated what used to be the library of the Chemical Society on the top floor of Burlington House overlooking Piccadilly. This is to be converted into a small lecture room to accommodate meetings of fewer than fifty people or so. The refurnishing also extends to a facelift for the council room, which ought to be finished by the end of the month. The society hopes that the rest of the alterations will be completed in time for its sesquicentenary next year.

EUROPEAN SPACE

French Cutback

ALTHOUGH the expected large cut in the French contribution to ESRO brought about by the new wave of financial stringency in France will be a setback, the organization is probably in better shape to weather the storm than ever before in its eight year history. France, nevertheless, pays 20 per cent of the ESRO budget, and the expected cut of 30 million francs in a contribution of 50 million francs which is foreshadowed in the present proposals will be a serious blow. A reduced level of expenditure on the French national programme of space research also seems likely. What ESRO officials must be hoping is that by the time the contribution has to be paid, the financial situation in France will have eased. The second instalment is not due for almost a year, in August 1970, leaving plenty of time for a wait-and-see policy, and France should

have no difficulty in paying the first instalment due early next year.

The first opportunity for the affair to come to a head is late in November at the next ESRO council meeting when next year's budget will be on the agenda. The organization's level of resources for the three-year period 1969–71 has, however, already been approved by a unanimous decision at last November's council, and approval of the 1970 budget requires only a majority decision by seven out of ten states to make it legally binding on all members. Thus, barring the unlikely event of a wholesale retrenchment by the other members, the optimistic view is that France may be persuaded to reconsider the cut.

It must be upsetting for ESRO that this threat to its finances comes so soon after the doubts of last year when even the existence of the organization was being questioned. Nevertheless the calm which has settled over the affairs of the organization since the European Space Conference last November means that this is as good a time as any for ESRO to face a challenge. To some extent critics of the organization have been mollified by the success of the three satellites orbited so far, and a fourth—the spare flight model of ESRO 1—is to be launched on October 1. Even so, ESRO finances are only just enough to keep the organization in its role of carrying out space research which is beyond the reach of individual members. But it will be 1972 and the launching of the TD-1 satellite before ESRO can truly be said to have produced a satellite in this category—the satellites so far have hardly been beyond the capabilities of individual states except in the rate at which they have been launched. Therefore any threat to the organization's resources at the moment is likely to be serious.

SPACE

Moon and Mars

from our Astronomy Correspondent

AFTER a mercifully uneventful seven weeks in the Lunar Receiving Laboratory in Houston, the 60 pounds of material collected by Apollo 11 was released from quarantine on September 12 and is being packaged and distributed to the scientific investigators. According to NASA, the distribution process is expected to last several weeks. During the stay in the laboratory, traces of Moon dust were given to mice, squirrels, insects, fish, oysters and shrimps, and fed to a variety of plants without any apparent effect. But, as the distribution begins, the 142 principal investigators who are to receive samples have surprisingly little to go on, at least as far as public announcements from the Lunar Receiving Laboratory go. In the long run the news that the surface of the Sea of Tranquillity is between 3,100 and 4,500 million years old is likely to be the most valuable piece of information to have come out of the first phase of investigations.

The second important discovery is that as much as fifty per cent of the lunar dust is made up of tiny glass spheres and rods. This is interpreted by Dr Guy E. Rindone of Pennsylvania State University as evidence for wide-scale volcanic activity on the Moon at one time. His argument is that the tiny glass spheres can only be formed if there is an atmosphere present—otherwise the glass spheres show a phenomenon known as "seizure" and stick to each other so strongly that they cannot be separated without damage. Dr Rindone suggests that the volcanic eruptions which produced drops of molten gas will also have released enough gas to form an atmosphere while the drops cooled. Meteorite bombardment cannot explain the glass beads, he says, because without an atmosphere they would tend to be irregularly shaped and fractured.

The third surprising piece of news is that the investigators responsible for the lunar seismometer have retracted their initial statements that the Moon is layered and has a hot core, and now favour the view that the Moon is made up of highly fractured material which muffles seismic vibrations. This is to explain the peculiar nature of the signals picked up by the seismometer, which, according to one of the principal investigators, Dr Gary Latham, are like no signals picked up on Earth. They are, it seems, far more scattered and of low efficiency. One view, supported by Dr Latham, is that the cracks were caused by meteoritic impacts, and that the Moon is made up of heterogeneous material which was never fully molten. The seismometer is now reported to be out of action following a fault which allows overheating during the lunar day, but during its 21 days of activity more than 100 events were recorded.

Analysis of the two hundred photographs of Mars by Mariners 6 and 7 is at a similar early stage. Despite the superficial similarity, Mars seems to have a number of surface features different from anything found on the Moon. Dr Robert Barth of the California Institute of Technology reports what seems to be an extensive region of "collapsed and jumbled land", of area 469,000 square miles, which he compares in appearance but not in extent to a slumped area which appeared around Anchorage, Alaska, after the 1964 earthquake. There is also a large flat region which seems to be featureless except for the occasional scarp or rille.

Not surprisingly, Dr George Pimentel of the University of California at Berkeley has had to retract his statement about the existence of gaseous methane and ammonia over the southern polar cap, and any chance of finding life on Mars now seems thin indeed. What was being detected, it seems, was the infrared signature of carbon dioxide. There is no evidence of the legendary canals, and it looks as if what astronomers have been reporting is the involuntary joining up of surface features by eye. There may be, however, underlying structures of fault lines or chains of craters which would have stimulated the effect.

It also seems certain that the material of the pole cap is basically carbon dioxide, although possibly with some water ice included. This view is supported by Dr Guido Munch of Caltech, even though the temperature at the south pole seems to be a few degrees above the temperature of carbon dioxide ice. But the project's chief television experimenter, Dr Robert Leighton, feels that a water ice cap cannot be ruled out, although he also favours a layer of carbon dioxide ice a few inches thick.

Carbon dioxide also makes up at least 98 per cent of the atmosphere, and the small amount of water vapour present is not enough to make liquid water, according to Dr Norman Horowitz of Caltech. The atmosphere also seems to contain a slight haze, between five and ten miles deep and starting ten miles above the surface, but which is too insubstantial to cause any shadowing.