Apollo and the names of dead Soviet cosmonauts are given to features near Mare Moscoviense. But the name of Yuri Gagarin, killed in an air accident in 1968, has been given to one of the larger features on the far side.

As *Nature* went to press the list of names had not so far caused any international ructions. Objections had been raised to about half a dozen names on the list by the IAU Commission on the Moon, but these it seems were trivial points rising, for example, from possible confusion when names were assigned to small craters within larger named ones. In these cases the working group agreed to move the names to other locations.

Debate about the scientific data on the Moon that the Apollo programme has produced seems to be centring on the age measurements for the lunar material, and on the seismic data. Ages as great as $4\cdot5\times10^9$ years have been assigned to some of the samples, and the debate appears to be narrowing down to a discussion of precisely what are the zero points of the conventional dating techniques. The seismologists, on the other hand, are deciphering the 250 natural events that have so far been recorded, and they seem to have been remarkably successful. It has been possible to identify a class of moonquakes which occur when the Moon is at perigee, presumably due to tidal forces in the interior, and to distinguish these from events caused by meteorite impacts. The meteorite events have been attributed to meteorite masses of a few kilograms, and the rate nicely fits the Hawkin's meteorite distribution curve. But the burning question which Professor M. Ewing (Columbia), one of the lunar seismologists, was at a loss to explain was why the traces from a few of the events are an almost perfect match. "I have never seen terrestrial earthquakes that match so well", Professor Ewing said.

Secrecy and Little Green Men

At Brighton last week Professor V. L. Ginzburg, of the Lebedev Physical Institute, met Dr A. Hewish of the Mullard Radio Astronomy Observatory for the first time since the discovery of pulsars was announced in *Nature* two and a half years ago (**217**, 709; 1968). Professor Ginzburg had been staying with Dr Hewish at Cambridge while the Cambridge group was grappling with the problem of the origin of the regularly pulsing signals. But Ginzburg, now one of the foremost Soviet theorists on the pulsar problem, was not told of the discovery. The omission rankled, Ginzburg admits, when he returned to Moscow and saw the first report of pulsars in *Nature*. But at Brighton last week Ginzburg agreed with Hewish that the Cambridge group were right to keep the signals a secret until the experiments to check whether they were coming from extra-terrestrial life had been completed. Dr Hewish and the Cambridge group are forgiven, Professor Ginzburg says, now that he (Ginzburg) realizes that the British astronomy community was not party to the secret either. Dr Hewish explained that if the discovery of pulsars had been reported any earlier the Cambridge observatory would have been overrun by the press, making work impossible.

RADIO ASTRONOMY

Case of the Unidentified Line

Another addition to the growing list of molecular species that have been identified in interstellar space is expected soon. L. E. Snyder and D. Buhl reported to the IAU meeting on interstellar molecules on Monday that a new line has been detected that is so far unidentified. The line has a rest frequency of $89\cdot190$ GHz $\pm$ 2 NHz and has been seen in four, probably five, sources. It was first picked up while Snyder's group was recording a line of HCN using the 36 ft telescope of the National Radio Astronomy Observatory at Kitt Peak, Arizona. The unidentified signal appeared in the upper sideband while the line due to molecules of HCN containing the carbon isotope ^{13}C was being observed in the lower sideband. Snyder said that he is "fairly convinced" that the line is molecular. And it is unlikely to be a Doppler-shifted HCN line—that would require a radial velocity of 1,690 km per second, an order of magnitude greater than the velocities that have been measured in interstellar clouds. The unknown molecule has been named X-ogen by Snyder and his colleagues and it has been recognized in W3, Orion A, Sagittarius A, W51, and probably in L134.

It was only two months ago that Snyder's group reported the detection of interstellar HCN. So far this molecule has been detected at 88·6 GHz (3·4 mm) in six sources, W49, DR21, Orion A, W3, W51 and Sagittarius A. It is also pleasing that the line corresponding to substitution by the isotope ^{13}C has been detected—the line that was being observed when X-ogen was discovered. The abundance ratio $^{13}C/^{12}C$, significant for theories of nucleogenesis, can then be determined.

The list of molecules that have been detected in the past year or so makes interstellar space sound like an organic chemistry laboratory. Professor C. H. Townes (Berkeley), who as much as anybody inspired the search for these molecules, pointed out at the meeting that a lot of hard work had been unsuccessful. Although ammonia, formaldehyde, and even cyanacetylene (HC_3N) have been detected, some simple molecules that might have been expected to be present because of their stability have not been found, for example, H_2C_2O. SiO, SO and H_2CO_2 have been looked for reasonably hard, but not found. One molecule which Townes predicted would be detected before long was NO. But he admitted that he could give no convincing reason why the molecules should be present to the extent that they are, although he agreed that conditions in the dark clouds where the molecules are found are likely to be the most favourable.

It was obvious from the meeting that the molecules are a nice source of surprises. Why, for example, should the abundance ratios $^{13}C/^{12}C$ and $^{18}O/^{16}O$ obtained from measurements of the isotopic variations of formaldehyde (H_2CO) disagree with the ratios observed in stars, and instead be more like terrestrial abundance ratios ? What makes the H_2O line detectable, when work with very long base lines shows that some of the sources are less than one astronomical unit across ? Amplification by the maser process is assumed. And why is the formaldehyde line seen in absorption when there is no continuum source in the background apart from the 3K isotropic radiation ? In this case, some kind of maser process in reverse is suspected.