

artistic or gimmicky. In the first category a very light turbine engine, an automatic brake condition indicator and a camera capable of a shutter speed of less than one hundred-millionth of a second were among the items on view. Several firms proclaimed their prowess through pamphlets and rather minor products. Computer Technology Ltd perhaps caught the spirit of the exhibition best with a small computer which asked the visitor questions about his job and conducted a brief psycho-analysis. This technique, in which each question posed by the computer is dependent on previous answers, is designed for opinion research.

Among the household items was a flower pot designed to maintain a steady trickle of water in the gardener's absence, a new type of safety window for schools and hospitals, and for a wider audience a typewriter with keyboards in Japanese, musical notation or what you will. The National Reference Library had an interesting stand, and one of the other items that earned widespread approval was that showing a spring-loaded traffic sign which simply distorted itself by ninety degrees on impact.

Some of the products on display required an agile imagination to be considered as new inventions, and although whimsicality must necessarily have a place in an exhibition of this kind many people will have doubtless felt some disappointment that there was not more to stimulate the inquisitive mind.

## SOCIETIES

### Unmilitant Engineers

THE militant activities of Mr Clive Jenkins and his colleagues at the Association of Scientific, Technical and Managerial Staffs—the enlarged version of ASSET—appear to have hardened the resolution of the chartered engineers to steer clear and to set up instead a kind of engineers' "BMA". This body is intended to play a similar part to that of the BMA or the Institution of Professional Civil Servants in negotiating salary scales and other working conditions for its members without waving the banner of strike action.

The position at the moment is that the Registrar of Friendly Societies is casting his eye on the claims of chartered engineers to be registered as a friendly society, and that the draft of a rule book is in the hands of a solicitor. The enrolment procedure for those engineers who may wish to join the new body is intended to be through the Engineers' Guild.

Status or prestige apart, do the engineers really need such a new body? Will it really be able to rectify any injustices in the engineering industries? A spokesman for the Engineers' Guild claims that, whereas engineers have had the services of the Council of Engineering Institutions to look after their academic needs, similar attention has not been paid to their financial needs. There are felt to be some notable disparities within Britain, both in the salaries and security of engineers, which particularly affect those in the Midlands. It is also felt that the particular idiosyncrasies of chartered engineers require them to carry out their negotiations independently of engineers in allied fields, although the freedom from political affiliation or affiliation to the TUC is clearly an important factor in the argument.

The supporters of the new union are hopeful that the 120,000 or so potential members will respond to the call to join, and that it will soon have sufficient members to be officially recognized as a negotiating body.

## SPACE

### Mars, Venus and Beyond

THE Soviet Union is obviously not going to let the Moon go to the Americans by default. The past week's flurry of Soviet launchings—two Venus probes (Venus 5 and 6 launched on January 5 and 10 respectively) and then another manned Soyuz (January 14)—demonstrates the persistence of Russia's explicit long-term programme—"exploration of the Moon and the planets". It is perhaps just possible that by employing an Earth-orbital strategy and building up a space station, the Russians may overhaul the American lead in the manned landing stakes, but they still have a long way to go. What seems more likely is that they will continue steadily with manned shots and in parallel will spend more effort on the planets, at least for the time being, with unmanned spacecraft. The Russians have already launched about twice as many planetary probes as the Americans and, in terms of payload, the discrepancy is more like 4 to 1. The programme's culmination so far was the probing of the Venusian atmosphere by a slowly descending landing capsule from Venus 4 a little more than a year ago. The Americans have not so far attempted a landing on any of the planets; this year they are not going to launch for Venus at all and their planetary programme generally looks very much the poor relation of Apollo.

In mid-February, the Mars window opens and NASA is to launch two enlarged Mariners to make a close fly-by. It will be surprising if the Soviet Union lets this opportunity pass.

The chief purpose of the two Soviet Venus probes now on their way to the planet (and each weighing over a ton) is to clear up the confusion over the Venusian atmospheric and surface temperature and the chemical composition of the enveloping cloud. The Soviet Venus 4 and US Mariner measurements last year did not agree. Soviet scientists now seem to have accepted the American interpretation that the spacecraft was not actually at the surface when it gave its final (and highest) reading, 280°C, so that the surface may be considerably hotter, as indicated by the instruments of Mariner 5 using another method. It seems that both the new Soviet Venus probes will make a soft landing, but one will descend on the sunlit portion of the planet while the other lands on the dark side. Arrival is expected in the middle of May. The Alma-Ata observatory in Kazakhstan succeeded in photographing Venus 6 as it passed over at a distance of 100,000 km on January 10.

In the meantime, the NASA Jet Propulsion Laboratory is putting the finishing touches to two improved Mariner spacecraft which are due to observe different regions of Mars in July and must be launched between mid-February and mid-April. A total of sixty-six television pictures of the planet is scheduled as the main experiment to be carried out during fly-by at about 2,000 miles above the surface. This is a factor of ten up on the 1965 photographs, the first ever to be