grammes per gallon. The losers will be the "blenders", companies that jumped into the business in the past few years to take advantage of the small-refiner loophole. They buy cheap gasoline, add lead to boost the octane, then resell it. That practice should be largely halted by the new rules.

Environmental groups are generally pleased with the new rules. The lead industry, predictably, is not. In a letter to the *New York Times* last week, Dr Jerome Cole, vice-president of the International Lead Zinc Research Organization argued that the new regulations will cost the public "millions of barrels of crude oil that lead in gasoline saves while adding billions of dollars to the US balance of payments deficit." **Stephen Budiansky**

Affirmative action employer

The launch of the Soyuz-T, with a three person crew including female cosmonaut Svetlana Savitskaya, coincided neatly with the closing of Unispace-82 in Vienna and upstaged the US contribution to equal opportunities in space, the visit to the conference of Dr Anna Fisher, astronaut in training. Miss Savitskaya's visit to Salyut-7, however, should not be viewed simply as a publicity gimmick, nor an attempt to scoop the launch of Dr Sally Ride aboard the Shuttle next spring. The fact that there were female candidates training at the Gagarin space centre was announced some weeks ago. It would seem that, as far as the space planners were concerned, the launching of a woman was the next routine step.

Soviet space policy is strongly committed to the construction of large space stations,

Savitskaya and crew-mates

aboard which women would serve as scientists. ("And, of course, stewardesses", Andrian Nikolaev, the husband of the first Soviet woman cosmonaut Valentina Tereshkova, once added.) Studies of the effect of spaceflight on the female organism are an obvious prerequisite of such a programme. Yet, since Tereshkova's solo flight in 1963, no woman has been placed in orbit. The reason appears to be partly one of what a Soviet space official delicately called "the amenities". Moreover, the 1961 Soyuz-11 disaster, in which three cosmonauts died due to loss of cabin pressure during re-entry, led to a change in procedure; cosmonauts were to wear spacesuits during the re-entry, which meant that crew size had to be reduced from three to two. It was the introduction of the roomier Soyuz-T transport craft and Salyut-7, that made it possible for the multi-crew spacecraft to have a female visitor.

Israeli science politics

Physicist made Science Minister

Rehovot

Professor Yuval Ne'eman, a well known theoretical physicist and former president of Tel Aviv University has become Israel's first Minister of Science, just five years after turning down the post because he preferred to stay out of politics. Since then, though, Ne'eman has become a fully-fledged politician and now represents the nationalist Tehiya Party in the Knesset. When Tehiya joined the Begin-led coalition government, Ne'eman accepted the position of Minister of Science and Development.

Not all of Ne'eman's academic colleagues are enthusiastic about the notion of a ministry with overall responsibility for science. For one thing, they fear that it might mean an undesirable degree of government control. Ne'eman discounts such fears and claims that there are overwhelming benefits in having science represented at cabinet level. Other ministries already have their own chief scientists and research budgets and Ne'eman sees one of his chief tasks as introducing strong central coordination over these separate activities.

Professor Ne'eman is pleased with what has been achieved by Israeli scientists and technologists, but looks forward to a "quantum leap" in these achievements, in particular supporting the idea of creating "science cities". And he has set a target of $5,000 million dollars a year for the annual income from exports based on local research — the current level being only $1,000 million.

Although Ne'eman is clearly putting the emphasis on applied research, he says he will also be fighting to see that pure research gets the funds it deserves. He is particularly interested in creating more national experimental facilities like the Weizmann Institute's nuclear accelerator and the 40-inch telescope at Tel Aviv University. He also hopes to explore the possibility of Israel's becoming involved in further multi-national research bodies. Already Israel is a member of the European Molecular Biology Organization, and other candidates are the European Southern Observatory and the European Space Agency.

Only in the past 15 years, says Ne'eman, has advanced science and technology begun to have a serious impact on Israeli industry. Ne'eman himself can claim much of the credit — during the sixties he was amongst those who persuaded the government to back skill-intensive science-based industry at the expense of the labour-intensive textile industry and in the mid-seventies, as Chief Scientist in the Ministry of Defence, he had a significant impact on the country's military science.

Some Israeli scientists are sceptical about one of Ne'eman's pet projects, however. He is committed to the plan to build a canal from the Mediterranean to the Dead Sea, which among other things will provide hydroelectric power by utilizing water from the hills around the Dead Sea. Some question the value of spending an estimated $1,000 million on a project that would only provide a few per cent of Israel's energy requirements. Ne'eman, for long a moving spirit behind the plan, maintains that the energy would be available at crucial times and that the canal

Ne'eman takes science to the cabinet

would provide much-needed cooling water for additional thermal power stations along the route.

Looking forward to his new task, the new minister says he will do his best "not to disconnect" from "real science". "I was serving as a military attaché with the Israeli Embassy in London," he recalls, "when I worked with Murray Gell-Mann on 'The Eightfold Way', the theory that led to the prediction of quarks. And if I was able to combine the purchasing of submarines with the charting of elementary particles then, I don't see why I can't maintain the same duality now." **Nechemia Meyers**

US degrees

Doctoral decline

Washington

The number of US citizens who received doctorates in the "hard" science fields in the United States declined steadily during the 1970s (see chart). Some see in this trend a dangerous drift away from basic research as a career priority for young US scientists. David A. Shirley, director of the Lawrence Berkeley Laboratory, considers the figures "poignant" evidence of that US society is steering its young people away from basic science.

Another explanation is the changing environment in US university science departments, and the steady upward trend in salaries offered by industry to graduates who have made the initial four-year invest-

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