

news in brief

Gargamelle may be scrapped: CERN's heavy liquid bubble chamber, Gargamelle, which was the first to detect the weak neutral current and has been in operation since 1970, may be at the end of its life. Last year a leak was detected in the chamber that proved to be easily identifiable and repairable. But the chamber was sent to the factory for further inspection, to check the welded joints, and micro-cracks were discovered in the welds. The cracks are currently under investigation and a decision will be taken on the chamber's future at a meeting on 19 April. Engineers have given negative advice saying that repairs will be very costly, of the same order of magnitude as the cost of building a new chamber. Another consideration is whether the chamber would be in violation of Swiss safety standards. Gargamelle is used as a neutrino detector and its loss would leave only the BEBC heavy liquid chamber for neutrino physics, a considerable cut in detecting power. The loss would come at a particularly inopportune moment, as CERN is to reach 450 GeV this summer, doubling the neutrino flux to the two chambers.

Soviets respond to Harrisburg: Soviet nuclear planners have taken the opportunity of the Harrisburg disaster to defend their own commitment to fast breeders. Within the last few days, Moscow radio has put out two major interviews which, while not mentioning Harrisburg explicitly, are a clear comment on the situation.

In the first, an English-language transmission to North America, Dr Andronik Petrosyants, the Chairman of the USSR State Committee for the Utilization of Atomic Energy, said that although to date the Soviet energy programme had been based mainly on 'conventional reactors' (with experimental fast-breeders at Obninsk, Dmitrovgrad and Shevchenko), long-term plans envisage a change-over to fast-breeders, a field in which Soviet scientists "cooperate with their counterparts in the US". Petrosyants added "Only such reactors will enable the industry to develop sufficiently fast and on a large enough scale". Later he explained that the Soviet applications of fast-breeders, which "are limited by scientifically motivated standards, present no radiation hazards".

In a programme for the home audience, Anatolii Aleksandrov, President of the Academy of Sciences of the USSR described Soviet plans for constructing nuclear power stations in urban residential areas, which should, he claimed, halve the cost of district heating. Plans are also under way, he said, for using power stations as a source of heat to cut the cost of "relatively expensive technological processes such as those involving powder metallurgy".

Orlov told to stop issuing research notes: Yuri Orlov, the Soviet physicist at present serving a 7-year labour-camp sentence for his activities in defence of human rights has been forbidden to include in his fortnightly letters home any mathematical formulae or other material which the camp guards cannot understand. Ironically, his wife received this information about 10 days before *Nature* published extracts from his letters, in which he described his attempts to keep up some form of theoretical research.

Banning of the intellectual activity of dissidents is nothing new in Russia. In 1847, the Ukrainian poet, Shevchenko, was sentenced to 25 years in an army penal battalion, "with the express prohibition of writing or painting", added to his sentence in the Tsar's own handwriting. It is not known at what level the ban on Orlov's intellectual activity originated. Mrs Orlova thinks that it probably originated with the camp guards themselves. However, a friend of the Orlovs told *Nature*, no guard would take any initiative

he did not think would be approved higher up. This friend also pointed out that in Orlov's last "scientific" letter from the camp—a paper on wave probability—he indicated by a periphrasis that he hoped it would be published abroad.

Portugal doubtful about Soviet Atlantis find: Recent claims by Soviet oceanographers that they have discovered traces of a city on the floor of the Atlantic have been treated somewhat sceptically by their Portuguese opposite numbers. After discussing the "finds" with the Soviet team, Dr Marcello Vasconcelos, head of the Portuguese National Institute for Fishing Research, admitted only that "It is undeniable that they have found something". He and his colleagues at the Institute could not give a professional opinion on the reported find, he explained.

Dr Vasconcelos said that the Soviet scientists appeared to be "highly optimistic" about their photographs which, they claim, show ruins of a city some "320-480 km" off the coast of Portugal, in the direction of its "mid-Atlantic island possession, Madeira". Dr Aleksei Aksenov, the head of the Soviet team, claims to have taken eight photographs, showing "vestiges of walls and stairways". Further details, including the depth of the alleged finds, will, according to Dr Aksenov, be announced after further study of the photographs in Moscow. Soviet opinion, he explained, was that the discovered remains could well be the "lost continent of Atlantis".

Soviet oceanographers would appear to be having great success recently in explaining Atlantic "mythology". Last year, another oceanographic expedition reported huge "vortices" in the Bermuda triangle region.

UK proposes major microprocessor research and training programme: The Science Research Council in the UK has adopted the recommendations of a Council panel which call for a major programme of additional academic research to "help the UK get maximum benefit" from microprocessors and programmable electronic technology. The panel makes specific recommendations in the areas of education and training, new computer applications and new computer technology. In education, the panel proposes a centrally coordinated programme of six five-year projects to expand existing commitments such as the National Development Programme in Computer Assisted Instruction. The panel envisages 1,000-2,000 "work stations" that will use the new technology for education and it calls for the appointment of a Programme Director "at an early stage". In addition the panel proposes 50 research studentships per year in computers and microelectronics, conversion courses for "arts graduates (or unemployed teachers)" and additional fundings to attract PhD and MSc students.

In new computer applications the panel emphasises the importance of industrial robotics both for UK application and for export. The panel asks the SRC to appoint a Programme Director to carry out an "in depth study" of the UK situation over the next 12 to 18 months and it recommends the creation of an SRC professorship in this field "in a major location." The Rutherford Laboratory is proposed as a centre for research into increased uses of microprocessors in measurement and instrumentation as well as for research into the next generation of silicon chip design and test automation.

The SRC has appointed an Implementation Group chaired by Professor J. Brown of Imperial College to draw up detailed costs and to liaise with other concerned governmental bodies.