deuteron and a neutral pion.) The time-reversed reaction, the so-called photodisintegration of the deuteron
\[ d + \gamma \rightarrow p + n \]
has been well measured at DESY, Cornell, Stanford and Orsay (though there is some conflict in the results). The two reaction rates should be the same if T symmetry holds.

The first indications on the p + n measurement came from a Michigan, Princeton team working at the 3 GeV Princeton-Pennsylvania accelerator and seemed to show a large difference in the reaction rate, compared to photo-disintegration of the deuteron, indicating a breakdown of T symmetry. The other group (Michigan, UCLA and LRL) working at the 184 inch synchro-cyclotron at Berkeley also seemed to see a slight difference. However further analysis in both experiments came out with no evidence of breakdown. From these experiments then, T violation has not appeared in the electromagnetic interaction.

Another way of examining the electromagnetic interaction comes from a consequence of T violation that particles could have electric dipole moments. Experiments at Brookhaven and Oak Ridge searched for any electric dipole moment of the neutron and saw nothing down to the level of \(4 \times 10^{-33}\) e cm. This is lower than the dipole moment that would be expected of the basis of most calculations if there was T violation in the electromagnetic interaction. A recent result comes from the Clarendon Laboratory, Oxford, where an experiment has searched the dipole moment of the proton. A beam of tellurium fluoride molecules was fired through parallel magnetic and electric fields. A dipole moment would reveal itself when the magnetic field was reversed with respect to the electric field. None appeared down to the level of \(10^{-36}\) e cm (a value ten thousand times lower than any previous measurement).

Finally, in the strong interaction two experiments have looked at the rates of transformation of nucleii in both directions. A University of Washington team using their Van de Graaff studied the reaction \(\text{Mg}^{24} + d \rightarrow \text{Mg}^{25} + p\) and its inverse. A team from the Max Planck Institute für Kernphysik, Heidelberg, on the Heidelberg tandem Van de Graaff studied the reaction \(\text{Mg}^{24} + \alpha \rightarrow \text{Al}^{27} + p\) and its inverse. Neither saw evidence of T violation.

Thus the situation is that T violation has been seen only in the decay of the long-lived neutral kaon. Does this mean that the guilty party is the weak interaction, or its newly-proposed variant the 'super-weak' interaction whose effects can, at present, only be observed in the neutral kaon?

On 10 August Professor Cecil Frank Powell died from a heart attack while holidaying in Italy. Professor Powell was an outstanding physicist (Nobel Prize winner in 1950 and recipient of many other honours) and an outstanding personality whose deep concern for the social implications of science played a major part in his life.

He was born at Tonbridge, England, in 1903 and studied science at Cambridge University doing two years research at the Cavendish in the great days of Rutherford. In 1928 he moved to the H. H. Wills Physics Laboratory of Bristol University where he stayed for the rest of his life becoming Professor of Physics in 1948 and Director of the Laboratory in 1964.

His distinguished career reached a peak in the 1940s when his work with nuclear emulsions investigating cosmic rays resulted in the discovery of the pion in 1947. This confirmed the Yukawa theory of the strong nuclear force, opened the door to research with pions (which are now, some twenty years later, such ‘everyday’ particles at accelerator laboratories) and exposed the mystery of the muon. Around this major achievement was a mass of work on cosmic rays, atomic nuclei, particle scattering which won a world-wide reputation for his Bristol group.

In addition to the Nobel Prize, awarded for his development of the photographic method in the study of nuclear processes and for his discoveries concerning mesons, he received the Hughes Medal of the Royal Society in 1949, the Royal Medal of the Royal Society in 1962, the Lamontsov gold medal in 1967 (the highest award of the Soviet Academy of Sciences), and honorary doctorates at the Universities of Dublin, Bordeaux, Warsaw, Berlin and Padua.

This international list of Universities is indicative of his international reputation and his international interests. Professor Powell was among those who helped to promote the idea of CERN in the early 1950s and has been closely associated with the Laboratory ever since. From 1961 to 1963 he was Chairman of the CERN Scientific Policy Committee and remained a member of the Committee until his death. From 1965 to 1968, he was Chairman of the Nuclear Physics Board of the UK Science Research Council.

As a personality Professor Powell was held in great affection. His breadth of interest, maturity of judgement and, above all, his obvious love of so much in human achievement and aspiration, made him a fascinating speaker on many subjects. He was always concerned with the human responsibilities of the scientist. His death is felt with sadness throughout the world of physics.

As we go to press we learn of the death at Berkeley on 18 August of another Nobel Prize winner in physics — Professor Otto Stern.

Professor O. Stern was awarded the prize in 1943 for his contributions to the development of the molecular ray method and for his discovery of the magnetic moment of the proton.

Professor Powell (right) in conversation with Professor Van Hove when he visited CERN in 1964 for the 10th anniversary of the signing of the CERN Convention.
In memory
of Professor Powell

On Saturday June 19th, 1971 a gathering of old friends took place on the Alpe Giumento, above Lake Como, to install a specially made bench in memory of Cecil Powell who died there nearly two years ago.

The bench was designed by Bruno Munari and was constructed in the laboratory of Professor Occhialini in Milan. It is situated in a wonderful position overlooking the Valsassina and Lake Como and was donated by a group of scientists to mark their affection for their colleague and friend.

The representatives of the Commune of Casargo were also there accompanied by a group of young girls in their local costumes who presented to Mrs. Powell a beautiful floral tribute composed of gentians and edelweiss gathered in the surrounding mountains.