units of strangeness Ω^* (2253), like the famous Ω (1642) that in the sixties established the SU(3)-symmetry among the u, d and s light quarks, or a baryon carrying both charm and strangeness.

From time to time it is good to interrupt a long series of experimental results by listening to a pure theoretical talk. The eminent Russian field theorist L.D. Faddeev offered a very clear and solid seminar on a possible strategy toward giving sense to theories with anomalies.

The fascinating interplay between particle physics and cosmology was described by J. Ellis. He stressed with special emphasis the importance of obtaining an experimental solution to the problem of dark matter in the Universe (see page 138). An exciting possibility discussed by Ellis is that the mysterious all pervading substance could be made of photinos, the supersymmetric partners of the ordinary photons. Supersymmetry at relatively low energy was also discussed by G. Kane in his report on the possible avenues beyond the standard model. While the relevance of supersymmetry for physics at energies accessible now or in the predictable future in our laboratories is at the centre of the debate, many theorists think that supersymmetry can be considered as established at the Planck mass. This belief arises from the, at present, most promising framework for a theory of quantum gravity, namely the theory of superstrings, reviewed by M.B. Green. As perhaps one could have anticipated, there is now less optimism about any short-range practical feedbacks into particle physics of this really gigantic conceptual enterprise.

I think that a very lively and healthy picture of particle physics has emerged once more at the Uppsala conference. In this respect the formula with both parallel and plenary sessions has confirmed its virtues. Although perhaps more demanding for the audience it has the merit of offering a larger number of facets of the field. The community of particle physics is at present working very hard to explore better the foundations of the standard model hoping to find a clue toward a new layer of physics. In this respect, as I tried to make clear in my summary talk, the most important goal of particle physics in the next decade is to clarify experimentally the origin of the Fermi scale of mass, of order $G_F^{-1/2} \cong 300$ GeV which fixes the W and Z masses. In other words, one has to validate the Higgs sector of the electroweak theory, which is responsible for the spontaneous breaking of the gauge symmetry. There are, in fact, convincing theoretical arguments indicating that some form of new physics must be hidden near the Fermi scale. In particular, a fundamental Higgs appears to require supersymmetry signals just above the Fermi scale. Alternatively, some form of compositeness should become manifest, or possibly even supersymmetry and compositeness. Whatever the final outcome, it seems unavoidable that experimental studies in the TeV energy domain will lead to new fundamental discoveries. The large effort which is being made precisely aims at crossing this new frontier of particle physics.

1987 Nobel Prize for Physics

Following closely on the award of the 1988 EPS Hewlett-Packard Europhysics Prize, the 1987 Nobel Prize for Physics has been awarded to J.G. Bednorz and K.A. Müller of the Zürich Laboratory of IBM for their discovery of high temperature superconductivity in a layered oxide of copper, barium and lanthanum.

An appreciation of their work will be given in the next issue of *Europhysics News*.