As the ejected matter goes through the photosphere, the various layers of the onion skin models are revealed. As the photosphere was still in the hydrogen rich envelope, an overabundance of barium by a factor 5–10 was observed. Ba is a so-called s-process element, made by a succession of slow neutron captures starting from iron. This s-process has been shown to occur in the helium burning region, so the Ba-observation in H-rich layers seems to require some unpredicted mixing of the H- and He-rich layers. Another observation suggests the same kind of effect. Very narrow absorption lines of N-rich material were found by IUE observers. Such lines are likely to originate from matter ejected by the SN progenitor, when it was a red supergiant. The interest is that nitrogen is a product of the C, N, O burning of hydrogen and that such an N-excess (factor 30) indicates that a large amount of these products have been brought to the stellar surface during the precursor evolution either by unpredicted efficient mixing processes or as a result of very heavy mass loss.

From IR observations with the Kuiper Airborne Observatory, material from the inner core started to be visible in November 1987. Lines of the elements Ni, Ar, Co appeared with strengths indicating abundances far higher than normal, which implies that freshly synthesized elements were seen. This stellar striptease is receiving the greatest attention from astrophysicists, who have thus an invaluable opportunity to test the predictions of the models for stellar nucleosynthesis.

X and γ-rays from SN 1987 A

Radioactive cobalt emits two γ lines, at 847 and 1238 keV, which are powering the tail of the optical light curve. The first theoretical models predicted that these γ-rays should appear as degraded photons in the range of 10–200 keV about a year after the explosion. Indeed, the Ginga satellite (10–30 keV) and the Kvant-Roentgen experiment ($15–10^3$ keV) on the Mir mission detected X-rays already in the middle of August 1987. The shape of the X-spectrum corresponds well to the theoretical predictions [7]. The early arrival of X-rays was interpreted [3, 4] as the result of the mixing of radioactive Ni and Co during the explosion. The explosion might have been non radial or might have had "fingers", alternatively a Rayleigh-Taylor instability due to the radiation of Ni and Co might have occurred and produced the necessary mixing during the explosion — to quote some of the proposed explanations. The γ-detectors on the SMM satellite (Solar Maximum Mission) and on some balloon flights observed the 847 and 1238 keV lines already from November 1987. This appearance is also early and interpreted as indicative of some substantial mixing in the explosion.

Interestingly enough, the soft X-ray component below 10 keV is time-variable. The origin of this variability is not exactly known and has been attributed either to clumps in the ejected matter or to contributions from the synchrotron radiation of the buried pulsar, supposed to be seen through holes and irregularities in the ejecta.

What comes out directly in the form of X- and γ-rays will no longer contribute to the UV, visible and IR radiation. This is certainly the main reason for the turning down of the bolometric light curve after May 88; this trend is also well visible on the V-curve in Fig. 3. On the other hand, the luminous contribution from a central pulsar could introduce upward deviations from the linear tail of the curve. As the emitted power of a pulsar goes as Ω^{-4}, where Ω is the angular velocity of the rotating neutron star, it is clear that we cannot anticipate what the pulsar luminosity will be, since we do not know its rotation rate. At the time of writing, there is still no indication about the supposed central pulsar. Thus, after the numerous beautiful observations already offered by SN 1987 A, the astronomical community realizes that many promising results of this fascinating supernova are still ahead from us.

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Kurti Hands Over to Buckel

During the long discussions that led to the creation of *Europhysics Letters* no topic was more thoroughly argued than that of the first editor. He clearly had to be an eminent physicist, highly articulate, a person of great experience and with a wide European background, an accomplished diplomat, a shrewd judge, unassailable good humour and tough — physically as well as mentally. Mixing so many ingredients into one individual it was eventually realised, required also the skills of a maître cuisinier — and so the choice fell naturally on Nicolas Kurti of Oxford. Three years and eight volumes later, each one a banquet in itself, the time has come for him to retire and hand over to a new chef. The European Physical Society is happy to announce that former President Werner Buckel has agreed to don the hat of Editor in Chief from 1 April 1989.

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