Obituary

Raymond Stora’s obituary

On Monday, July 20, 2015 Raymond Stora passed away; although he was seriously ill, his death was unexpected, the result of a sudden heart attack. Raymond was born on September 18, 1930. He had been sick for many months, yet continued to go to CERN where he was able to discuss the problems in physics and mathematics that interested him. In fact, his last publication (recorded on SPIRES) carries the date of December 2014, just before he contracted CERN pneumonia, which dramatically reduced his mobility and hence the possibility of going to CERN. Still, this last project revived Raymond’s interest in algebraic curves, and he spent a large part of his last months at home reading papers and books on this subject. In 2013, despite the large amount of time that his various therapies required, Raymond made a fundamental contribution to a difficult problem on renormalization in configuration space based on the subtle technical properties of homogeneous distributions. His knowledge of physics and, in particular, of quantum field theory, as well as of many fields of mathematics was so well known that many members of and visitors to CERN frequently asked Raymond for advice and assistance, which he gave with great enthusiasm and in the most gracious way. Ivan Todorov, commenting on Raymond’s death, noted that we must remember Raymond’s remarkable qualities, which were both human and scientific.

Raymond’s scientific activity begun at the École polytechnique and MIT where he got his PhD. Back in France he became a researcher at CEA and subsequently Research Director at CNRS. For his work, he was awarded a number of important scientific prizes, including the Max Planck medal and the Dannie Heineman prize for Mathematical Physics. In general, his work is strongly characterized by his deep knowledge of physics and mathematics and by his strict rigor. The most remarkable example of this rigor may be seen in the discovery of the BRST property of gauge theories which is Raymond’s most influential contribution to physics. Prior to that discovery, the studies of dependence on the gauge fixing choice of a quantized gauge theory begun by ’t Hooft had led to the celebrated Slavnov–Taylor identities. These, however, were non-local and locality is one of the bases of quantum field theory. For this reason Raymond and his group in Marseille formulated a new version of the Slavnov–Taylor identities based on the interpretation of ghosts as local fields; this proposal was presented at a Summer School in Lausanne in 1973 but remained unpublished. A natural subsequent step was the discovery of the BRST symmetry, a discovery that led to the study of BRS cohomology. Raymond subsequently dedicated much work to this subject which has also attracted the interest of mathematicians.

With the death of Raymond Stora, modern scientific culture mourns the loss of one of its most outstanding representatives.

http://dx.doi.org/10.1016/j.nuclphysb.2015.08.022
0550-3213/2015 Published by Elsevier B.V.