

Foreword

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This issue is devoted to the memory of Kenneth G. Wilson (1936–2013), who transformed our way of looking at the world both in particle physics and in condensed matter physics. Let us recall some of his fundamental achievements: in particle physics he showed that renormalizability was an emergent phenomenon, rather than an a priori requirement. He showed that his reformulation of the renormalization group allowed one to understand the universality of critical fluctuations (for which he was awarded the Nobel prize in 1982) and he introduced explicit numerical schemes such as the epsilon and $1/N$ expansions, or numerical RG as in his solution of the Kondo problem. He reformulated quantum chromodynamics as a statistical physics problem and a whole community of lattice QCDists are busy with this approach, essentially the only tool to obtain the spectrum of hadrons from the basic theory. He showed that Wilson loops were the right order parameters to characterize quark confinement.

This issue follows in part a memorial symposium held at Cornell University in November 2013. It contains thus in a first section with some personnel recollections from colleagues and former students plus two articles evoking Ken's main contributions. The second section consists of a number of original articles inspired by Wilson's insight.

John Cardy
Edouard Brezin