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Giovanni Felder, Gian Michele Graf, Klaus Hepp (eds): *A Journey through Statistical Physics. From Foundations to the Quantum Hall Effect: Selecta of Jürg Fröhlich*. Springer 2009, xxvii + 857 pp., £126.00, \$ 189.00, € 147.99 (RRP), ISBN-13: 978-1-4020-8886-5.

Jürg Martin Fröhlich is one of the foremost living theoretical and mathematical physicists. His interests range from quantum field theory to non-commutative geometry and to statistical mechanics. Among the many papers to statistical mechanics his seminal contributions to the theory of phase transitions and to the fractional quantum hall effect must be mentioned; both earned him an invited address and a plenary talk at the International Congress of Mathematicians (ICM) in Helsinki 1978 and Zürich 1994. The present volume is a collection of Jürg Fröhlich's most important contributions to mathematically rigorous statistical mechanics. It appeared on the occasion of Fröhlich's sixty-first birthday (in 2007) and it should be seen as a companion volume to *Nonperturbative quantum field theory* (World Scientific, 1992) containing a selection of Fröhlich's papers on quantum theory.

These *Selecta* offer 29 reprinted papers which are arranged in six thematically and chronologically ordered blocks—spanning a vast spectrum from 'Foundations statistical mechanics', 'Phase transitions and spontaneous symmetry breaking', 'Hard problems in one and two dimensions', 'Critical phenomena: random walks and conformal field theory', 'Disordered systems: from Anderson localization to spin glasses' to 'When quantum mechanics matters: magnetism, Bose gases and quantum Hall effect'. While most of the papers are for a specialist audience and require good knowledge of higher mathematics and physics, the 40-page *Introduction* is highly readable and gives a survey over the the last 30 years of statistical mechanics. In the introduction Fröhlich describes many developments in statistical mechanics from a personal point of view—which is most interesting since he has been one of the main contributors to the subject. At the same time it is also an overview of various aspects of the current and future research directions in statistical mechanics.

Apart from the introduction and a list of publications of Jörg Fröhlich, the volume contains just the reprinted original papers. In a time when we can get many original papers electronically in the internet one has to ask the question for the *raison d'être* of such a *Selecta*. For the present volume—without comments, without corrections—the value added seems to be the

choice of the papers and, of course, the possibility to honour a distinguished researcher: Jörg Fröhlich.

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