DESCRIPTION

Based on the Solvay conference, which gathers the leading scientists in the field, this monograph collects review articles from the six topics of the conference, while also including comments, discussions and debates obtained during the conference.

The issues discussed at this landmark conference were:

* Noncovalent Assemblies: Design and Synthesis

* Template Synthesis of Catenanes and Rotaxanes

* Molecular Machines Based on Catenanes and Rotaxanes

* Molecular Machines Based on Non-Interlocking Molecules

* Towards Molecular Logics and Artificial Photosynthesis

* From Single Molecules to Practical Devices

and the authors add their personal views on the future of each of their own research areas.

Novel reading for organic, inorganic and polymer chemists, as well as materials scientists.
Jean-Pierre Sauvage performed his studies at the Ecole Nationale Supérieure de Chimie de Strasbourg where he obtained his PhD under the supervision of Prof. J.-M. Lehn in 1971. After post-doctoral research with Prof. M.L.H. Green in Oxford, UK, he went back to Strasbourg as a CNRS researcher. He founded his research group in 1980, became University Professor in 1981, and also CNRS Director of Research in 1988. Professor Sauvage is member of the French Academy of Science, Professor emeritus of the University of Strasbourg and currently a Distinguished Visiting Scholar at Northwestern University (USA). His research interest spans from artificial photosynthesis and electron transfer to porphyrin chemistry, molecular topology (catenanes and knots), and transition metal-based molecular machines.

Pierre Gaspard completed his undergraduate and graduate studies at the Université Libre de Bruxelles, receiving his doctoral degree in 1987 under the supervision of Professor Grégoire Nicolis. After a postdoctoral stay with Professor Stuart A. Rice at the University of Chicago, he held a research position at the Fonds National de la Recherche Scientifique (FNRS Belgium) from 1989 till 2004 and he became Professor at the Université Libre de Bruxelles. In 2006, he was awarded the Francqui Prize in Exact Sciences and was elected Member of the Royal Academy of Sciences, Letters and Arts of Belgium. He has organized or co-organized several international conferences, including the XXth Solvay Conference on Chemistry in 1995. Professor Gaspard has published more than 150 articles in the fields of theoretical chemistry, chemical physics, nonlinear dynamics, statistical mechanics, and thermodynamics.

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