

Editorial

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This special issue reflects the scientific content of the 10th symposium of this series. The first symposium was organized in 1974 by Bernard Delmon in Brussels. The second one was organized in 1977 in Lyon. So this is the second time it has been held in Lyon, but probably most of you were not at the first or second meeting.

Why is this kind of meeting still (perhaps I should say more and more) alive? The answers are both political and scientific:

- The society in which we live and work is ever more demanding in terms of energy and environment. For a sustainable technology, catalysis is still one of the most important solutions. Society is also extremely concerned with bioactive molecules and pharmaceutical drugs. In these areas too, catalysis provides one of the most important solutions.
- Therefore there is a need for catalysts which are more active for the activation of very inert bonds, selective for carrying out asymmetric transformations, and can be regenerated to provide longer life times.
- Heterogeneous catalysis, which is industrially extremely important, requires a deeper and deeper understanding at the molecular level.
- Catalysis is a molecular phenomenon: the rules of molecular chemistry and molecular interactions apply to both homogeneous and heterogeneous catalysis. We will see, in the future, if molecular thinking will transform catalysis in the way it has in biology. The language of communication for molecular thinking is chemistry; this is the contri-

buton that chemists provide since chemists know how molecules behave. Throughout its history, the history of science, the chemistry of catalysis has been partitioned into communities, beliefs and sectors of many kinds, in which multidisciplinary is lost. More and more people want to suppress this partitioning since our common language is chemistry.

The main objective of this series of symposia is to provide pathways for the different communities to speak to each other, although this is extremely difficult. In the year 2001 the multidisciplinary approach is valid for leading in a number of directions.

Molecular design of active sites (single site catalysts in solution but also on surfaces); Surface organometallic chemistry (organometallic chemistry on surfaces, coordination chemistry on surfaces, etc.); Molecular approach to mechanisms (elementary steps, organometallic, surface organometallic and surface science approaches); Molecular engineering of porous and non-porous solids (“soft chemistry” or “molecular organized systems”); Molecular engineering of nanostructured “metallic” catalysts; Molecular models of oxides, zeolites, metals or supported metals (real not theoretical models); Molecular modelling of active sites, solids, and elementary steps (theory); New reaction media for both homogeneous and heterogeneous catalysis (water, ionic liquids, supercritical CO₂); New trends in homogeneous and heterogeneous catalysis (activation of bonds. . .).

To sum up, the word “molecular” is present now everywhere in catalysis and has been the spirit of the meeting. We were tempted to deviate the programme

a little from the molecular approach: the topic of combinatorial methods for catalysis was introduced because it concerns both homogeneous and heterogeneous catalysis, but it is still molecular!

This special issue can be regarded as a snapshot of the presentations made at the Lyon Symposium. It was the wish of the contributors to publish quickly after the meeting.

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