

## Welcome address

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We are very grateful that many colleagues from all over were able to join us at the symposium *Frontiers in Catalysis: A Molecular View of Industrial Catalysis*, held at Havreholm on 10th and 11th February 2005, an occasion celebrating Jens Rostrup-Nielsen's 40 years with our company and Henrik Topsøe's 60th birthday. This occasion provided an excellent opportunity to exchange views, results and programs in the field of catalysis. The present issue of *Catalysis Today* contains some of the contributions presented at this symposium.

I believe that we all share the desire to see everywhere a better understanding of the role of catalysis – also in national governments, and institutions such as the European Union. As was shown in a recent study, catalysis is necessary for some 70% of all manufacturing processes and its importance for the environment, notably through air cleaning, is growing, it being a *sine qua non* for achieving both the existing and planned emission limits for off-gases, flue-gases and, not least, the exhaust gases from vehicles. It seems peculiar that political leaders, and often also the financial community select focus areas such as the nano-, bio-, IT- and tele-sectors, apparently forgetting catalysis. One should recognise that catalysis has for many years been the most important activity in the nano-sciences.

The symposium in Havreholm was indeed a global meeting. Globalisation, one of the most important developments in the last decade, will no doubt be of long-term benefit

in the short-term, it does create many problems, mainly because of the vast difference in cost of work in different geographic areas. I believe we all feel in the field of science and fundamental research work global exchanges like we had are beneficial.

It is, however, somewhat surprising that with so many different backgrounds – some of us working in universities, some working in business, and some doing both – it is possible to have such open discussions and share results and programs. Surely, we all know the saying that “science has no frontiers” but this is not always so. Often industrial businesses have an agenda that does not allow open discussions. This may also apply in universities and public institutes, particularly because of the growing insistence from political leaders that also here scientific and development work must focus on what is gainful – but, alas, mostly gainful in the short term. This has created a pressure on universities to collaborate with industry, something that can be very beneficial, as we have experienced, but also something that can disturb universities where an emphasis on free science and education is the main duty. In many countries and regional organisations, it can also cause interference from political groups in planning of research of all types, whether fundamental or applied.

Fortunately, in our field of catalysis, we have been privileged to have had surprising freedom to publish the latest results and to meet, as we did in Havreholm, without limitation to our discussions. We all hope that this situation may continue to prevail.

Let me now submit a few general views and take some of my hobby-horses out of the stable for inspection.

As we all know, we are experiencing vast changes in the global climate relating to development and progress: globalisation through the opening of frontiers will move many activities to low cost areas. If this is done suddenly, it will create many problems, including animosities and political problems between countries. If it is done too slowly, we will fail to improve the lot of the billions of poor people and will create the same animosities and risks of very dangerous problems

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<sup>1</sup> Haldor Topsøe was born in May 1913. After his education as chemical engineer, he worked for some years in the chemical industry before founding the Haldor Topsøe company in 1940. At the age of 92, he is CEO of the company and is still very active in the daily business. During his long professional career, Haldor Topsøe has always maintained strong ties with fundamental science and also with scientists, beginning with Niels Bohr and the scientists around him. He has often given presentations on various subjects in catalysis and chemical engineering, these including a Plenary Lecture at *Europacat 2* in Maastricht and a Keynote Lecture at the *Ammonia Safety Meeting* in Toronto 2005.

between countries. We do not have the political leaders who have the necessary long-term plans and standing to find the necessary compromises. Indeed, everywhere the agenda of our political leaders is primarily to be re-elected, a factor not always commensurate with the agendas for overall beneficial geo-political and macro-economic development.

We also have the drastic changes in the energy situation. One of the many and unforeseeable consequences is the very great difference between the cost of natural gas, the most important raw material for the chemical and petrochemical industries – all of them based on catalysis – between those countries having stranded gas as opposed to the industrialised countries. This has created, and will also, at least for many years, create an exodus of many industries in the industrialised world and cause many problems – as well as new opportunities.

In business, we have observed a growing focus on what is termed shareholder value; this normally means pay-out to shareholders here and now instead of a reasonable, balanced program for servicing the shareholders by distributing money to them while growing value of the company – for future payments

to shareholders. Indeed one sees in about half of the world businesses which are publicly owned and, often in the financial exchanges, a lack of knowledge of the real desires of shareholders, one also has controversies between the financial organisations acting on questionable published analyses on behalf of long-term investors. One also has a growth in the economic power of all types of pension funds as a result of problems related to how pension fund managers see their short- and long-term objectives. Again, people like the attendees at the havreholm symposium might expect an emphasis on the long – term because most pensions fund obligations are long – term.

The developments mentioned above and many other factors are of major importance for individual businesses in making their choices of policy: e.g. to be a core business or diversified; to be a long-term, mid- or short-term business.

Let me end by expressing the hope that despite of all difficulties, our leaders will agree on a globally balanced and realistic program for development and let us hope that science will find a role in making the necessary contribution and that we who are active in catalysis may also play a role.