Contribution of the CNRS[1] Ethics Committee (COMETS) to the seminar and press conference held on September 24, 2009, at the CNRS headquarters.

HELPING SCIENTISTS MEET THE REACH CHALLENGE[23]

Along with the collective assessment[4], and following a request by the Director General, the CNRS Ethics Committee (COMETS) publishes the following piece of advice entitled: *The role of the scientific community in the debate on chemical substances; recommendations at the time of implementation of the REACH regulation.*

This document briefly summarizes the structural lines of the newly implemented REACH regulation to underline how it intends to impose a new culture of chemical risk and examines the level of direct or indirect responsibility of the scientific community, before formulating more detailed recommendations towards public research institutions and their staff.

The COMETS conclusions are as follows:

The drafting of the REACH regulation revealed and crystallised several concerns relative to threats connected to chemical substances, often brought to the attention of the public by the media. While the responsibility of public research, through both individuals and institutions, is clearly engaged in the setting up of REACH, public research must, beyond regulatory aspects, participate in the public debate on these questions, be attentive to worries that are voiced, and bring answers it has at hand to the public. As was stressed by Richard Ernst (1991 Nobel Prize winner in Chemistry), ethical principles, often called for by people in a position to act, are rarely followed by practical measures. Scientists have a role to play in bringing ethics to the forefront.

The complexity of problems that are being dealt with requires that the necessary expert work be collective and let all parties be heard. It should also take into account «common knowledge» and must be performed in full transparency, and, for each problem, clearly delineate where knowledge stops and where uncertainties remain. In a domain that is well known for its opaqueness and that has seen, in the last years, information being concealed if not manipulated, it is important that researchers exercise caution. The dangers of data falsification or optimisation are to be watched out for. One of the duties of institutions is to ensure that these issues are properly addressed, as well as some other ethical values and rules such as: declaring conflicts of interest, in particular concerning relations that experts may have with some industries; ethical consequences of some specific choices, and priority to be given to standpoints that favour general interest.

In previous reports dealing with expert work, nanoscience and nanotechnology, COMETS has already proposed recommendations that are relevant here. They will not be repeated. The specific character as well as the urgency of problems connected to REACH lead the Committee to make the following specific recommendations.

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[1] Centre National de la Recherche Scientifique
[2] www.apesa.fr/reflexion_prospective_pro_reach.html
[3] http://www.apesa.fr/dynPopup0001225e.html

[4] www.cnrs.fr/inee/recherche/expertiseREACH-CNRS.htm

1. Claiming a role for public research in the final evaluation procedure of chemical substances[5]

The decision to accept applications lies with ECHA (European Chemicals Agency), a decision based on the opinions of its own experts. Is this a satisfactory solution? Is it possible to have some input in the arguments put forward? One must ensure that the scheme provides enough institutional leeway in order for academic research to express itself, making a scientifically recognized voice heard, that is, as far as possible, independent from that of industrialists and lobbyists. To achieve this, **Member States' fundamental research institutions should create a network for representation at ECHA.**

At national level, it would be useful for public research bodies to be represented within the AFSSET[6]'s councils dealing with environmental and occupational safety scientific questions.

Within the CNRS, the creation of a permanent unit to monitor the implementation of REACH, under the supervision of the Chemistry, Biological Sciences, Ecology and Environment institutes, as well as the INSU (Institut National des Sciences de l'Univers) and the Human and Social Sciences Institute, seems necessary. This unit would serve as a central point for identifying competent laboratories with sufficient knowledge of REACH procedures. It would also serve to monitor the circulation of data and information received from ECHA. In addition, it would enable scientists to access the information, and offer their opinion in their specific area of expertise.

2. Promoting specific research

2a) Developing a Chemistry-Biology-Environmental Sciences interdisciplinary approach

Initiatives taken for supporting sustainable development in chemistry must take the REACH requirements into account very seriously. Researchers working at a fundamental level must examine the risks connected to substances they discover, manufacture and manipulate and declare any problem detected following a transparent procedure. This process implies close and systematic interaction with toxicologists and/or biologists. Such concerns must be raised in the design phase of research projects. The development of methods to predict toxicity and to detect hazardous substances in alternative products must be a permanent concern.

To this end, **public research institutions must encourage the development of fundamental research in chemistry, toxicology and ecotoxicology.** The latter disciplines, little represented in France, require special support. Universities must develop suitable basic training courses. **More generally, pluridisciplinary programmes must be created in Chemistry and Biology**. Concern about the effect of chemical products on health and the environment implies a certain level of knowledge of the mechanisms of toxicity, or at least a certain level of knowledge in biochemistry, to enable rapprochement with Life Sciences.

In the short term, and to be able to meet the emergency situation, specialisations must be offered to scientists proficient in biology and chemistry etc. and conditions developing more effective interaction between scientists from these disciplines (schools, placements, joint laboratories, etc.) must be created.

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[5] Full details on the structures and persons involved are to be found in the complete report.

[6] Agence française de sécurité sanitaire, de l'environnement et du travail

A national laboratory, such as the INERIS (Institut National de l'Environnement Industriel et des Risques), could be commissioned to respond to chemists' needs and assist them in predicting or evaluating the toxicity of their products.

2b) Developing interdisciplinarity with Human and Social Sciences

Given the nature of the problems observed, interdisciplinarity must include Human and Social Sciences. Economists, sociologists, philosophers and lawyers must take part in and interact with the other scientific groups concerned. It is their responsibility to reveal and clarify the challenges, to reflect on the knowledge required for implementing a cost/benefit assessment that genuinely takes into account ethical questions, and not only an economic viewpoint, to help decision-makers identify the options available more effectively**. A mechanism for providing genuine expertise in the Human and Social Sciences must be implemented and included in the aforementioned monitoring unit.**

3. Calling the attention of scientists to their responsibility and providing training with respect to their obligations towards society

Raising awareness of scientists to their duty to society is a priority. The above-mentioned institutes and recommendations will have little effect if the approach is not adopted from grass-roots level upwards.

This concern should be raised from university level, it being the teachers' responsibility to implement training open to society. **The CNRS must take its share in this training and bridge any gaps in training for its laboratory scientists, e.g. in the thematic schools** that it runs.

It is also necessary to **remind the academic scientific community that it has the duty to open a dialogue with all opinion groups concerned by the debate** (ecologists, consumers, journalists etc.) **and to develop a relationship based on trust**. This implies providing accurate information on the state of science, making it accessible to all and by carefully demonstrating its advantages and disadvantages. It must also act as a monitoring and alerting body, backed by its institutes.

People taking part in debates must not content themselves with unilaterally passing on their own knowledge but must take into account the public's knowledge and life experiences. Citizens are claiming the status of co-experts and wish to have a say on the questions posed to scientists and on the means of response implemented. This is only legitimate on the condition that the correct register and appropriate timing are respected**. In this context, new forms of dialogue must be invented, which should in itself be a welcome challenge.**