COMETS

CNRS Ethics Committee

OPINION n°2009-20

« FOR RESEARCH INTEGRITY IN INFORMATION AND COMMUNICATION SCIENCE AND TECHNOLOGY (ICST) »

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SUMMARY

The CNRS Ethics Committee, COMETS, wished to address the issue of research integrity in Information and Communication Science and Technology (ICST).

Initial deliberations on this subject quickly led to the observation that, although ICST research practices raise ethical concerns — particularly in the use of personal data — the most salient point was a failure to take into account ethical issues related to the technologies resulting from the research (ICTs) as it was ongoing.
The changes brought about by ICTs are profoundly modifying the relationships and mediation between humans and their natural and artificial environment. People can now instantly, directly and universally address the whole world and, conversely, the whole world can address them. This new capability opens up many opportunities, but also creates many problems.

ICTs can change human behaviour right from the outset, either through the possibilities they offer or implicitly because of their methodological or architectural approach. The immaterial nature of the data they process leads to the creation of a new world that is parallel to the real world, with different boundaries and rules that often remain undefined.

It is striking that, in this fast-developing field, major problems arise a posteriori, once these powerful technologies have already been deployed on a large scale. It is thus very difficult to respond due to a lack of preparation. There are many examples of this every day in the news: large-scale network failures, freedom of expression issues and rumour-mongering over the Internet, management of copyright and similar rights, digital surveillance, protection of personal data, voting machines, principles of sovereignty, etc. The problems encountered are often due to the rush to move from the design stage of these technologies to their mass use in a context dominated by the importance of the economic stakes in a global market.

We therefore believe that the priority in terms of ICST research integrity should be to equip ourselves with the means to conduct research on ICT ethics. This research must identify how we may live together comfortably by making the most of the tremendous opportunities offered by these technologies — which offer capabilities such as expression, access and dialogue to many more people than before — while limiting their toxic effects. It should be conducted in partnership with researchers from different disciplines, first and foremost ICST and Social and Human Sciences (SHS), and in relation to society.

With this in mind, the first step involved analysing the main areas of ICT application that raise ethical issues. This analysis focused on positive and negative aspects of the direct impact of these technologies on people, the personal domain and beyond, on cyborgs, bots and agents, and took into account the new state of affairs linked to the digitised and mediatised relationships of people to their environment (understood in a broad sense: others, the society they form, information, education, the economy, the State, cultures, etc., in addition to the physical world, objects and the like). It revealed the huge number of issues raised in many of these areas.

Furthermore, it is necessary to take possession of the conceptual apparatus for ethical reflection on ICTs in order to explore the questions raised by the emergence of new contexts related to the changes they bring to the “gratuity economy”, the notions of common good and responsibility, the control of personal data, and so on.

This leads us to the conclusion that there is a need to strengthen ICST research integrity:
- in research activities themselves,

- by deliberations, carried out sufficiently in advance, on the consequences of research findings. Indeed, several examples in the fields of electronic mail, copyright protection, trace management, linguistic diversity or bots have shown how such deliberations could help, or could have helped, to determine the avenues of research to be prioritised or supplemented. This would help better prepare the deployment of technologies, facilitate their adaptation to reality and to changes in observed uses, and circumvent or prevent anticipated or actual problems, going so far as to identify the emergence of new economic and societal models induced by the arrival of these technologies,
- while ensuring that the machines involved are capable, during their operation, of complying with the ethical principles expressed.

Following an analysis of the national and international structures already working on these issues, COMETS believes it is necessary to strengthen this mechanism and puts forward the following recommendations[1] that reflect the conclusions of its deliberations :

Recommendation 1. Set up a national Research Integrity Committee for Information and Communication Science and Technology.

This Research Integrity Committee for ICST (known by its French acronym, “CERSTIC”) would be tasked with ensuring the implementation of an ethical reflection on ICST research leading to the development of a new technology, and proposing research to respond to possible aberrations and risks during the deployment of this technology, thus establishing an interactive loop between ethics and technology. CERSTIC would be common to national research organisations working in the field of ICST (the CNRS, INRIA, the CEA, Institut Télécom, etc.) and universities. Multidisciplinary in nature, it would include researchers in ICST and other fields, in particular Social and Human Sciences (SHS), whether they are philosophers, lawyers, economists, sociologists, anthropologists or ethnologists, for example, as well as participants from industry. It would work with current or future ICT usage observatories in order to be able to pick up the weak signals of new uses. It would also establish links with French and European state or political bodies in order to provide them with a scientific outlook, and with French and European ethics committees to ensure that the field of ICST is taken into account in their considerations on ethical issues.

The need for entities playing a role equivalent to that of France’s National Consultative Ethics Committee for Health and Life Sciences (CCNE) and the CNRS’s operational ethics committee focusing on life sciences (COPé) in the field of ICST will have to be established, as will the relationships between such entities and CERSTIC, which will focus on "upstream" aspects related to research.

Recommendation 2. Support joint ICST-SHS research projects in the field of ICT integrity. Such a programme, supported at national level or within organisations, would involve ICST and SHS researchers working together both to draft the content of the call for proposals and to manage the programme, including selecting, conducting and monitoring projects. These projects would in particular address the interactive ethics/technology loop.

Recommendation 3. Facilitate access to data by providing the necessary infrastructure and adapting the legal provisions relating to their use for research purposes. *It is important for researchers to have access to the data they need to conduct quality research. This can be made possible by facilitating the production, collection and dissemination of these data. It can also be achieved by providing researchers with legal assistance that takes care of all the formalities to be completed, while at the same time ensuring that they are informed about the nature of pertinent legal provisions — including the management of intellectual and industrial property rights — and provides answers to their questions.* Discussions could be held with the CNIL

[1] *To differentiate them from more operational aspects, general considerations are written in italics*

to see how the legal provisions relating to the use of personal data for research purposes could be better tailored to the needs of research while protecting privacy.

Recommendation 4. Better identify the ethical implications of ICST research. To this end, assessment structures should suggest that the researchers and laboratories concerned include an "ethics" section in their various assessment files (recruitment, activity, promotion, projects). An entity from CERSTIC could also identify in the research work carried out by laboratories any likely to raise ethical issues, in order to alert researchers and laboratories.

Recommendation 5. Set up training in ICT research integrity. Such training will be encouraged in the framework of university courses, in particular doctoral schools, and more specifically in the framework of summer schools on a particular subject. We also propose setting up an international master's degree on "Ethics and ICTs".

Recommendation 6. Raise awareness among researchers of the stakes involved in ICST research integrity. The goal is to make ICST researchers aware of the ethical issues related to the technologies resulting from their research and make SHS researchers aware of the importance of considering these issues. This may be carried out through videos, case studies, comic books or cartoons, for example, along with a website on these issues that could include a wiki and a blog. A national symposium could also be held to raise awareness of these issues among researchers and citizens alike. Depending on its conclusions, this symposium could become permanent or give birth to a national, French-speaking or European association.

Recommendation 7. Encourage ICST research in France focusing on key areas related to integrity issues. *This is in particular the case for research into machine ethics (such as the Moral Machine platform) and social computing, a research subject covering the study of the use of ICTs in a cultural and institutional context that is currently being explored mainly in the United States, Northern Europe and Great Britain. Other fields are also concerned, however, including digital cognition, "intelligent" agents, data archiving and preservation, and certification of Open Source codes.* Such research could be carried out within projects, teams, joint project teams or laboratories, whether they already exist or need to be created.

Recommendation 8. Avoid empty announcements and provide the public with objective information on the progress of ICST research. *Sensationalism is common in this high-profile sector but can be counter-productive if an announcement is not followed by the expected results within a reasonable period of time. Care must therefore be taken to remain measured when making announcements.* In suitable fields (language processing, computer vision, robotics, brain-machine interfaces, etc.), assessment campaigns can be used to objectively measure the performance of systems resulting from research (benchmarking). This may require the establishment of an infrastructure to produce and disseminate test data and conduct assessments, enabling the actual state of scientific and technological advances to be estimated and communicated.