Dutch Perspectives

Ethics, Science, Technology, and Engineering: A Global Resource

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In the Netherlands, various styles of applied ethical research have evolved. They have resulted in various “best practices” that formerly regarded each other as competitive but tend to be seen as complementary in the early twenty-first century.

Two Preliminary Observations

A first general observation is historical. Twenty centuries ago, the border of the Roman Empire followed the Rhine, thus dissecting the area that later was to become the Netherlands into a southern part (inside the empire) and a northern and western part (outside the empire). This division has written itself into the Dutch cultural landscape in an astonishingly obstinate manner. It is still noticeable today, in terms of dialect, culture, manners, ethics, and religion. Whereas before the onset of secularization the south was predominantly Catholic (that is, oriented toward “Rome”), the north and west were predominantly Protestant.

This difference in cultural geography continues to be visible in the domain of ethics. In the south, ethical research tends to be oriented toward and influenced by Continental (notably German and French) intellectual developments and trends. Thus, ethicists from this area are influenced mainly by hermeneutical or phenomenological approaches. Ethicists from the northern and western part, however, are more likely to be influenced by analytical approaches and debates. They often subscribe to theories and views that dominate the Anglo-American spheres of influence. Although the difference has become less obvious than it was in the 1980s, the two ethical profiles remain distinguishable.

A second observation has to do with the international status of Dutch ethics. It has been said that Dutch philosophy is the philosophy of the country that possesses one of the largest harbors in the world, namely Rotterdam (Nauta 1990). And because ethics is a special discipline within the broader field of philosophy, this goes for ethics as well. What does this mean? One might say that Dutch ethicists are better at importing and exporting than at producing philosophy. In terms of style, the Dutch are neither as “profound” as the Germans nor as sensitive to new trends as the French. They do have a special talent, however, for intellectual transfer. Their mastery of international scholarly languages such as English, German, and French also plays a role here. Dutch philosophers often serve
as intellectual intermediaries. This is, of course, a generalization, but a systematic review of academic performance will show that as a rule the Dutch tend to focus on assessing, processing, and connecting ideas rather than on originating them.

**Three Styles of Ethical Research**

Three styles of ethical research exist in the Netherlands. They start from different understandings of what ethics is.

1. **ethics = analyzing and solving moral problems;**
2. **ethics = intellectual reflection;**
3. **ethics = moral conflict management.**

According to the first option, which is based on a more or less Anglo-American approach, an ethicist is someone who analyzes moral problems and formulates possible solutions, usually by applying a set of moral principles (ethical input) to problem cases (solutions as output).

The second option reflects a more hermeneutical or Continental way of thinking. An ethicist is seen as someone who tries to interpret certain forms of moral discourse by situating them in a broader cultural and historical perspective. The focus is on understanding, rather than on solving, problems. The philosophical ethicist works toward a “diagnosis” rather than a “solution.”

The third option entails a more pragmatic approach. The ethicist identifies stakeholders and value perspectives and works toward consensus formation, based on stakeholder participation, by means of interviews, workshops, and similar techniques.

These three ways of doing ethical research entail different views on the relationship between expert knowledge and public knowledge. According to the first option, ethicists are experts, perhaps even “ethical engineers” (Van Willigenburg 1991). They have learned to analyze moral problems in a professional manner. Consistency and rational argumentation are important, even if this means that ethicists distance themselves from common intuitions and conventional morality.

According to the second option, however, the ethicist’s expert knowledge is knowledge of moral traditions, of types of discourse, or of fundamental cultural attitudes that are noticeable in the ways in which moral debates evolve and problem cases are being framed and presented (Van Tongeren 1994). The ethicist relies on erudition rather than analytical tools. The attention is directed toward fundamental issues rather than concrete problems. In other words, the problem cases at hand are regarded as exemplifications or symptoms of broader cultural issues, conflicts, and tensions.
According to the third option, it is not the ethicist’s job to add new insights but rather to build on the knowledge, values, and intuitions of the stakeholders involved. Rather than performing desk research, the ethicist enters into dialogue with others, inviting them to articulate and clarify their (tacit) views. The ethicist’s expertise is of a pragmatic and intermediary nature (Keulartz et al. 2002). Ethicists have at their disposal a toolbox for moral deliberation and moral conflict management. Their input in the decision-making process does not come from ethics as such but from the views and experiences of stakeholders themselves.

Through the 1980s and 1990s, Dutch ethics experienced a period of professionalization (Zwart 2012). Ethicist became a profession, while ethics centers, ethics courses, and ethics committees emerged throughout the academic landscape. During this period, the first style of doing ethical research dominated (the public image of) institutionalized ethics in the Netherlands, whereas the second style was more prevalent in academic philosophical circles. Since the beginning of the twentyfirst century, the pragmatist approach has been gaining ground. In fact, Dutch ethicists tend to be flexible when it comes to method in the early twenty-first century. To some extent, they are willing and able to use all three models, depending on context. Congenial with the pragmatist turn, but not exactly identical with it, is the empirical turn in ethics. More and more often, research in applied ethics involves the collection of empirical data and the use of tools borrowed from the social sciences such as interviews, questionnaires, focus groups, and participant observation.

Ethics of Science and Technology: Examples

In the Netherlands, as elsewhere, moral disputes tend to arise in response to technological changes. Initially, the growing interest in ethical research was associated with medical or clinical ethics. An interesting case is the famous Dutch euthanasia debate that started around 1970 in response to the dramatic increase of medical technology and therefore of treatment options with which many lives, that previously would have had no chance of survival, could now be saved or at least prolonged. The debate was triggered by Jan Hendrik van den Berg (1978), a physician who was also trained as a phenomenologist and was thus a representative of Continental philosophy. Moral problems involved in end-of-life decision (euthanasia, organ donation, brain death, and the like) were interpreted as indications that some major technology-driven disruptive event had affected people’s views and attitudes toward life and death as such. Soon, however, the debate was taken over by applied ethicists who subscribed to an analytical approach. On the basis of the principle of autonomy, they argued in favor of patients’ right to refuse treatment (or even to request that physicians end their lives) and started a debate about ownership of organs. Eventually, the ethical debate over euthanasia shifted
toward a more pragmatic and empirical approach: How are end-of-life decisions actually taken, and by whom, how often, and on what grounds? Last but not least, what kind of technical contrivances co-influence decisions of this type?

During the 1990s, the attention of professional ethicists in the Netherlands drifted away from euthanasia. Reproductive technologies, biotechnology, genetic modification of organisms, and animal research became important items of concern. Even more so than in the case of medical ethics, moral disputes arose in response to technological change. These debates thus exemplified the ways in which technological developments influence ethical controversies. After the introduction of recombinant DNA techniques in the 1970s and 1980s, the genetically modified research animal became an important object of research, and knockout experiments (involving the deletion of genes) became an important research tool.

This new technology had a major impact on ethical debates concerning laboratory animals. It caused the focus of the debate to shift away from traditional concerns (animal suffering and animal welfare) to issues involved in the recently acquired power of biologists to modify—to change—their laboratory animals and to adapt them to research requirements. Concepts such as integrity and intrinsic value, borrowed from medical and environmental ethics, respectively, were used to articulate new moral concerns over genetic engineering. Finally, in the 1990s, in the context of the Human Genome Project, ethical issues involved in human genetics became quite prominent in the debate as well (this is an area covered in more detail below).

Furthermore, the three styles of ethical research distinguished above are recognizable here as well, although the demarcations are somewhat less rigid than before. The majority of contributions to animal ethics and biotechnology ethics since 2000 adhere to a more or less analytical approach. Their usual aim is to enrich a traditional consequentialist view (focusing on animal welfare and animal suffering) with deontological elements, using concepts such as integrity and intrinsic value (Heeger and Brom 2001). A more Continental and phenomenological approach, however, is represented here as well. Its aim is to elucidate the different ways in which animals are perceived. Thus, the scientific understanding of animalhood is confronted with life-world perspectives and artistic perspectives. In other words, this line of research studies the various conditions under which relationships with animals (notably in the context of research practices) evolve (Zwart 2000). Finally, promising examples of empirical and pragmatic approaches have begun to enter the animal ethics scene as well (Klaver et al. 2002; Swart and Keulartz 2011).
Early Twenty-First-Century Developments

Genomics, the most recent chapter in the history of the life sciences and their technological applications, is what occupies the majority of ethicists in the Netherlands in the early twenty-first century. An important trend is the emergence of research into the ethical, legal, and social implications/aspects of genomics and similar research fields (Zwart and Nelis 2009)—an area of inquiry abbreviated as ELSI (implications) in the United States and as ELSA (aspects) in Europe. As a flanking program to the Human Genome Project, the US ELSI program was launched in the 1990s and served as a model for similar initiatives in Europe during the early years of the twenty-first century. It involves large-scale, multidisciplinary programs designed to anticipate and address societal issues involved in contemporary life sciences, usually in an “embedded” manner—that is, in close collaboration with the life scientists involved. In the context of such programs, ethicists (of various styles and backgrounds) collaborate, not only together but also with experts coming from various other disciplines, such as the social sciences, psychology, cultural studies, communications, economics, and law. This trend is sometimes referred to as the “elsification” of science and technology.

During the 1990s, the focus of applied ethicists tended to be on the individual or institutional level (the micro- and meso-level) rather than on the societal (or macro-) level. The empirical turn in ethics likewise tended to restrict itself to research on a relatively small scale. But in the early years of the twenty-first century it became clear that the most challenging issues involved in so-called enabling technologies, such as genomics, will present themselves on a much broader cultural and societal scale. Rather that providing information on discrete monogenetic defects (relevant for specific target groups), for example, genomics is expected to inundate the public realm with genetic information on multifactorial health risks that will eventually be relevant for virtually everybody. This clearly calls for a broader approach.

Although the ethics of science and technology in the Netherlands tends to focus on the life sciences and biotechnology—and on genomics in particular—this is but one example of the “enabling technologies” that are emerging in research laboratories in the early twenty-first century. Other technologies, notably information and communications technology (ICT) and nanotechnology, are items of concern as well (Van den Hoven 1999; De Mul 1999). These are regarded as enabling technologies in the sense that they will give birth to a wide variety of applications. As ethical debates tend to reflect technological developments, the agenda of ethics will no doubt continue to orient itself toward these three major scientific and technological breakthroughs of the past and coming decades.

Genomics, ICT, and nanotechnology will give birth to a wide variety of new and yet unanswered questions. How will new technologies in these fields change existing roles and responsibilities of
professionals and citizens? How can the knowledge and information that is generated in these fields be evaluated and used? How can abuse of the knowledge and information generated be prevented? In answering these questions, ethicists will find themselves no longer alone, but in the company of (in particular) scholars from science and technology studies (STS) and from the philosophy of technology.

STS scholars study the ways in which science and technology are intertwined (in terms not only of content and organization but also socially) with the development of modern societies and cultures. Science and technology are regarded not as the producers or influencers of society and culture, but both science and technology on the one hand and society and culture on the other are seen as coproducing one another. While STS formerly focused on the deconstruction of epistemological claims, thereby underpinning the idea that there are different ways to perceive nature or reality, the field in the early twenty-first century has tended to move toward a more normative and hence ethically oriented approach. Constructive technology assessment, for example, which is geared toward the “management of technology in society,” aims at early feedback and learning cycles in the development of new technologies, particularly with respect to the societal use and entrenchment of new technologies (Rip, Misa, and Schot 1995; Schot and Rip 1997).

The ambition of STS scholars to put on the agenda the political question “how to help shape the technological culture in which people live” has pushed the landscape of STS in a more normative direction (Bijker 1995). Large technological “projects” and the transformations they are expected to induce, such as nanotechnology, genomics, and ICT, have thus increased the interest in ethical and normative questions from different fields and disciplines. Ethical questions have become the domain of an interdisciplinary research field. Put differently, “elsification” (the entrenchment of ethical, legal, and social projects in large technological programs) has enhanced new forms of ethical research, characterized by interdisciplinary collaboration, proximity to scientific consortia, and sensitivity to social change. The development of new interdisciplinary modes of doing ethical research has also given rise to new networks and institutions. Interesting examples include Nanonet and the CSG Centre for Society and the Life Sciences (originally known as the Centre for Society and Genomics) at Radboud University Nijmegen.

**Institutionalization**

This dual approach (ethics versus STS) is also reflected at the institutional level. Two research schools are particularly relevant: the Netherlands School for Research in Practical Philosophy and the Netherlands Graduate Research School of Science, Technology, and Modern Culture. Both research
schools were established in 1994. In the former the analytical style is dominant, but Continental and phenomenological approaches are represented as well. Methodology and epistemology of ethics have been important issues from the very outset, and the “empirical turn in ethics” is a major item of concern. The latter brings together researchers from the interdisciplinary field of STS and the focus is on the interrelatedness of science, technology, and society. The school recruits scholars from the sociology of science, history of technology, philosophy of technology, philosophy of science, arts and culture, psychology, political sciences, science dynamics, and policy and innovation studies. These scholars are oriented more toward pragmatism and constructionism.

Demarcations in terms of style have become less obvious than in the past, however, and there are many scholars who are keen to combine the strengths of both approaches. Peter-Paul Verbeek (2003), for example, has analyzed the ways in which artifacts influence human experience and has interpreted new technologies as material answers to ethical questions. In addition, Annemarie Mol (2002) has developed a unique empirical approach to studying ontological, epistemological, and power (notably gender) issues emerging in contemporary health-care practices.

The Future

Until the late 1990s, bioethics and other fields (such as the philosophy of technology, philosophical anthropology, and metaphysics) were seen as separate fields, but a broader understanding of the coevolution of science and technology will increasingly become an integral part of bioethics. A new approach, emerging notably in the context of research funding, both nationally and internationally, is responsible research and innovation (Schomberg 2011). Compared to ELSA, the focus has shifted from impacts, risks, and concerns toward proactive codesign involving various stakeholders from science, industry, the policy arena, and civil society. It also involves a shift from a microperspective (case studies) toward the development of a broader view on the processes of innovation, such as the turn toward a bio-based (post-fossil-fuel) future and the plethora of social and normative questions and issues such a major transition will involve— including a thorough, practical, and conceptual revision of humanity’s relationship (or “contract”) with nature. The focus on the implications for individual users, consumers, patients, and the like will increasingly be overshadowed by the need to address the social dynamics of technological change as such. Ethics can therefore be expected to broaden its perspective and become an increasingly interdisciplinary endeavor. And while ethicists “discover” the importance of these broader social and cultural dimensions of technological innovations, experts from other disciplines (notably including the various scientific fields involved)
discover the need to address normative issues at a relatively early stage of the innovation process, in order to address possible normative tensions and conflicts as timely and adequately as possible.

Bibliography


