8 Ethics as a tool of value denial in the EU's governance of scientific and technological innovation

Annabelle Littoz-Monnet

Moral questions about the ethics of medicine and scientific research more broadly have been asked for as long as people have asked questions about human morality – histories of ethics in medicine typically going back to Greek physician Hippocrates. But asking these to a new category of experts in ethics is a recent policy innovation. The last decades have indeed given rise, in pluralist democracies, to a new cast of professionals whom we might call "expert bioethicists" or ethics experts.[1] These new specialists claim expertise in the ethical analysis of issues which arise in relation to biomedicine, research and innovation in the life sciences, and increasingly so in new fields of technological innovation and even societal issues. The idea of expert knowledge – generally understood as a form of codified knowledge either produced by specialists (as indicated by qualifications or institutional affiliation) or involving specialist or technical methods, equipment or accumulated knowledge (Boswell 2017) – in the field of ethics is puzzling. How have decision-makers come to consider delegation to ethics experts as a plausible way of dealing with value conflict? One would indeed expect decisions on normative frameworks to be the object of democratic decision-making, and it is not clear how any kind of *specialists* can claim authoritative and universal expertise in morals.

The making of these new bioethics mavens has taken place in a context where the authority of scientists to decide on their own practices was being increasingly contested. Several occurrences of blatantly unethical practices in medical research made the news in the late 1970s in the US, making it obvious to the public that professional norms alone were not sufficient to regulate doctors' practices.[2] At the same time, molecular biologists discovered that they could slice and combine genetic material from multiple sources, thereby creating DNA sequences in the laboratory that do not naturally exist.[3] This breakthrough instantly triggered a dispute amongst scientists about the risks involved in the unregulated proliferation of hybrid organisms. A decade later policy controversies over nuclear energy, the genetic modification of food, cloning, human embryonic stem cell (hESC) science and reproductive medicine exploded on both sides of the Atlantic, prompting further the questioning of existing decision modes in the face of scientific and technological innovation. The emergence of these controversies directly destabilised "the symbolic framework underlying the main forms of science government,

namely, scientific self-government and exclusive state-science relations" (Braun et al. 2010: 512). Public and academic commentators became censorious of exclusive reliance on scientific expertise as a means of escaping ordinary means of public accountability. Science, to cite Weber, "gives no answer to 'the only question important for us: what shall we do and how shall we live?'" (Weber 1922). In this context, debates began to focus not only on how science should be practised but also on whether some types of scientific inquiry ought to be at all.

In response to these calls, the rhetoric of the democratisation of expertise has become ubiquitous, and policy-makers have developed inventive mechanisms to govern science, creating "communities of engagement", citizens panels, or other forums to engage the public in scientific issues (Weingart and Lentsch 2009: 7). The idea of alternative forms of expertise also gained ground, both in scholarly debates (Callon et al. 2001) and in policymaking circles, unveiling that what constitutes expert knowledge is itself the object of negotiation amongst relevant stakeholders in a given issue domain. In this context, ethics committees have been created, in both domestic and international arenas, to provide ethical assistance on policy. Whereas ethics committees were initially a US and then Western European phenomenon, such groups have now been created in other contexts such as Asia or the Middle East. In recent years, international organisations have also promoted the creation of such committees in developing countries in Africa, Latin America and the Caribbean. At the global level, international organisations also mobilise expert bioethicists, as they are becoming increasingly involved with the governance of scientific and technological developments. Ethics committees have been presented to citizens as a novel, more diverse, more deliberative and altogether more democratic form of advisory mechanism.

After most EU countries had set up their own ethics commissions, EU policymakers decided to create their own Group of Advisers on the Ethical Implications of Biotechnology (GAEIB) in 1991. EU-level controversies over GMOs or stem cell research have challenged the legitimacy of science as a basis for policy decisions, and the creation of the GAEIB was presented as a response to the need to enlarge participation to decision-making beyond traditional scientific groups. The group was, indeed, composed not only of scientists in the traditional sense, but also of theologians, philosophers and lawyers, deemed better able to issue informed opinions on the ethical aspects of EU policies. The GAEIB, which became the European Group of Ethics (EGE), has so far issued 29 opinions on the ethical principles that should guide decisions in fields such as human genetics, cloned meat and agriculture, biometrics and gene editing. It has largely asserted itself as the authoritative expert body when ethical issues are debated.

This chapter examines what function the mobilisation of ethics expertise plays in the governance of scientific and technological innovation in the EU. As suggested in the introduction of the volume, values can be invoked to face uncertainties about deliverables of public action. I propose here that ethics is mobilised by EU policy-makers in order to depoliticise debates on scientific and technological developments. In the introduction to this volume, politicisation is defined as "the framing of an object of regulation as a matter of opposing interests and normative views", while depoliticisation refers to "EU techniques of conflict

containment such as deference to member states, civil society and experts" (Foret and Vargovčíková, this volume). Involving ethics experts into policy can depoliticise problems, first, by maintaining the appearance of the technical character of policy proposals. Expert ethicists indeed claim to resort to objective knowledge and universal tools of analysis. Making ethics the realm of expertise has thus rationalised discussions normally framed in value-based terms. Second, mobilising ethics expertise can also help pre-empt the politicisation of specific problems by insulating policymaking. When policy-makers fear public protests, their best strategy consists in keeping conflicts outside of the public space (Schattschneider 1957). Because consulting ethics experts allows policy-makers not to open up bioethics deliberation to the broader public or alternative (expert) voices (while claiming to be doing just this), the mobilisation of bioethics expertise acts as a particularly effective mechanism of policy insulation. The *depoliticising effect of ethics is thus due to its content – a rationalist approach to ethics – and its container, a mode of deliberation which includes experts only*. The expertisation of ethics in fact serves to deny or tame debates on values. These dynamics are examined here in the case of the EU's nanotechnology policy.

Governing scientific and technological innovation in the EU

A pro-innovation narrative informs policies on science and technology in the EU and beyond. This discourse conceives biological, biomedical and scientific knowledge more generally as a key source of innovation which must not be hampered for productive and competitive ends. Scholars from different fields have well captured what they call the "pro-innovation bias" of decision-makers – the tendency of decision-makers to be favourable to scientific and technological innovation, because it is associated with progress, modernity, economic competitiveness and growth (Abrahamson 1991; Fougère and Harding 2012). Policy-makers broadly adhere to this narrative, to the extent that innovation is seen as a panacea for the solving of an exponential set of problems. Their decisions are often informed by the fear of "lagging behind" or "losing markets", conceiving innovation as a race or competition between firms, nations, cities or different regions of the world (Hasu et al. 2012). In its 2015 Innovation Strategy, the OECD states,

> New sources of growth are urgently needed to help the world move to a stronger, more inclusive and sustainable growth path following the financial crisis. Innovation – which involves the creation and diffusion of new products, processes and methods – can be a critical part of the solution.
>
> (OECD 2015: 2)

EU policy-makers fully adhere to this broader narrative and justify their policies in the field of scientific and technological innovation by referring to this rationale. In its report on the state of innovation in the European Union, the European Commission argues, "innovation is our best means to help put the European economy back on track and tackle societal challenges in the global economy" (European Commission 2011: 2). In his introduction to the European Commission's report

"Open Innovation, Open Science, Open to the World, A Vision for Europe", former president of the European Commission Jean-Claude Juncker states:

> Most of the political priorities set for my mandate as President of the European Commission depend to a greater or lesser extent on research and innovation. Research and innovation create investment opportunities for new and better products and services and therefore increase competitiveness and employment.
> (European Commission 2016: 5)

The industry – either pharmaceutical, chemical or biotech – adheres to (and even informs) this narrative, as it expects high financial gains from the commercialisation of new technological applications. Innovation is broadly understood as something desirable and measurable, and existing measurement techniques of the risks related to scientific and technological innovation are directly informed by this narrative.

Decision-makers in the EU are therefore particularly wary of potential conflicts related to their scientific and technological agendas and have become increasingly aware of the risk of citizens' protests. Consumers or environmental groups want to be informed about the potential hazards of scientific and technological innovations and typically have a more cautious attitude. Various movements driven by a "moral rhetoric of good and evil, or right or wrong" have also organised themselves to challenge science and technology (Nelkin 1995: 445). Religious groups, for religious ethical motives, or environmental groups, out of a concern for the protection of nature, have been raising principled opposition to the authorisation of certain technologies or practices permitted by scientific advances. Embryo research, for instance, has triggered insoluble debates between religious groups and conservative political parties, on the one hand, and scientists, the industry and patient organisations, who hoped that the research would lead the way towards new cures, on the other. Testifying to this turn, religious groups are increasingly well organised as advocacy groups directly lobbying domestic or supranational institutions. In the absence of consensually accepted regulatory frameworks, as is usually the case for the regulation of new fields of scientific and technological innovation, policymaking easily lends itself to politicisation. Controversies have arisen in relation to nuclear energy, genetic testing and GMOs. Decision-makers are therefore particularly wary of potential conflicts related to their scientific and technological agendas and have become increasingly aware of the risk of citizens' protests. In such circumstances, they have tried to find ways to prevent controversies and push their agendas ahead. The denial of values is taking place through the technicalisation of debates, but technicalisation here is taking place through the expertisation of ethics itself.

Ethics as technology of depoliticisation

Depoliticisation techniques

An emerging body of literature has started to focus on depoliticisation as an intentional process through which political problems are presented in technical terms

in order to insulate policymaking, pre-empt conflicts and eventually push for certain reforms (Maertens and Parizet 2017; Maertens 2018; Stone 2017). The depoliticisation can be defined as "the set of processes (including varied tactics, strategies, and tools) that remove or displace the potential for choice, collective agency, and deliberation around a particular political issue" (Hay 2014: 293). As put by Maertens, "while 'apolitical' indicates the quality of an element as being outside of the political realm, 'depoliticised' qualifies an element deliberately labelled and/or designed as being 'apolitical'" (Maertens 2018: 348). By contrast, a policy issue is politicised when it is discussed and debated publicly and when cleavages and conflicts become visible (Zürn et al. 2012).

Scholars have shown that depoliticisation takes place in both domestic and supranational arenas, through institutional mechanisms, such as the creation of delegated agencies to advise on and make policy decisions, new forms of indirect and/or privatised governance such as "global public–private partnerships" and private "self-regulation" initiatives (Stone 2017; Beveridge and Naumann 2014), framing tactics designed to technicalise issues (Maertens 2017) or what has been called "depoliticised political discourses" (Bourdieu 1982: 155). In anthropology, recent insights have portrayed international bureaucracies as "anti-politics machines", which produce consensus through a discourse of harmony as a way of not addressing political controversies (Müller 2013). Much attention has also focused on the mobilisation of quantitative data and sophisticated policy instruments which act as "technologies of trust" (Porter 1996). Existing accounts have pointed to the link between technicalisation and depoliticisation, bringing to light how the mobilisation of science and allegedly objective evidence participates in the technicalisation of issues which in turn makes depoliticisation possible (Stone 2017).

In general and although techniques of depoliticisation are manifold, I argue here that depoliticisation occurs when policy agendas are technicalised and when policymaking is insulated. Technicalisation refers to a certain way of approaching problems, while insulation refers to a mode of setting policy agendas dominated by few actors (typically policy-makers and experts and sometimes private actors) in which the public is set side.

Involving experts can thus serve the double-edged objective of technicalisation and policy insulation. Indeed, although experts' discussions include questions which can be political, their format invests a high degree of technicity which tends to deny the presence of values in ongoing debates. Technicalisation facilitates insulation, in the sense that the technicality and scientificity of debates is a strong entry point and limits the ability of the public to participate (Jordan and Maloney 1997; Rhodes and Marsh 1992; Hoppe 2005). I argue that because ethics experts are endowed with a double-edged form of authority, on the one hand "democratic", in that ethics bodies *claim* to represent a diversity of voices and moral positions, and on the other epistemic, in that ethics experts act as specialists who reason "objectively", this makes ethics experts a particularly effective mechanism of both technicalisation and policy insulation which in effect suppresses values from debates on scientific and technological controversies.

Ethics as mechanism of rationalisation

The emergence of ethics expertise bestows a specific authority in morals upon specialists who claim to be applying objective knowledge and systematic and universal tools of analysis. Making ethics the realm of experts rationalises discussions normally framed in value-based terms. Most expert bioethicists see bioethical expertise as the ability to reflect systematically and objectively on moral issues, presenting their knowledge as general and applicable to all circumstances (Sanchini 2015). Bioethical expertise does not deal with "facts" or "evidence" like traditional scientific expertise, but it relies on the same claims to objective knowledge. Ethics experts take great care presenting themselves as "independent", "objective" and "neutral" possessors of specialist knowledge. Even when such groups include theologians or religious scientists, they seem to have adopted a more secular and "rational" language. The dominant view on bioethical expertise sees it as "the ability to reason formally and consistently" and "apply argumentative tools to moral issues and cases" (Sanchini 2015: 55). The creation of bioethics as a new field of expertise has "scienticised" ethics through the creation of doctrines, concepts and a specialised terminology, thus legitimising the idea that moral problems could be addressed by experts. The creation of specialised academic programmes in applied ethics or bioethics, first in the United States in the 1970s–80s and then in Europe, has played an instrumental role in establishing the notion of an autonomous field of expertise in bioethics.

The idea that bioethical issues could be approached rationally was reinforced by the emergence of principlism, a bioethics doctrine which emerged in the late 1970s in the United States. Tom Beauchamp and James Childress, both scholars at the Kennedy Institute of Ethics at Georgetown, published their seminal book, *Principles of Bioethics* in 1979, which promoted principlism as a doctrine (new edition, Beauchamp and Childress 2012). Principlism sets out the three following objectives: (1) respect for persons: the requirement to acknowledge autonomy and the requirement to protect those with diminished autonomy; (2) beneficence: the obligation to maximise benefits and minimise harm; and (3) justice: assuring the fair distribution of benefits (National Commission 1979). The emergence of the doctrine made it possible to present ethical problems into "fairly calculable rules", universally applicable to all recipients of research grants, regardless of the type of research conducted (Evans 2002: 85). Lopez also argues that principlism was quickly taken on board because "it was transparent, formally rational and bureaucratically friendly, value free and apparently impartial" (Lopez 2004: 889). With its formal style of argumentation, principlism is strongly connected to the emergence of bioethics as a profession.

Although the principles of the doctrine were initially laid out for research on human subjects, they soon informed the way science was practised more broadly. Every institutional research board (IRB) in academic institutions that received federal funding had to comply with these principles. Given that journals would normally not publish research not reviewed by IRBs, all research projects in fact started to apply those standards. In a swift phenomenon of "ethics creep",

these principles were soon applied to other areas of human medicine and science, becoming the standard approach to evaluating ethical issues arising in all areas of scientific development (Bosk 1999). The doctrine progressively became the dominant creed amongst bioethicists in Europe too. It frames discussions on bioethical issues and as such makes disagreement amongst members of ethics experts' committees less likely.

Approaching fundamentally value-based questions through this rationalist framework allows policy-makers to claim that they have reflected on the ethics of such decisions, while at the same time denying their normative component and suppressing value-based controversies.

Ethics as mechanism of policy insulation

Because it allows policy-makers to not open up bioethics deliberation to the broader public or alternative (expert) voices (while claiming to be doing just this), the mobilisation of ethics expertise acts as a particularly effective mechanism of policy insulation. Policy-makers in pluralist democracies present ethics committees as a novel and more deliberative form of advisory mechanism. Groups made up of expert bioethicists benefit from an aura of diversity and reflexivity and an altogether more "democratic" nature. Ethics groups indeed include a greater diversity of disciplinary voices than do other expert groups. They typically comprise scientists in a traditional sense – medical doctors trained in ethics, molecular biologists and neurologists who have added to their trajectory some form of training in medical ethics – but also philosophers, lawyers and theologians. It is this disciplinary diversity which policy-makers invoke in order to claim that they have consulted broadly and openly on the ethical implications of specific scientific and technological developments, even when they have not. Ethics groups, however, do not include any civil society representatives. All participants sit in such groups as experts, and not as activists or representatives of any societal group. In the EU context, and despite the multidisciplinarity of its members and the rhetoric used by the European Commission in this respect, the creation of the European Group of Ethics (EGE) does not institute participation beyond specialists into decision-making (Littoz-Monnet 2020). The EGE's sessions are private, and participation of civil society representatives is allowed only during occasional roundtables organised by the EGE itself. In addition, although the EGE is presented as neutral and independent both by Commission officials and its own members, the group has been integrated within the Commission's European Political Strategy Centre (EPSC) – formally known as the Bureau of European Policy Advisors (BEPA) – which functions as an advisory group reporting to the president of the European Commission. Of course, the interdisciplinary nature of the EGE's composition does involve a certain degree of diversity in debates. There have been debates amongst more religiously inclined scientists and those who did not have any religious affiliation. This has been the case on traditional bioethical issues concerning

the beginning of life, for instance. But even then, the expert nature of discussions and their associated technical, moderate tone has ensured that dissenting opinions have remained an exception (Littoz-Monnet 2015). Thus, while maintaining an appearance of broader consultation and dialogue, mobilising ethics experts in fact helps ensure that policy remains insulated. Policymaking remains the realm of bureaucrats, experts and often private actors who participate in these closed policy communities.

The mobilisation of ethics in EU nanotechnology policy[4]

The pro-nanos agenda

EU nanotechnology policy provides an interesting case to explore the depoliticising role of ethical expertise. Its mobilisation by EU policy-makers allowed them to make the claim that they had consulted broadly and openly on the ethical aspects of nanotechnology, while in fact technicalising debates and insulating policy.

Since the mid-1990s onwards, and in an attempt to compete with US initiatives in the field, the European Commission has attempted to push the development of research on nanotechnology. As conventionally understood, the term "nanotechnology" refers to the design or manipulation of structures and devices at a scale of 1 to 100 nanometres (or billionths of a metre). The ability to manipulate particles at the atomic and molecular scale already has a broad range of applications in domains as diverse as cosmetics, food packaging, water-resistant textiles and drugs, to name a few (Littoz-Monnet 2020).

In this context, DG Research within the European Commission has sought to promote nanotechnology research. The decision was taken essentially in reaction to US initiatives in the field, after Bill Clinton had launched the 2000 National Nanotechnology Initiative (NNI), which planned to significantly invest into nanotechnologies. The NNI triggered an extraordinary amount of hype; the White House itself talked of the NNI as "leading to the next industrial revolution" (White House 2000). US investments were perceived as a threat for industrial counterparts in Europe and directly triggered EU efforts to also invest in the sector.[5] Renzo Tomellini, then head of the Nano and Converging Sciences and Technologies Unit within DG Research, stated in that context, "we wanted to be the best, we wanted to be number one".[6] In 2005 the European Commission published "Nanosciences and Nanotechnologies: An Action Plan for Europe 2005–2009", which proposed to boost research in nanotechnologies in the EU (European Commission 2005). The action plan was designed in close collaboration with the industry, which by then directly participated to the formulation of the EU nanotechnology agenda through the European Technology Platform (ETP) for Nanomedicine, which gathers the nanotech industry, research institutions and EU policy-makers.

In this context, DG Research, supported by DG for Health and Consumers (DG SANCO) – which was very interested in the potential of nanomedicine – and

DG Enterprise and Industry (DG ENTR), started developing a discourse which claimed, all together, that nanotechnologies will eradicate poverty, hunger and drudgery. Such a discourse typically characterises the cycle of a new technology, with "some who claim that we have something all powerful, all good, and that we know exactly where this goes".[7] The European Commission framed nanotechnologies as a "new industrial revolution" which would include breakthroughs in sectors as diverse as computer efficiency, pharmaceuticals, nerve and tissue repair, surface coatings, catalysts, sensors, materials, telecommunications and pollution control (European Commission 2004). In light of these high hopes, and in order to promote a smooth and fast development of the EU's nanotechnology strategy, the "pro-nano" DGs wanted to avoid a strict regulatory regime and opted for the regulation of nanomaterials under existing regulatory structures. In its 2004 Communication, the European Commission stated, "maximum use should be made of existing regulation" (European Commission 2004). For policy-makers from DG SANCO, DG Research and DG ENTR, "nano-related" research had to be promoted fast and under the existing regulatory framework. In addition to proposing to work under existing legislation, they proposed developing methods for evaluating risks through technical tools. An official from DG Research explains, "the regulatory framework does not need to be modified, but the evaluation of risks needs to be".[8]

The European Commission's plans immediately triggered protests from Green parties, NGOs, as well as a handful of high-profile individuals who contributed to publicising the issue. Prince Charles (already a vocal critic of GMOs) played a key role in attracting public attention to the risks of nanotechnologies in the UK. In June 2003, he called upon the UK Royal Society – which serves as the Academy of Sciences in the UK – to evaluate the risks of nanotechnology.[9] The study from the Royal Society marked a watershed in the debate by acknowledging the potential adverse consequences of nanotechnologies – in particular when nanomaterials "cross the blood-brain barrier and other natural defence mechanisms of the human body" (Royal Society 2004: 41). The report concludes that nanoparticles must be regulated as new substances.

At the same time, concerns over the risks of nanotechnologies were voiced by the Green Party within the European Parliament, as well as by a group of active NGOs. Greenpeace, Friends of the Earth, Genewatch UK, as well as the Action Group on Erosion, Technology, and Concentration (ETC Action Group) were amongst the most vocal. The ETC Action Group in particular acted as a leader in the anti-nano campaign, propagating sensationalist depictions of nanotechnologies, warning, for instance, "mass production of unique nanomaterials and self-replicating nano-machinery pose incalculable risks" and "atomtech [nanotechnology] could also mean the creation and combination of new elements and the amplification of weapons of mass destruction" (ETC Action Group 2003). Caroline Lucas (UK MEP and leader of the UK Green Party) also pointed to the lack of available knowledge on the impacts of nanotechnology and called for a moratorium on certain aspects of nanotechnology use and research, until a strict regulatory framework would be in place, "including regulations on liability for the

negative impacts of nanotech and strict labelling requirements and compulsory assessments of their effects".[10] In May 2006, Friends of the Earth issued a report focusing on the risks of nanomaterials in sunscreens and cosmetics, proposing to place a moratorium on the commercialisation of nanoproducts until the safety research would be conducted.[11] Like Greenpeace, Friends of the Earth expressed its concern that existing legislation was not adequate. Consumer organisations also criticised the European Commission for not addressing the regulatory deficits identified by scientists and civil society organisations (ANEC/BEUC 2009). For the Greens, as well as the NGOs involved, nanoparticles were to be classified as *new substances* and nano-specific regulations therefore had to be set in place.

The pro-nanos DGs of the European Commission, together with the industry and a majority of scientists, wanted to push research and new applications in the field as quickly as possible. They were concerned, however, that the nano agenda would stir opposition from the part of Green parties, consumers and European citizens. It was in this context that Manuel Barroso, then president of the European Commission, formally asked the experts of the EGE to produce an opinion on nanomedicine.

Insulating policy

EU policy-makers mobilised ethics experts with a specific agenda in mind. The DGs that pushed for "nanos" wanted to pre-empt opposition to the development of nanotechnologies through a strategy of policy insulation – yet under the cloak of an integrated dialogue strategy. Inclusiveness was conceived, essentially, as dialogue with ethics specialists, rather than the broader public.

The protests from Green MEPs and NGOs raised strong concerns within the European Commission. The EU's push for nanotechnology research indeed took place against the background of the GMO precedent, and EU officials were wary of not repeating a similar scenario. When GM agro-food products, already commercialised in the United States, began to be exported in Europe in the mid-1990s, the European Commission had indeed not been able to pre-empt a wave of civil society protests. A group of NGOs, including Greenpeace and Friends of the Earth, initiated strong campaigns against US imports. Several EU member states refused to accept the market consents of GM crops. This *de facto* moratorium blocked the commercialisation of GM agro-food products in the EU. A highly ranked official from DG Research clearly summarises his DG's thinking, explaining, "GM food was a technological success, an industry success, and a complete market failure" but that "this was not the fault of a single policy or practice, but instead the result of not taking a holistic approach to technology".[12] EU policy-makers essentially perceived the "GMO story" as that of a communication failure. An interviewed official from DG Research could not be clearer when he explained that he was hired specifically "to prevent another GM story".[13]

Thus, when the European Commission decided to boost nanotechnology investments, it laid out what it called its *anticipatory and inclusive approach*. Renzo Tomellini, then head of the unit "Nanoscience and Nanotechnologies", played a

central role in promoting this approach claiming "to establish a dialogue with all representatives of the civil society".[14]

An official from DG Research explains:

> Markets are about people and people may not be scientists . . . but they are not stupid. We can't explain things in scientific terms, but we can develop science-based information and provide it publicly. This is not brainwashing; it is logical communication. We wanted to use everything at our disposal to get the message across about nanotechnology. We used social media and "cercle citoyen". It was really a different approach, but the necessary approach to guarantee success.[15]

The industry, well aware of the potential risks of neglecting dialogue with the public, also claimed to be in favour of an anticipatory inclusion of social concerns in the policy process. The ETP for nanomedicine, which worked in symbiosis with EU policy-makers, explained, "acceptance of NanoMedicine necessitates transparent and timely information of all stakeholders, including the general public" (ETP for Nanomedicine 2005: 33). At the same time, when the ETP details how it envisions putting this goal into practice, it only recommends that "new nanomedical inventions have to be evaluated for new ethical aspects *by ethical, legal and social aspects specialists*" (ETP for Nanomedicine 2005: 34, emphasis added). For both the European Commission and the industry, social concerns were to be included, essentially, via the expansion of the policy debate to *ethics experts*, *rather than the public*. Thus, the same year the Nano2Life Network, an FP6 Network of Excellence established in 2004, founded the first European Ethical, Legal, and Social Aspects (ELSA) board in the field.[16] Most efforts from the part of EU policy-makers consisted in setting up ethics boards and involving ethics specialists into policy formulation. And when the policy process was open to other actors, it was mainly to nanotech companies and scientists, in effect keeping policy formulation controlled by a closed policy community.

Involving the EGE experts in the policy process was, thus, an essential component of the European Commission's integrated and anticipatory approach. At the time when the Commission was developing its nano strategy, nanomedicine was the object of considerable "hype" – it appeared as the aspect of nanotechnology policy which was going to have the greatest implications, in particular in relation to cancer drugs. But at the same time, nanomedicine was the domain that crystallised the greatest fears. In the field of diagnostics, nanotechnology gathers data on patients that could be used for profit, prompting ethical questions about data protection. Because of these fears, developments in nanomedicine promised to be the most controversial. EU policy-makers anticipated this and decided to address potential anxieties by involving ethics experts early on and to consult them especially on this question.

An official from DG Research explains that "there had been a learning process" since other attempts to introduce technological innovations, as the EGE was involved even *before any kind of opposition arose*.[17] For EU officials, it was

crucial to involve ethics experts to avoid being "criticised for being ignorant or not diligent".[18] The early involvement of the EGE can, therefore, be understood as part of EU policy-makers' strategy *to pre-empt the politicisation of the debate* and facilitate a smooth ascent for nanotechnology in the EU.[19] As expressed by an advisor from BEPA, "all civil society responses were anticipated and we jumped the gun to incorporate public concerns first – *not to counter them, but to pre-empt and incorporate them*".[20] The moderate opposition that coalesced around Green MEPs and a few NGOs was channelled into the anticipatory and "inclusive" framework developed by the European Commission.

Ethics specialists acted as a core element in the policy apparatus of EU policy-makers. Their mobilisation allowed the European Commission to *claim that ethical and social concerns had been incorporated without in fact opening up the formulation of policy more broadly*. A closer examination at the European Commission's engagement with stakeholders in the field reveals, indeed, that civil society associations did not weigh much on the agenda of EU policy-makers. EU officials worked together with representatives of the industry as well as experts – specifically appointed expert groups and the ethics experts from the EGE. The integrated and anticipatory approach of the European Commission acted, despite its self-proclaimed rhetoric, as a tool to keep policy *insulated*, rather than to open it. Invoking the participation of ethics experts in policy helped make the claim that policy was more open, participatory and democratic but in effect protected insulation.

Issue technicalisation

Officials from DG Research or DG SANCO approached safety and toxicology issues and potential ethical issues related to nanomedicine separately.[21] Talking about safety risks in nanomedicine, an official from DG Research stated, "it is not about ethics", making it clear that "on the one side we have safety risks, and on the other the ethics of societal engagement".[22] In its opinion, the EGE argues that safety and toxicology concerns are best solved through a cost-benefit type of analysis (ETP for Nanomedicine 2005). A member of the Executive Board of the ETP for Nanomedicine similarly explains that he "would not regard safety as an ethical issue". For him, ethical issues cover the questions of informed consent, the relationship between doctors and patients, human enhancement and issues of privacy with e-health. Safety and toxicology are, by contrast, "more *technical*, cost-benefit type of issues".[23] Ethics experts defend the same view that safety concerns can be apprehended through a traditional type of cost-benefit analysis, suggesting that EU authorities "carry out a proper assessment of the risks and safety of nanomedicine" (EGE 2007: 53). In its opinion, the EGE does not propose new regulatory structures, suggesting instead that changes be made within existing structures, essentially through technical solutions, such as better testing methods (EGE 2007: 57). Ethics experts clearly echo the Commission's position.

When ethics experts approach issues considered as belonging to the bioethical realm as such (human enhancement, informed consent, or the protection of individuals), in a separate section of the opinion, they suggest to further involve

ethics experts to do some thinking on these questions. The opinion suggests for instance that "a dedicated European Network on Nanotechnology Ethics should be established and financed by the Commission under FP7" and that this network facilitate "interaction between the community of ethicists and nanotechnologists and the embedding of ethics into research practices in nanomedicine and nanotechnology" (EGE 2007). Reflection on ethical questions is presented as the realm of *scientists and bioethicists*, never the broader public.

The European Commission, in its "Communication on Regulatory Aspects of Nanomaterials", claims, "it can be concluded that current legislation covers to a large extent risks in relation to nanomaterials and that risks can be dealt with under the current legislative framework" (European Commission 2008: 3). Similarly, though in a separate silo, "ethical issues have to be dealt with, as indicated by the European Group on Ethics in Science and New Technologies" (European Commission 2008: 9), meaning by continuing reflections together with bioethicists and scientists. By framing the most immediate and coherent safety concerns as technical issues, EU policy-makers steered the nanotechnology debate back into the technical arena.

Involving ethics experts into policymaking acted as a crucial element of the European Commission's broader "anticipatory and integrated" approach and successfully contained the politicisation of the conflict. The moderate opposition that coalesced around the European Greens and a few NGOs could be defused, and the push for nano-research took off – soon followed by the commercialisation of "nano-products" in a number of consumption goods – from toothpaste to sun creams and even kids' candies. The pro-science and innovation agenda of EU policy-makers, articulated into a discourse on the potential of nanos for scientific progress and the EU's economic competitiveness, was made possible.

The European Commission's anticipatory and integrated approach surely is anticipatory, in that it attempts to foresee any possible opposition, but it is less integrated that it claims. Since the invention of synthetic material, nanotechnology is the only scientific development that unfolds the creation of *new material*, the health and environmental effects of which are still uncertain. Products containing nanoparticles have, however, been commercialised on a large scale, largely in the absence of genuine public debates in the media or elsewhere.

Conclusion

This chapter makes the case that when EU policy-makers want to push ahead potentially controversial policy agendas but fear public opposition, the mobilisation of ethics can provide them with a crucial mechanism to avoid political and value-based debates related to science or technology. While maintaining an appearance of broader consultation and dialogue, involving ethics experts in policy in fact helps ensure that policy remains insulated and conflicts are tamed, bypassed or altogether avoided. EU policy-makers have, more recently, mobilised ethics experts to work on a number of sensitive and potentially divisive topics such as gene editing and artificial intelligence. Similar patterns can be observed in

domestic contexts. In France, the *Comité Consultatif National d'Ethique* (CCNE) is being consulted on an increasingly wide spectrum of issues, from the condition of the elderly, adoption, the health of migrants and in recent months the COVID -crisis. The remit of ethics experts is therefore expanding, going beyond traditional bioethical issues concerned with the beginning and the end of life to include all sorts of new questions arising in the context of technological developments more broadly, as well as societal issues. The mobilisation of expert ethicists is today a well-integrated policy instrument in Western countries, which serves to pre-empt open and democratic value-based debates rather than trigger them.

The framing of ethics as an *expert issue* has indeed reinforced the indisputability of decisions which have "passed" the test of ethics approval. The making of a new class of experts, who claim capacity to deliberate on the values at stake in biomedical research and scientific advances, has also contributed to the exclusion of various non-expert voices from debates on scientific and technological innovations. In particular it has delegitimised claims that citizens themselves, lay patients and consumers are to have their say on such issues. This goes counter to the ongoing policy discourse, which has presented communities of ethics experts as a means of democratising the policy process and providing a value-based oversight to decisions related to scientific and technological innovation in EU decision-making.

While an ethical reflection on scientific and technological questions is as such to be welcomed, it is not clear that delegating this thinking to specialists is the right avenue. Ethics expertise is often *invoked* by political actors in an increasing array of policy domains in order to make certain policies possible, while at the same time taming politics. This is problematic, because there is often no pre-existing societal consensus on what kind of normative framework should govern scientific and technological innovations. By shifting ethics into the realm of expertise, policy-makers can obfuscate the political nature of such decisions and avoid democratic discussions on an increasing number of questions.

In making these claims, this chapter connects to a broader literature on the politics of ethics. Recent contributions have revealed that policy-makers invoke "ethics" as a pure, separated from politics, set of principles which can guide us towards a better world not tainted by politics (Zehfuss 2018). Zehfuss in her book on "ethical war", for instance, argues that policy-makers' invocation of ethics, in the West, has served to legitimise war. Because ethics is construed as distinct from politics, she argues, it can make war possible by removing such decisions from the realm of political debate and contestation (Zehfuss 2018: 12). Ethics, thus, can be mobilised in order to push particular political agendas or strategies, while at the same time denying the political component of these through an invocation of ethics (Fagan 2013).

A remedy to this would be to develop mechanisms to facilitate the substantive participation of citizens most directly affected by decisions on scientific and technological innovation: consumers, patients, factory workers and engineers who make new products, the safety of which is uncertain. Such participation would make for more open debates, as well as policy solutions which balance out a broader diversity of preferences.

Notes

1 The terms "expert bioethicists" or ethics experts will be used interchangeably here, as in the case when reference is made to such experts in policy debates.
2 One medical experiment took place between the 1950s and the 1970s at the Willowbrook facility, an institution for the mentally retarded on Staten Island, where a research team fed the hepatitis virus to 60 healthy children in order to observe the course of the illness. Another experiment was conducted between the mid-1930s and the early 1970s at Tuskegee in Alabama and consisted of leaving poor black men untreated for syphilis in order to study the effects of advanced syphilis.
3 DNA stands for deoxyribonucleic acid, the hereditary material in humans and almost all other organisms.
4 Some parts of the material presented here are issued from Annabelle Littoz-Monnet, *Governing through Expertise: The Politics of Bioethics*, Cambridge: Cambridge University Press, 2020.
5 Interview with an official from DG Research, 3 December 2014.
6 Interview with Renzo Tomellini, *Euractiv*, 17 November 2003: www.euractiv.com/section/nanotechnology/news/is-nanotechnology-dangerous-we-need-to-know-says-renzo-tomellini.
7 Interview with an official from the International Center for Technology Assessment (ICTA), 10 June 2016.
8 Interview with an official from DG SANCO, 19 March 2015.
9 Roger Highfield, "Prince Asks Scientists to Look into 'Grey Goo'", *The Telegraph*, 5 June 2003.
10 Caroline Lucas, "We Must Not Be Blinded by Science Nanotechnology Will Revolutionize Our Lives: It Should Be Regulated", *The Guardian*, 12 June 2003.
11 Friends of the Earth website: https://1bps6437gg8c169i0y1drtgz-wpengine.netdna-ssl.com/wp-content/uploads/wpallimport/files/archive/Nanomaterials_sunscreens_and_cosmetics.pdf
12 Interview with an official from DG Research, 4 December 2014.
13 Interview with an official from DG SANCO, 19 March 2015.
14 Interview with an official from DG SANCO, 19 March 2015.
15 Interview with an official from DG Research, 4 December 2014.
16 See CORDIS website, http://cordis.europa.eu/result/rcn/88336_en.html
17 Interview with an official from DG Research, 5 December 2014.
18 Interview with an official from DG Research, 17 December 2014.
19 Interviews with officials from DG Research and the BEPA, December 2014.
20 Interview with an official from BEPA, 4 December 2014.
21 Interviews with officials from DG Research and DG SANCO, 2014–2015.
22 Interview with official from DG Research, 23 June 2016.
23 Interview with a member of ETP for Nanomedicine, 30 June 2016.

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