Playing God: Symbolic Arguments against Technology

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Abstract: In ethical reflections on new technologies a specific type of argument often pops up, that criticize scientists for 'Playing God' with these new technological possibilities. The first part of this article is an examination of how these arguments have been interpreted in the literature. Subsequently, this article aims to reinterpret these arguments as symbolic arguments: they are grounded not so much in a set of ontological or empirical claims, but concern symbolic classificatory schemes that ground our value judgments in the first place. Invoking symbolic arguments thus refer to how certain new technologies risk undermining our fundamental symbolic distinctions by which we organize and evaluate our interactions with the world and in society. Such symbolic distinctions, moreover, tend to be resilient against logical argumentation, mainly because they themselves form the basis on which we argue in the cultural and ethical sphere in the first place. Therefore, effective strategies to evaluate and counter these arguments require another approach, showing that these technologies either do not challenge these classifications or, if they do, how they can be accompanied by the proper actions to integrate these technologies into our society.

1. Introduction

Faced with new technological developments, ethical concerns soon follow. Most of these worries tend to deal with the potential consequences: what are the effects of a new technology on society and human lives? Typically, this will take form in the shape of a cost-benefit analysis (do the positive outweigh the negative consequences?) or a risk assessment (what is the chance of a possible negative consequence?). These consequences typically concern values such as happiness or health, but can also be evaluated in terms of values of a more categorical nature, such as privacy, autonomy or human rights. If such values are compromised then the technology is problematic, regardless of its consequences for our happiness or health. For instance, Jürgen Habermas has argued against human enhancement by using such categorical arguments. According to him, using genetic engineering to enhance the genome of newborns must be condemned since "genetically programmed persons might no longer regard themselves as the sole authors of their own life history; and second, they might no longer regard themselves as unconditionally equal-born persons in relation to previous generations." [1, p. 79] A similar claim is found in the work of Michael Sandel: "if the genetic revolution erodes our appreciation for the gifted character of human powers and achievements, it will transform three key features of our moral landscape – humility, responsibility, and solidarity." [2, p. 86] The problem with

genetic engineering, according to Habermas and Sandel, is then no so much the potential negative consequences for or health or wellbeing, but the fact that it challenges central moral values, such as autonomy or humility.

However, this article wants to focus on another subset of such arguments, namely those generally framed as an accusation that scientists are 'playing God' or that a certain technology is 'unnatural'. These arguments occupy a strange place in the debate. Though often voiced, they are typically not taken seriously. As noted by Kirkham, "such phrases and arguments are regularly brought up in books and papers discussing or defending new technologies, only to be dispensed with to the satisfaction of the authors." [3, p. 181] It has been claimed that the notion of 'playing God' is meaningless, and that using the phrase in an argument "is muddle-headed" [4, p. 599]; a "non-starter" [5, p. 146]; "unhelpful as an analytic tool" which "does more to obfuscate than to clarify" [6, p. 530]; "a facile journalistic cliché or an alarmist slogan" [7, p. 265]; "a popular rhetorical manoeuvre employed by conservative or simply technophobic spirits wishing to block new developments" [8, p. 443]; "redundant and perhaps just a rhetorical device" [9, p. 98]. Some scientists have moreover responded by explicitly embracing the role of God for themselves. Most famously, Joseph Fletcher claimed that, as a response to all these new technologies, "[w]hat we need is a new God" [10, p. 132]. This task, according to him, falls on the shoulders of the scientist: "Let's play God" [11, p. 126]. This message was echoed by James Watson in a newspaper article from 2003: "If scientists don't play God, who else is going to?" (quoted in [12])

But if they are indeed irrational and groundless, it is remarkable that these arguments refuse to go away, but pop up again and again in debates about the use of new technologies. For example, in response to the work of the synthetic biologist J. Craig Venter, the ETC group released a statement claiming that: "For the first time, God has competition." [13] A few years later, when Venter synthesized the first artificial genome, claiming to have created 'artificial life' [14], many newspapers again made the claim that Venter was 'playing God' [15]. Empirical research has moreover shown that the 'Playing God'-argument is quite popular amongst the general public and often invoked against new technologies [16-17].

Therefore some scholars have been more reluctant to dismiss these arguments, arguing instead that they "can mask concrete and legitimate concerns once they are unpacked" [18, p. 164]. In fact, there has been a little cottage industry on this type of arguments, including a number of books [19-21]. Though originally an argument formulated in medical debates concerning life and death decisions [22], it has also been discussed in debates concerning nanotechnology [23],

climate engineering [24-25] and especially synthetic biology [8, 16, 18, 26]. Though some of them mainly write to refute these arguments [27], a significant part of them agree on the fact that the 'playing God'-argument "can have a legitimate place in debates concerning the use of new technologies, such as cloning, genetic engineering, and the like, contrary to those who argue that such arguments are redundant, unhelpful, or even meaningless." [28, p. 1447]

The goal of this article is to contribute to that literature and to argue that arguments invoking the notion of 'playing God' have a rationality behind them. This does not mean that I find these arguments to be decisive, but only that they have to be understood in a different fashion than they are often portrayed. Therefore there is also a lesson to be drawn for those who want to refute these arguments. As we will see, typical counterarguments assume that 'playing God'-arguments rely on a set of problematic ontological claims (about the existence of God or of a neat distinction between nature and culture, etc.). I believe this to be false. 'Playing God'-arguments do not need to invoke such claims and, hence, attempts to debunk these arguments by attacking assumed ontological assumptions miss their mark. Another strategy is needed to evaluate and, potentially, counter these arguments.

My proposal is to reinterpret these arguments as *symbolic arguments.* By this I mean that they are grounded not so much in a set of ontological or empirical claims, but concern the symbolic classificatory schemes that ground our value judgments in the first place. These symbolic schemes, typically structured through a set of distinctions, are not directly dependent on reality, but are to be understood as an anthropological-cultural constant: humans and their cultures are inevitably characterized by such classificatory schemes. Invoking symbolic arguments thus refers to how certain new technologies risk undermining our fundamental symbolic distinctions by which we organize and evaluate our interactions with the world and in society. Such symbolic distinctions, moreover, and despite the fact that they can historically change, tend to be resilient against logical argumentation, mainly because they themselves form the basis on which we argue in the cultural and ethical sphere in the first place. Therefore, effective strategies to evaluate and counter these arguments require another approach, showing that these technologies either do not challenge these classifications or, if they do, how they can be accompanied by the proper actions to integrate these technologies into our society.

The structure of the article is as follows. In the second section, I will discuss how these symbolic arguments have been interpreted in the secondary literature. As we will see, the main existing strategy is to reinterpret symbolic arguments as warnings about our incapacity to foresee the potential consequences of these technologies since we do not possess the properties of a God,

such as omniscience, omnipotence or omnibenevolence. Though I am sympathetic to such a proposal, I aim to make two additional claims. Firstly, I will argue that what is at stake is not so much taking up the role of God, but taking up the role traditionally ascribed to religious practices: the authority to determine the ultimate symbolic distinctions by which we organize our society. What is at stake therefore is not just our limited (cognitive) capabilities, but an opacity in a more fundamental sense. No matter how much we know, we will not be able to make decisions in these cases, since they deal with issues that are principally unanswerable: how to deal with issues concerning life and death, human versus animal, nature versus culture, and so on? Again, though they themselves have no ultimate ontological grounding in reality, since they concern gradual differences, they are nonetheless related to issues for which all cultures need to make clear-cut decisions: either someone is alive or not, someone is a person or not, something is natural or not, and so on.

Therefore, in the third section, I will argue that this is the reason why 'Playing God'-arguments are linked to claims about the 'unnaturalness' of technology. Though most literature tends to dissociate both claims from one another at the cost of the latter, I will argue that both claims are more intrinsically linked than often portrayed. Both forms concern these fundamental symbolic distinctions and are therefore symbolic arguments. Since my interpretation depends on the claim that human cultures need these symbolic distinctions, this will be the central concern of the third section. I will argue for its plausibility by taking a step back to reflect on the nature of morality in general. Symbolic distinctions, and their role in morality, can only be understood from what one could call a broader conception of morality. Moreover, I will argue that symbolic distinctions, even 'unmasked' as ontologically and empirically ungrounded, nonetheless can nor should be dismissed. In conclusion, I will maintain that this does not necessarily entail a conservative stance, as if these symbolic distinctions are carved in stone and can never change. It only entails that these distinctions do change through different strategies. Rather than being susceptible to logical argumentation, I will argue that it is more meaningful to think about these arguments in terms of cultural transformations and through the 'model of conversion', analogous to how religious or ideological conversions happen.

2. How to interpret 'Playing God'-arguments

On the topic of 'Playing God'-arguments an extensive literature exists. First of all there are general conceptual analyses of what 'Playing God' means [22, 28-30]. There are also analyses of these arguments from specific cultural traditions, typically Western [3, 7], and religions, mainly Christianity [31-32], though Wong [33] has studied it from a Confucian perspective.

Next to that, there are a set of general empirical studies about the presence of these arguments among the general public [16-18].

The argument itself seems to have been originally invoked in a medical context, related to decisions about the distribution of scarce medical resources and thus life and death. Only later was it used in the context of general debates about the applications of new technologies as well [22]. The argument has mainly become popular in the biotechnological context, especially in debates about genetic engineering [19-21]. More specifically, it has been raised in relation to the new field of synthetic biology, where "the question of 'playing God' has assumed center stage to a greater extent than for previous biotechnologies." [16, p. 869] This has caused several articles that specifically focus on synthetic biology and 'Playing God', often with the aim to examine "what rational arguments against synthetic biology can be developed from the worries that are usually put forward in a somewhat blurred fashion." [8, p. 436] Similarly, the recent advent of CRISPR also created some reflections on the topic [26].

But it has also been invoked in relation to other new technologies, such as nanotechnology [23] and climate engineering [24-25]. In *Earthmasters: The Dawn of the Age of Climate Engineering* (2013), Clive Hamilton similarly warns against playing God: "There are certain qualities that humans cannot and should not aspire to, both because they are beyond us and because aspiring to them invites calamity." [34, p. 178] Hence, "playing God entails humans crossing a boundary to a domain of control or causation that is beyond their rightful place." [34, p. 178]

Within the literature the meaning of 'Playing God' remains enigmatic: there is no consensus on what it entails. In one of the first extensive studies of this argument, Chadwick already hints at how "it seems clear that the use of the term 'playing God' normally indicates moral disapproval on the part of the speaker, but it is not obvious what is supposed to be bad about taking the decision." [22, p. 187] A similar message is found in the work of Ronald Dworkin: "Playing God is thought wrong in itself, quite apart from any bad consequences it will or may have for any identifiable human being. Nevertheless, it is deeply unclear what the injunction really means" [35, p. 443] Verhey, therefore, pessimistically concludes that "the phrase does not mean just one thing; it means different things to different people in different contexts." [29, p. 348]

Many scholars set themselves the task to clarify these arguments. Several options have been explored. For example, Kirkham argues that 'Playing God'-arguments should be interpreted "as an expression of a concern about the virtue of, and doubt about the intentions of, the moral agent." [3, p. 189] Playing God, or 'vexing Nature', thus refers to "the 'unnaturalness' of the

agent's motivations" [3, p. 189]. However, this seems to be a somewhat artificial interpretation, since when someone calls a certain technology 'unnatural' it does seem to be the case that they are referring to an object in the world, and not so much the character of the person developing the technology. Moreover, one can wonder what the added value of the 'Playing God'-argument is if it could equally well be captured through a more general virtue ethics. "If playing God is to be an interestingly specific allegation," Coady argues, "it had better not collapse into just any form of wrong-doing." [30, p. 157]

2.1. THE ONTOLOGICAL OBJECTION

A more common interpretation, therefore, is to interpret the arguments in a more literal sense, for example as "to make decisions which we formerly left to God" [36, p. 142]. The same idea is found in Coady, who interprets the argument as being about "that there are certain things that it is presumptuous for human beings to undertake because those matters are really in the care of God." [30, p. 155-156] Such interpretations immediately face a possible objection: how meaningful is such an argument to the non-religious? Perhaps best put forward by Gordon Graham, "if, as the secular world believes, there *is* no God, how could there be any danger of human beings illegitimately abrogating to themselves His function?" [37, p. 145] The argument seems to make ontological assumptions that not everyone shares, for instance about how "the physical universe is the result of a pre-ordained divine plan or natural order" [3, p. 176]. Therefore, some have proposed an alternative interpretation, namely that 'Playing God' actually does not refer to God at all, but to a secularized alternative that is sacralized. "To accuse our scientists today of 'playing god', is to accuse them of violating the sacred. […] So, what counts as the violated sacred? Here is the answer: nature." [38, p. 146]. Some similarly, claim that 'life' has taken over this position of God. As synthetic biologists, for example, we 'play God' because "through the use of synthetic biology we acquire a power which impairs our respect for life." [8, p. 442]

However, none of these variants seem to escape one central and common objection, which I will call the *ontological objection:* a 'Playing God'-argument relies on a set of ontological assumptions that lack proper justification (either about the existence of God, of Nature or of Life). The argument only works if there is indeed a God whose role one can take over; if there is a clear demarcation between 'nature' and 'society' which one can (but may not) overstep; or if there is a stable essence of life that must be left untouched. In the context of climate engineering, Hartman for instance argues:

Such arguments have appeal, but are quite easy to refute. Both the playing god argument and the vexing nature argument presuppose a bright line between the realm of human activity and divine activity, or between humans and nature. Only with such a clear line may one criticize a measure such as climate engineering as 'overstepping' the proper boundaries. [25, p. 316]

Given, therefore, that these arguments are so easily refutable, Hartman concludes, "then perhaps it should not be treated as a rational argument at all." [25, p. 319]

However, this ontological objection against 'Playing God'-arguments is not as successful as often portrayed. It only works if proponents need to make these (problematic) ontological assumptions. This is not the case. For instance, a number of authors have proposed to interpret the argument as a counterfactual claim: *if* a God were to exist, it would have properties X, Y or Z. Humans do not have these properties. The new technology A, however, assumes or requires that humans have properties X, Y or Z. Hence, using this technology is susceptible to the accusation that humans, by using the technology, are playing God in the sense that they claim to possess properties that only a God would have had, *were He to exist.*

This argument is, for example, formulated by Coady: "The non-religious can make sense of the accusation by thinking of the attributes God would possess if there were a God. They can insist that human beings clearly lack these attributes and go wrong by acting as if they didn't." [30, p. 161] More recently, this interpretation has been taken up by Mizrahi, who focuses on three characteristics attributed to God: omniscience, omnipotence and omnibenevolence (which I will call *omni-capacities*). And since humans do not possess these omni-capacities, they could lose control over these technologies. "In that respect, the concept of God is useful for 'playing God'-arguments precisely because it is the concept of an all-powerful, all-knowing, and all-good being." [28, p. 1449]

This counterfactual argument does indeed avoid the ontological objection. However, it is not necessarily without its problems. For instance, the argument seems to be linked to another counterfactual presupposition, namely that *if* the capacities of humans were more extensive (closer to an all-powerful, all-knowing, and all-good being), then these technologies would not be a problem. As a consequence, this counterfactual argument is open to a set of objections. First of all, it remains unclear *which* properties would suffice for humans to be allowed to use these technologies. Do they need *complete* omni-capacities? Do they need all omni-capacities? Or would a gradual enhancement towards these properties suffice? And are all technologies in

the same way susceptible to 'Playing God'-arguments? Secondly, it remains undecided what capacities humans already have, and thus where the human-divine distinction is situated: what are precisely the limits of human capacities? Thirdly, even if this distinction was clear, it is an open question whether it is stable in time and place: maybe some societies or humans do, now or in the future, have the appropriate properties to use these technologies. This, in fact, leads to a typical objection formulated against 'Playing God'-arguments, namely the argument of the *God of the Gaps*: " 'playing God' means to encroach on those areas of human life where human beings have been ignorant or powerless, for there God rules" [29, p. 353]. This area of ignorance typically remains ill-defined: it is not a priori clear which areas situate themselves outside of human capacity. Historically, this has indeed been an object of change and the domain of God has shifted accordingly. Hence, the objection: there is no clear domain of problems that only a being with omni-capacities could handle. Instead this notion of God is only used to fill in those gaps over which we simply have no control *yet*.

However, the counterfactual interpretation can still be defended. A first option is suggested by Mark Bedau [39], namely that in fact there is a particular domain of problems linked to the new technologies that are typically open to 'Playing God'-arguments. It is no accident, one could argue, that these 'Playing God'-arguments pop up when we are confronted with complex biological or ecological systems that are characterized by emergent properties and are subject to evolutionary change. These two elements make any human attempt to assess a technology and its consequences impossible. Hence, there is a more principled reason why humans play God in these scenarios, since the specific nature of biological complexity will always prevent them from having the required information to fully assess these newly engineered systems. Though possible to defend, this response reopens the door to the ontological objection. These new technologies are once again said to cross an ontological line, this time concerning our epistemic capabilities, i.e., a point of complexity beyond which humans can no longer predict how they will behave in future scenarios. Such a claim can be contested, since it needs to substantiate, among others: that emergent properties do form a problem for our capacities; that no future human civilization would be capable to overcome this problem; and that it is particular to these new technologies and not, for example, something that characterizes all technology.

A second possibility is therefore to make a more modest claim, and argue that 'Playing God'-arguments do not need a clear-defined and fixed line of demarcation between humans and God. They only stress the fact that there *might* be a difference. That is, 'Playing God'-arguments are only there to warn that we might be overplaying our cards, given our *current* state of knowledge,

power and morality. Hence, it is a call to examine the possibilities of any new technology in relation to the epistemic, pragmatic and moral capacities of our current society.

But there is also a third possible response that I want to propose, which reinterprets the meaning of 'Playing God'-arguments. My alternative claim is that 'Playing God'-arguments do not so much refer to cases where we lack sufficient information, which we in principle could have. Instead, they often deal with cases characterized by two other properties: they concern issues that are (a) *principally* undecidable, regardless of capacities, and (b) that nonetheless require a clear-cut decision in the short term for any society to function. In other words, issues for which no genuine ontological distinctions exist, but that nonetheless need a *symbolic* distinction in order to make practical decisions.

Take the example of a decision of whether someone is alive or dead. As debates in biology about virions and viruses [40] and medicine about 'brain death' [41] have made clear, a neat distinction between life and death does not exist. We are rather faced with a gradual transition, with an extensive grey area between them. Nonetheless, such a distinction is pragmatically required to make all kinds of decisions in our society, ranging from who deserves legal protection to funeral arrangements. Another example is decisions about personhood, or differently put: whether someone or something is a subject to which moral rights and duties apply. 'Personhood' is at the center of debates such as that of speciesism: should animals also be considered moral persons or not? Many of these debates concern attempts to define the necessary properties that are required to be considered a person (e.g. capacity to feel pain, having consciousness). However, as these debates again suggest, such demarcations fail in practice. Human persons can lose many of these properties (e.g. in a coma, due to dementia, etc.) and thus no clear ontological distinction exists, but rather a gradual shift from things we do not consider persons to things we do. But once again, we need to make such a distinction in practice to distribute rights and duties. Hence, the need for a symbolic distinction.[1]

2.2. CONVENTIONALITY AND TRANSCENDENCE

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[1] In fact, the relation between these symbolic distinctions and the reality to which they refer is often more complicated. Though symbolic distinctions are not founded on ontological distinctions, they do typically graft themselves onto certain elements of reality, e.g. characteristics that have (historically) significant, but not absolute correlations with certain sides of the distinctions. Take the (controversial) example of gender. Whereas in reality distinctions between genders are gradual, our symbolic distinctions graft themselves on empirical elements typically linked to certain genders (e.g. genitals, secondary sex characteristics, clothes, role patterns, and so on). These symbolic distinctions often also absolutize these empirical correlations, thus creating an absolute symbolic distinction between genders, whereas in reality there are only (often historically contingent) gradual distinctions. In other words, ontological insignificant or contingent differences are transformed into symbolic distinctions that are seen as fundamental and are often morally loaded. This argument is found in more detail in [42].

It is in this sense that 'Playing God'-arguments concern not so much issues for which we lack the capacities, but issues for which there principally is no answer, but nonetheless require a response. The result is that these distinctions are typically forms of symbolic conventions. It is therefore that I will interpret this type of argument as *symbolic* arguments: they do not concern ontological claims about the world, but the symbolic conventions that play a crucial role in how we organize our society. Obviously, human conventions as conventions can and are typically contested. Since they are contingent, they could equally be different. As a consequence, these conventions are often contested and criticized (think of debates around gender, speciesism, and so on). Symbolic distinctions, however, typically have characteristics that hide their conventional origin, or at least partly immunize them against criticisms that try to unmask their conventionality. It is this extra element that will bring us back to the 'Playing God'-arguments.

There is a tradition of thinkers, ranging from René Girard [43] to Michel Serres [44] and Jean-Pierre Dupuy [45], that argues that this otherwise endless game of contesting conventions can be avoided through the introduction of an element of transcendence. Symbolic distinctions can be presented in such a way that it seems as if they are not mere human conventions, but a product of a transcendent source outside of our grip. If such distinctions are successfully regarded as 'given' from the outside, the endless contestation of their conventionality is halted. According to these authors, the main institution that has offered such a transcendent dimension has been *religion*. Religion is in many cases the institution that has provided the appropriate conventions to deal with unsolvable problems concerning birth, human relations, death, ethical dilemmas, and so on.

According to this interpretation, 'Playing God'-arguments do not so much invoke attributes of God, but attributes of religious practices: playing God entails that one is usurping the typical task of religions, namely introducing and upholding *transcendent* symbolic distinctions. In other words, when one is playing God, one is challenging these symbolic distinctions and thus claiming the transcendent authority to formulate them. These symbolic distinctions are not based on ontological claims, but are functional requirements for societies to organize themselves. But by rewriting these distinctions, one reopens the question of their conventionality. To avoid their contestation, a transcendent dimension needs to be invoked. Whereas religion typically provided that, science typically fails to do so. Hence, the accusation that scientists are playing God, whereas in fact they are unable to.

'Challenging' here can entail two things, which translates into two different clusters of 'Playing God'-arguments. In the first instance, 'to challenge' means to transgress. In these cases,

scientists are accused of playing God because their work transgresses a symbolic distinction, without necessarily destroying or replacing it. If we focus on the example of synthetic biology, an example is the ETC group statement about J. Craig Venter's attempts to create synthetic life. It constituted an instance of 'Playing God' because "Venter and his colleagues have breached a societal boundary" [13], i.e., the first instance of an (allegedly) synthetic form of life. What is at stake in these accusations are specific *acts* posed by the scientists, such as the experiments by Venter.

But 'to challenge' can also mean that an existing symbolic distinction is not just transgressed, but erased or replaced by a new one. Thus, for instance, synthetic biology is typically seen as challenging the symbolic distinctions between life and non-life or naturalness and artificiality. By creating 'artificial life', a symbolic distinction is erased and this provokes confusion. This worry is typically formulated in the form of a slippery slope: if the distinction is not upheld, all kinds of new and potentially dangerous things can happen. For instance, Boldt and Müller argue that synthetic biology erases the distinction between existing and new forms of life, implying an "image of nature as a blank space [that] almost automatically invites attempts to invent new organisms rather than just reinventing known ones." [46, p. 388] In this case the accusation of 'Playing God' is not so much aimed at a specific act or experiment, but at the accompanying negligence towards the symbolic distinctions that are thereby erased.

If this perspective has any plausibility, it provokes a new set of questions. First of all, what is meant by these *symbolic* distinctions and in what sense are they necessary? This question will be central in the next section. Secondly, even if we accept the necessity of symbolic distinctions, why would religious practices be the most suitable candidate to formulate them? Responding to this, authors such as Girard, Serres or Dupuy make a very strong claim, namely that religious practices take up this task because their texts and practices actually possess an extensive, though often unrecognized body of knowledge about this task. For example, Dupuy will describe himself as being *epistemologically* converted to Christianity: "I mean that I have come to believe that Christianity constitutes *a body of knowledge about the human world*, one that is not only superior to all the human sciences combined, but that is also their principal source of inspiration." [45, p. 93] Similar remarks are found in Serres and Girard, concerning the value of religious texts and practices. "Often despised by theorists, their imagination nevertheless seemed often to go deeper to me, towards anthropological truth, than many documents of history or philosophy." [44, p. 20] Similarly, for Girard "religion is a true human science" [47, p. 172].

Such a claim would require substantial argumentation, but luckily no such strong claim is required. It is possible to argue that religious practices took up this task, not out of some inherent superiority, but due to contingent historical reasons. Societies need a transcendent source for these symbolic distinctions and religion was simply available to offer it. It is therefore possible that other practices, besides religious ones, could take over that role. But it does imply that not all practices can take over this task, but only those who have an eye for this transcendent dimension. Given this dimension, these symbolic distinctions are not susceptible to argument and change in the same way as, for instance, scientific theories are. It is in that sense that typical empirical criticisms, pointing out that symbolic distinctions have no ground in reality, miss the mark. At the same, as we will see, this does not entail that such symbolic distinctions are immutable. They do change, but typically based on other processes, often coming closer to religious conversion. It is this different logic that I wish to explore in the final section, including the consequences for dealing with transformations of such symbolic distinctions – and thus with 'Playing God'-arguments.

3. The nature of 'symbolic' arguments

In the previous section we argued that 'Playing God'-arguments could be best interpreted as a subset of what I called *symbolic arguments*: arguments formulated against new technologies because they threaten to disrupt a set of transcendent symbolic distinctions deemed crucial for the functioning of our morality and society. But what do I precisely mean by 'symbolic'? It is that notion that I want to flesh out in this final section.

To do so, we have to take a step back to a more general question concerning the nature of morality.[2] Symbolic arguments such as 'Playing God'-arguments are typically linked with a dimension of morality that is seen as deeply problematic. A more general label for this part of morality is that of moral *taboos*: restrictions, prescriptions or prohibitions that are generally culture-specific and without a clear ethical or rational justification available. A common idea therefore is that these moral attitudes, which cannot be justified by general principles that we explicitly endorse (such as the imperative to avoid inflicting pain or to respect human rights), ought to be eliminated in order to make morality more rational.

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[2] This focus here is on the nature of moral phenomena, which brings us in the sphere of meta-ethics, i.e., an investigation into the nature of ethical concepts and judgments. The claims defended in the following pages are therefore compatible with most, if not all, ethical theories (ranging from deontology to virtue ethics). Which of these ethical theories should be defended, is therefore left open. Nonetheless, there are some connections, as we will see. For instance, the following meta-ethical reflections suggest that universalist ethical theories are hard to defend, due to the intrinsic link between ethical concepts and history and culture.

This point of view, however, can be contested. Following Arnold Burms, for example, one could label this the *instrumentalist approach* to morality: "Some moral philosophers view conventional morality as an instrument that has a certain function to fulfill, and that we can in principle correct or adjust on the basis of an understanding of that function." [48, p. 157] A consequence of this view is that all specific moral actions we take can and should be judged in the light of the ultimate functions or principles that these actions serve, principles moral actors can explicitly formulate and endorse. In other words, moral judgments would and should be revised if new evidence is added to the picture.

According to Burms, this is an incorrect understanding of how morality functions. It incorrectly applies a scheme of how scientific theories develop to moral standpoints. The difference is, for instance, shown in the diverging ways how disagreement functions in science and in morality. Whereas in the case of science there seems to be a clear set of empirical procedures of how to, at least in principle, settle the debate, no such thing is available in ethics. "When people disagree about conflicting moral claims, they have no idea of a decision procedure that would, if applied, settle their conflict: they cannot even imagine what sort of test would reveal which of their competing moral claims is right and which is wrong." [49, p. 156]

As an alternative, Burms proposes that we think of the ethicist not so much as a scientist, but rather as a poet. The scientist not only has a set of empirical procedures at her disposal, but she also is typically capable to choose her own terminology and language. It is possible and common in science to freely shape the terminology without altering the underlying thought. However, the poet

> does not occupy the same kind of autonomous position with respect to the language he works with. He must express whatever moves him deeply in words that already have a history and that are laden with associations deriving from the many different contexts in which they have functioned – associations over which he has no control. The poet cannot relate to this concrete language from a neutral, distanced position. [50, p. 283]

In other words, there is a typical cultural opacity with which poets, and also ethicists, have to start: they have to frame the moral arguments and actions through a set of tools that are not freely chosen, but shaped by the culture and history of which they are part.[3] Hence, a dismissal

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[3] In reality most scientific studies similarly embody cultural values, of which the authors might be ignorant. Nonetheless, even in those case the ideal is still that, once discovered, these cultural biases can be recognized as biases and be eradicated from the picture and be replaced by a more neutral terminology. It is unclear what the equivalent neutral point of view would be in poetry (and thus ethics).

of moral taboos through falsification by rational principles can only work in a 'narrow' conception of morality that ignores this opacity. In contrast, a broader conception of morality includes these cultural and historical dimensions (which is not the same as endorsing this opacity as desirable). In other words, based on an anthropological-phenomenological critique, authors such as Burms argue that our existing ethical practices simply do not follow the structure of such a narrow conception, according to which all our moral judgments and actions can and must be evaluated according to a set of well-defined principles, such as 'to avoid inflicting pain' or 'respect every individual's autonomy'. One example is the way how we treat dead human bodies, often with great respect. From a narrow conception it is unclear why we do so: the person itself obviously does not experience any of its consequences. Therefore arguments claiming that we do so for the consequences (e.g. for the relatives of the deceased or for society as a whole) typically have to construct very unconvincing stories open to counterexamples (e.g. even when there is no family and no one else is around, it still seems to be the correct thing to do to bury the deceased). The same is true for defamation, "a kind of evil that can occur both when the victim is aware of it as well as when he is not." [51, p. 101][4]

3.1. THE SOURCE OF OUR MORAL NORMS

Both the narrow and broader conception of morality agree that there are ultimate moral norms that shape our moral behavior, but understand them quite differently. The narrow conception interprets these norms as a set of rationally justified and transparent principles that all humans can endorse and are the product of a rational debate. The broader conception, in contrast, tends to start from a picture where these norms are not transparent, but opaque, and not the product of a rational debate, but rather historically given. The arguments for these disagreements would bring us too far, but would deal, for instance, with different conceptions of the moral individual: is one capable to freely shape one's own principles to live by or are one's "most intimate thoughts and desires [rather] determined by something that transcends them: by the language they speak or the culture to which they belong" [50, p. 277]? As a consequence of this opacity and cultural embedding of morality, our ultimate moral norms are not so much understood in terms of clearly articulable principles, but rather in symbolic distinctions of the kind discussed above: even though there is ontologically no clear boundary, culture and history have shaped a

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[4] Burms even goes so far as to reverse the picture, arguing that narrow principles of morality (such as to avoid inflicting pain) must be understood in light of the broader conception (focusing on dignity): "A person in intense pain, who cries and screams with his face distorted by agony, is in a humiliating or degrading situation. He is outside the normal, meaningful interactions; his own pain has turned him into an object, as it were. It is especially against this sort of degradation that we want to protect the people we care about." [51, p. 101]

certain symbolic distinction, for instance, between nature and culture, persons and things, or life and death.

The claim that these symbolic distinctions are given can be understood in several ways. The strongest claim is that there is a fixed set of universal symbolic distinctions present in all human cultures. This can be argued for in multiple ways. One could imagine an evolutionary argument in favor of this, claiming that this is simply the way how our human bodies have evolved; or a functionalist argument, claiming that a specific set of symbolic distinctions are the only way to solve a set of otherwise unsolvable issues that every society faces, surrounding birth and death, etc.; or a historical argument, claiming that, despite superficial differences, all human cultures share this one ancestral stage where these central symbolic distinctions were shaped.

I think all three arguments face a set of problems and are therefore unconvincing. These need not be spelled out here, because such a strong claim of universality is not needed. Weaker and more defensible claims could do the trick of explaining in what way these symbolic distinctions are given. One is suggested by Cortois [42], who argues that there is no fixed set of distinctions available, but a fixed set of problems with which all cultures have to deal with, but in divergent ways. In other words, there is a fixed set of fundamental societal issues – such as what to do with the gradual distinction between living and dead matter – but a plurality of possible responses. Although more plausible, it retains a form of essentialism: not so much about the distinctions, but about the problems. Again such a claim is not necessary. There is a third, more formal possibility: every culture has to have a set of symbolic distinctions that organize social life, but these are not fixed qua issues nor qua responses. Symbolic distinctions, and even the underlying issues from which they arose, can be crucial for one group and completely insignificant for another.[5] The only requirement is that there are at least some fundamental symbolic distinctions present, regardless of their content.

This view on morality gives us a new appreciation for symbolic arguments: accusing a new technology of leading us to 'play God' is to be interpreted as a claim that this technology risks dismantling the foundational symbolic distinctions on which the moral economy of a society is built. Like moral taboos more generally, these accusations refer to situations in which the fundamental classificatory schemes that form the basis of our moral judgments are perceived as under threat of being destroyed or confused, leading to moral disorientation and chaos. It is

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[5] I am thinking here of the case of the distinction of culture vs. nature, which even Cortois [42] labels as a necessary issue. In contrast, contemporary anthropologists such as Philippe Descola [52] have argued that there are other societies in which the (Western) distinction of nature-culture is seen as completely irrelevant.

in this sense that 'playing God'-arguments are often linked to the claim that a certain technology is 'unnatural'. Again, this does not concern an ontological claim about nature, but the fact that a certain technology is perceived as confusing traditional symbolic boundaries.

Some ethicists have indeed noticed that these symbolic arguments typically relate to what Dworkin calls "the spine of our ethics and our morality" for which "any serious shift in that boundary is seriously dislocating" [35, p. 444]. Based on Dworkin, Drees has argued for a similar interpretation of 'Playing God'-arguments: "When new technologies expand the range of our abilities, and thus shift the boundary between what is given and what is open to our actions, we become insecure and concerned. It is especially in such circumstances that the notion of playing God arises." [31, p. 651]

3.2. WHY SYMBOLIC DISTINCTIONS CANNOT SIMPLY BE DISMISSED

Even if we accept this alternative conception of ethics, there is still another possible objection: if these symbolic distinctions are indeed given, why can they not simply be dismissed, once unmasked as ungrounded and historically contingent? For instance, one could argue that since we now know symbolic distinctions are contingent, we can dismiss symbolic arguments as unfounded: no technology can be called 'unnatural' because the natural-unnatural distinction itself is 'merely' symbolical. There are a number of possible replies to this objection, depending on how one interprets the origin of these symbolic distinctions.

First of all, there is a *nativist argument*: these distinctions are biologically or psychologically universally given, akin to a kind of 'yuk' disgust reaction. The one who thus pleads to remove these symbolic distinctions might be making a kind of 'rationalist fallacy': one falsely believes that people will abandon these symbolic distinctions based on rational arguments highlighting their lack of any reasonable foundation. If the symbolic distinction is not based on logical argument, but on our biological constitution, this is impossible. However, as the case of disgust highlights, claiming that certain symbolic distinctions are 'native' to the brain is rather difficult to substantiate. For instance, several scholars have argued, following Douglas [53], that disgust is not independent of culture and history, but rather socially constructed [54].

I believe therefore there is a second, more promising reply to this objection, what I will call the *transcendental argument*: any ethical evaluation of symbolic distinctions already presupposes symbolic distinctions as soon as it aims to evaluate them. In short, any attempt to dismiss these symbolic distinctions is faced with a circularity. Arguments that aim to show that these fundamental distinctions should be dismissed, have to evaluate these distinctions based on a

moral standard. This moral standard, however, calls for its own moral foundation. This foundation, according to the broader conception of morality, rests on these symbolic distinctions. Therefore, any moral dismissal of these symbolic distinctions in turn presupposes them.

But maybe, one could reply, this falsely assumes that *all* symbolic distinctions are presupposed when one is criticizing a particular symbolic distinction. Would it not be possible to criticize, let's say, the symbolic distinction between nature-culture, by falling back on that of, for instance, person versus things? One can imagine an argument of the form that states that our distinction between nature and culture must be abandoned because it leads to forms of harm done to those who we consider persons. In that case, no circularity exists and the transcendental argument fails. This is correct, and a meaningful way in which a rational ethical debate within a framework of symbolic distinctions is possible. However, in this form the objection has shifted: it is no longer a global dismissal of *all* symbolic distinctions, but only the dismissal of *one* (or a few) while upholding others. The interpretation that I proposed allows for this: there is only a formal necessity that at least some symbolic distinctions are there at all times. It leaves room for change in symbolic distinctions and even conflict, therefore also allowing to play one of them out against the other.

A third reply to this objection refers back to the rationalist fallacy: the presupposition that symbolic distinctions are susceptible to change by argument. If symbolic arguments are based on symbolic distinctions, that are themselves neither based on empirical or ontological claims, but are rather the basis on which we form our moral intuitions, it is unclear what kind of logical argument would be able to force us to revise them. By this I don't mean that no such change is possible, and that we can do nothing but accept these symbolic distinctions. The argument is rather that change is possible, but not in the form as it is often portrayed, namely by theoretically convincing one's opponent of the logical validity of another point of view. Again proponents of the broader conception of morality offer an alternative interpretation of this process of change: it is not so much the acceptance of another theory or set of beliefs, but a shift in attention: "Our evaluations depend on the selective nature of our attention and can be reshaped when the focus of our attention changes. Some discussions can bring about this kind of change, not by confronting us with compelling arguments but by drawing our attention to certain things we tended to overlook." [49, pp. 157-158]

Another way to frame this is to state that changing (the role of) someone's symbolic distinctions is not so much a question of *convincing* them of a certain truth, but of *converting* them to another

point of view. This implies then that the model to think about how to deal with symbolic arguments in the case of new technologies is one of conversion and not of conviction.[6] The clearest parallel here is that of religion [56-57]: typically someone is converted to another religion, not so much based on a set of logical arguments (e.g. proofs of God) but through a significant experience or confrontation with a specific person, text or situation.[7] Examples outside of the religious sphere exist as well. Following Kuhn's initial suggestions [59], similar notions have been applied to revolutionary changes in the history of science: how can one be converted to a new theory if it, prospectively, appears to be nonsensical? For instance, Bas Van Fraassen [60] has developed a model of conversion based on Jean-Paul Sartre's theory of emotions [61]: new theories can become live options if we first see the world differently through a change of emotions. Similarly, one can think of L. A. Paul's work on 'transformative experiences' [62]: experiences that (a) require knowledge that is inaccessible to the subject before having the experience in question; and (b) experiences throughout which the subject is transformed, in the sense that what they find important in life before and after is different. Paul is mainly thinking about cases such as becoming a parent or joining the army. According to her, it is very hard to flesh out what it would mean to make a rational decision in these cases, given that one cannot beforehand know what it would be like and that one's preferences would most likely change throughout the transformation.

However, the kind of cases that we are concerned about here would nonetheless differ in a number of aspects. First of all, the above literature tends to focus on questions concerning subjective values: what would be good *for me*? In contrast, symbolic arguments concern objective values: what would be good *as such?* Secondly, the existing epistemological work on conversion, once again, suggests that the issue is a lack of information, which could principally be solved. As I argued before, symbolic arguments deal with cases where no amount of extra information would solve the issue. Hence, perhaps a better analogy would be aesthetics. Again, it is a common experience that it is hard to convert people to appreciate a certain painting, film or piece of music by rational argument alone. Such a change of perspective in the aesthetic

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[6] The current literature on the philosophy of conversion is rather limited [55]. It mainly focuses on religious conversions [56-57], suggesting a whole typology of conversion, centered around a set of questions: is a conversion something personal or an intersubjective process of changing one's social role? Must it occur suddenly or can it also be a gradual process? Is the subject always passively undergoing the conversion or can it also play an active role? Does a conversion have to occur consciously or can it also happen unconsciously?

[7] The phenomenologist Jean-Luc Marion [58], for instance, suggests the following triggers: a historical event, an idol, the flesh, an icon, and the phenomenon of revelation. These are all cases of 'saturated phenomena' that transcend the subject, e.g. the limitless demand to be observed (the idol), the dissolution of the self (the flesh), or the experience of being seen (the icon).

sphere is typically similar to that of religion and is best described as a conversion.[8] And though often reduced to a mere subjective manner, when trying to convince someone that a certain piece of art is beautiful, there is a tendency to do so because one is convinced that the piece of art is beautiful *as such*, not just for you personally. The broader conception of morality which I fleshed out above suggests that the same logic applies to morality. In other words: the value and persuasiveness of symbolic arguments, such as that of 'Playing God', is perhaps better interpreted in terms of conversion to specific points of view.

4. Conclusion

This article attempted to reinterpret the role of 'Playing God'-arguments in debates surrounding new technologies. In short, these arguments have been reinterpreted as symbolic arguments: arguments concerning the risk that fundamental symbolic distinctions that one upholds are undermined, threatening the moral economy by which one organizes one's life and society. In the third section I argued that such a 'symbolic' dimension of these arguments becomes clear if one takes a broader conception of morality, which stresses how these symbolic arguments are grounded in opaque, but always present symbolic distinctions that are a product of culture and history.

As a consequence, the way how to deal with symbolic arguments in debates about technology also shifts. At first glance, this alternative risks being very conservative (and indeed many who uphold a broader conception of morality tend to take conservative points of view): we just have to accept the role these symbolic distinctions play and cannot rationally redesign our moral systems in any way we would like. Similar to a planned economy, a planned morality would be impossible. However, I do not think that this interpretation of symbolic arguments necessarily leads to such a conservative point of view. I want to argue that also advocates of new technologies, or those who want to reform society, can become more effective in their policies once they take these symbolic arguments more seriously.

More specifically, let me suggest two potential lessons that this perspective can bring to discussions of how to deal with symbolic arguments. A first strategy relates to showing that certain technologies in fact do not form any threat to these fundamental symbolic distinctions. Most technological applications confronted with 'Playing God'-arguments will indeed, by

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[8] The claim is not that it is impossible that arguments can convert, only that it is not necessary. It is possible that for some it is an argument that converts them to another point of view. But these cases can be interpreted as conversions as well, with the argument as the experience or text that initiates the conversion.

themselves, never have such far-reaching consequences. Of course, this suggestion is not that new. Others have noted how, for instance, synthetic biologists are not really 'playing God' once one looks at their actual practices and their limitations [63, p. 647]. But, from the model of conversion the expected response is slightly different: it does not so much require that we rationally argue that these technologies indeed do not threaten these symbolic distinctions, because this risks reproducing the rationalist fallacy. Instead, showing that a technology does not introduce a radical break but gradually continues a work that has been taking place for over a long time, requires rather taking another point of view by the scientists in describing their own work. It requires thus a response, not in logical arguments, but in different narratives.

For instance, synthetic biologists describing their own work as 'Regenesis' or 'Creation 2.0' [64] unsurprisingly results in 'Playing God'-arguments. But also the more general narrative of one's own scientific practice, e.g. as a fully autonomous scientist taking control over nature to redesign it in light of societal needs, similarly feeds these symbolic arguments. In contrast, one could draw on different narratives about engineering present in synthetic biology, which do not stress an all-powerful scientist faced with nature as a toolbox, but emphasize how synthetic biologists cooperate with nature or how the engineering of synthetic biology is a continuation of practices that have existed for millennia [65]. Hence an alternative point of view on or narrative of one's own scientific practice can help to avoid provoking 'Playing God'-arguments.

A second lesson concerns those cases where we are faced with a technological transformation that does challenge the symbolic distinctions of some groups, but that we nonetheless want to support. Based on the arguments presented here, the resistance of these groups should not simply be dismissed nor should the response be a set of logical arguments. If we follow the model of conversion, the appropriate response might rather be to focus on the creation of cultural narratives that can appeal and convert. This can be done in many ways, ranging from creating stories that make new technologies concrete or that explore a society in which these technologies would be integrated, to offering role models of individuals who use this new technology or experience their consequences for the better. From this point of view, when we are confronted with the emergence of new technologies that provoke symbolic arguments, there is therefore a clear role for the humanities to respond to them.

Again the history of technology is full of such examples. The most famous, perhaps, is the figure of Frankenstein, which has been used endlessly to articulate symbolic arguments against new technologies, such as synthetic biology [7]. Frankenstein has been a very strong image in debates surrounding technology. But it should be realized that these images are not to be

interpreted solely as creating negative biases or irrational obstacles in otherwise rational debates. Given that many new technologies touch on the fundamental symbolic distinctions, distinctions that can only change by conversion, new powerful images could be a force for creating acceptance of new technologies. Proponents of these new technologies therefore do not need to ban such images, but cultivate their own images that build bridges to new, but acceptable worlds in which these technologies are normalized or made appealing. Only then can the adherers of the old be converted to a brave new world.

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