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# FROM MISTERY TO MASTERY, AND BACK AGAIN: REFRAMING TECHNOLOGICAL PROCREATION THROUGH AWE

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Abstract: The rapid advancement of technologies such as in vitro fertilization (IVF) and surrogacy, along with the increasing capacity of technologies like ultrasound to "scan" the fetus, and most recently, the rise of biotechnologies for genome sequencing and editing, has progressively mediated and filtered the awe traditionally associated with natural procreation. The ability to foresee and manipulate what was once a source of impatient and tense apprehension — the moment of conception — has indeed significantly reshaped our reproductive narratives, identities, and perceptions. Since we have moved from a womb that conceals and protects to an increasingly transparent and threatening one, debates have emerged on whether this technological mediation has diminished the sacred aspects of reproduction, both in its traditional meaning of being worthy of respect and ceremonial reverence(1), and in the Agambenian sense of being separated and, therefore, unavailable (Lembcke 2023). This contribution aims to initiate a discussion that places awe at the center of the debate on reproductive, particularly genetic, biotechnologies. By positioning awe as a bridge between the theological and technological dimensions of procreation — and thereby necessitating a reformulation of the dichotomy between scientific and religious views of nature — it becomes possible to envision an ethical paradigm that emphasizes openness and connectedness, as well as the formation of the self as a responsible procreative agent.

Il rapido sviluppo di tecnologie come la fecondazione in vitro (IVF) e la maternità surrogata, insieme alla crescente capacità di strumenti come l'ecografia di "scansionare" il feto, e, più recentemente, allo sviluppo delle biotecnologie per il sequenziamento e l'editing genomico, hanno progressivamente mediato e filtrato il senso di meraviglia tradizionalmente associato alla procreazione naturale. La possibilità non solo di prevedere, ma anche di intervenire su ciò che un tempo costituiva una fonte di impazienza e apprensione — il momento del concepimento — ha infatti

(1) Cambridge Dictionary, s.v. "sacred", sense c1.

significativamente ridefinito le nostre narrazioni, identità e percezioni riproduttive. La transizione da un utero che celava e proteggeva a uno sempre più trasparente, percepibile, in alcuni casi, anche come minaccioso, ha sollevato interrogativi circa la perdita degli aspetti più sacri della riproduzione, intesi sia nel significato tradizionale di rispetto e venerazione cerimoniale (v. nota 1), sia, in senso agambeniano, come separazione e indisponibilità (Lembcke 2023).Questo contributo si propone di avviare una riflessione che ponga il senso di meraviglia al centro del dibattito sulle biotecnologie riproduttive, in particolare genetiche. Assumere la meraviglia come ponte tra la dimensione teologica e quella tecnologica della procreazione — richiedendo una riformulazione della dicotomia tra visioni scientifiche e religiose della natura — consente di delineare un paradigma etico fondato sull'apertura, sulla connessione e sulla formazione del sé come agente procreativo responsabile.

Keywords: Bioethics, Procreation, Biotechnology, Genome, Reproductive liberty

Parole chiave: Bioetica, Procreazione, Biotecnologie, Genoma, Libertà riproduttiva

## 1. What a wonderful world is for whom?

The process of procreation, whether viewed through a religious, philosophical, or scientific lens, is one of the most awe–inspiring experiences in human life. Indeed, even the embryologist might resonate with the psalmist who said, "I am fearfully and wonderfully made" (Psalm 139:14). This composite emotion remains a vital framework and an operative category for both perspectives in grappling with the profound mystery of bringing life into the world. But what does awe entail and what are its functions in this context?

A first attempt to address this question could start by distinguishing between wonder and awe. While the former is often considered a more easily recognizable emotion, tied to familiar elements, both emotions share a common lineage. This interpretation recalls Martin Heidegger's analysis in *Sein und Zeit* (1927) of the distinction between terror and fear — two emotions that share many characteristics but differ significantly in how they impact the subject. Similarly, awe and wonder may overlap in certain ways, yet their effects on our perception of profound experiences differ meaningfully.

Terror, as conceived by the German philosopher, is understood as a qualified intensification of fear. Fear, in Heidegger's view, is directed

toward something specific, distinct and determinate, something rooted within the world "that in the face of which we fear, the *fearsome* is in every case something that we encounter within–the–world and which may have either readiness–to–hand, presence–at–hand, or Dasein–with as its kind of Being" (Heidegger 1967, pp. 176–179). Terror, in contrast, is closely connected to anxiety, in its being indeterminate and elicited by nothing in particular, "not an entity within–the–world […] which is completely indefinite […] which […] cannot bring itself close from a definite direction" (*ibid.*, p. 182). We might, therefore, suggest that Heidegger focuses primarily on external threats when defining the contours of fear, while terror assumes a more existential dimension. This distinction is persuasive, as fear typically arises in response to a specific object or situation — evidenced by the many terms formed as *something*–phobia. Terror, by contrast, is linked to unpredictability and the unknown, which is why expressions like "I'm terrified" are often used to convey a deeper sense of ontological insecurity.

Similarly, we could argue that awe represents a qualitative intensification of wonder (Gilbert, Pinto–Correia and Haraway 2017). Wonder, when directed toward a specific object, sparks curiosity, which in turn drives the search for truth about the physical universe — a pursuit traditionally seen as the foundation of both philosophy and science. Wonder, in this sense, is an epistemic emotion. It arises initially from a violation of expectations but, crucially, it is sustained by the desire to acquire knowledge and understanding. Unlike mere surprise, curiosity involves the recognition of a gap in one's knowledge that one both can and desires to fill. Awe, however, *goes further*. It not only occurs when an event violates our expectations and reveals a gap in our knowledge, but it also challenges our existing schemas — our deeply rooted knowledge structures — so profoundly that we are unable to accommodate or assimilate the new information within those frameworks (Weger and Wagemann 2021; Paulson *et al.* 2021).

Indeed, awe, unlike curiosity, can also arise from a vague feeling of *just wonder at something*, a sentiment that can only be described through the notion of its objective correlative, something that provides a tangible reference but remains elusive in its full definition. It is therefore from an epistemic standpoint and in terms of their gnoseological

functions that wonder and awe occupy distinct statuses. In *The Magic of Reality: How We Know What's Really True*, Dawkins (2011) argues that while you may certainly *just wonder at* the sun, the moon, and the cycle of the seasons, it is only by directing your wonder toward understanding the underlying explanations of those phenomena that you are *wondering at reality*. Unless one has experienced wonder in the scientific sense, with this pursuit of knowledge, he contends, one has not experienced what he considers to be real wonder.

From this perspective arises Dawkins' sharp critique of religion, which he argues presents an impoverished vision of the world — "a poky little medieval universe, extremely limited" (1986). He contends that by offering assertions grounded in faith, religion represents a retreat from the rigorous, evidence–based pursuit of truth. In Dawkins' view, religion is merely a poor attempt to do what science does: explain the world. This critique reflects a common argumentative strategy among those who compare science and religion, often highlighting creation stories to discredit religion as fundamentally flawed and empirically false. In this framework, scientific wonder is seen as rendering awe — understood as non–epistemic, or purely emotional, wonder — both unnecessary and potentially harmful, as it distracts from the pursuit of true understanding.

However, a key point must be emphasized to conclude our reflection on what awe is: Dawkins advocates for a vision of science in which mystery has no place and must, therefore, be eliminated. In his view, the role of the scientist is to work toward resolving mysteries, treating them as problems. Once the problem is solved, the scientist may then wonder at the solution. Yet, this is not the only possible perspective on the scientific stance. A distinguished colleague of Dawkins, Albert Einstein (1931), famously wrote:

> the most beautiful thing we can experience is the mysterious. It is the source of all true art and science. He to whom this emotion is a stranger, who can no longer pause and stand rapt in awe, is as good as dead: his eyes are closed.

He further adds:

> to know that what is impenetrable to us really exists, manifesting itself as the highest wisdom and the most radiant beauty, which our dull faculties can comprehend only in their most primitive forms — this knowledge, this feeling, is at the centre of true religiousness.

I think this is precisely the direction we were heading in distinguishing scientific wonder from awe: they share a common root, making their similarities more significant than the differences that arise based on how we use them and the explanations we seek. It's not unreasonable to suggest that Saul's experience of awe on the road to Damascus might be comparable to the awe Watson and Crick felt when they first saw the model of the DNA helix. However, instead of stopping at supernatural explanations, they pursued scientific ones. This brings us back to the central point: since we can define awe as a qualitative intensification of scientific wonder, we can confidently close the circle we opened earlier. As Heschel (1955) states, also "awareness of the divine begins in wonder […] because the beginning of awe is wonder and the beginning of wisdom is awe […] Knowledge is fostered by curiosity; wisdom is fostered by awe".

We thus find ourselves before two magisterial paths, both descendants of wonder, for engaging with, knowing, and appreciating the world: science and religion. Given their shared origin in wonder, these two approaches could — and arguably should — form alliances to protect, preserve, and expand the sources of wonder that enrich human experience. Yet, ironically, it is precisely in relation to the most significant source of wonder at our disposal — nature — that science and religion often find their greatest grounds for conflict.

## 2. Procreation and biotechnologies: is DNA God?

To address the focus of this paper and understand why repro–genetic biotechnologies, even more so than assisted reproduction techniques like IVF or surrogacy, have sparked such a fierce clash between these two visions of Nature, we must briefly digress into the Human Genome

Project[2]. This grand international scientific effort, heralded as the first fundamental step toward a complete understanding of the factors that determine human nature, marked the conclusion of a century that had, interestingly, begun with the rediscovery of Gregor Mendel's pioneering studies on heredity[3].

Over the years, the Human Genome Project has been compared, for its importance and symbolic value, to the deciphering of the Rosetta Stone (Petsko 2001), a decisive key to unlocking a previously unknown language. It has also been likened to the Apollo Program missions for their role in expanding the boundaries of both our material reality and imaginative capacity. Additionally, at the June 26, 2000 press conference presenting the project's results, Bill Clinton began his speech by comparing the sequencing of the human genome to the mapping expedition toward the Pacific Ocean undertaken by explorers Meriwether Lewis and William Clark between 1804 and 1806:

> almost two centuries ago, in this room, Thomas Jefferson and a trusted aide unveiled a magnificent map […] that defined the contours and forever expanded the frontiers of our continent and our imagination. […] Today, the world joins us to behold a map of even greater significance […] the most important and wondrous map ever produced by humankind[4].

During the two decades that separate these words from 1990, the year the Human Genome Project began, one particular narrative has been promoted and popularized, especially within the scientific community itself. The genome began to be referred to as *the Bible*, *the Holy Grail*, and *the Book of Man*, portraying this molecular structure not merely as a biological entity but as a kind of sacred text (Nelkin and Lindee 1995). In 1988, Gregory Henderson provocatively asked, *Is*

(2) An entire section of the National Human Genome Research Institute's website is dedicated to the Human Genome Project: https://www.genome.gov/human-genome-project.

(3) The reference is specifically to the research of biologists Hugo DeVries, Carl Correns, and Erich von Tschermak, who, at the beginning of the twentieth century, independently rediscovered Mendel's work, contributing to the dissemination of his laws within the scientific community.

(4) The entire speech is available on YouTube under the title *Announcing the Completion of the First Survey of the Entire Human Genome at the White House*.

*DNA God?* and ultimately concluded that, given its essential roles in the origin, evolution, and maintenance of life, it is tempting to wonder if "this twisted sugar string of purine and pyrimidine base beads is, in fact, God". Similarly, when Francis Collins announced the first (almost entirely complete) draft of the human genome sequence in June 2000, marking a significant milestone (though not the definitive conclusion) of the Human Genome Project, he declared, "we have caught our first glimpse of our own instruction book, previously known only to God"(5).

Then, a little over 10 years later, another type of knowledge and capability emerged, imbued with almost divine characteristics. Indeed, 2012 marks the beginning of the CRISPR/Cas9 era, the reigning genome–editing technology, following the publication of the now–famous study by Nobel laureates Jennifer Doudna and Emmanuelle Charpentier (2012). This study described "a family of endonucleases that use double RNA to perform site–specific DNA cleavage", highlighting the potential of this system for programmable genome editing. Without delving into the technical details of this discovery, it is crucial to understand that genome manipulation can occur in two main ways: somatic and germline. While somatic intervention affects only certain differentiated cells of the individual being treated, germline editing potentially affects all the cells of the future individual, including gametes, and thus also their progeny. This is because the cells present in embryos at the earliest stages of development are totipotent stem cells, meaning cells that, through continuous and progressive replication, can give rise to increasingly differentiated and specialized cells. Somatic gene therapies may involve, for instance, the extraction of stem cells from a patient's blood, the use of CRISPR to correct a genetic mutation that causes the production of defective blood cells, and then the reinfusion of the *corrected* cells back into the patient. As can be easily understood, this type of treatment does not affect the patient's reproductive cells in any way. Germline editing, on the other hand, by altering the genome of a human embryo in its early stages of development, implies not only the potential replication of the modification in all its differentiating

(5) F. Collins, *White House Remarks on Decoding of Genome*, "New York Times" (June 27, 2000).

cells, but also the possibility that this modification will be inherited by future generations. Consequently, there are many potential unintended consequences of such interventions. Therefore, while the modification of sperm and egg genes has become routine in laboratory mice and has greatly contributed to our understanding of how vertebrate genes function and interact during development, a heated debate immediately arose over whether this technology should be applied to humans(6).

One of the most long–standing and frequently cited normative arguments in the literature on this topic is the claim that by using these technologies in reproductive contexts, humanity is "playing God". It is fascinating to observe how both supporters and critics of genome biotechnologies frequently invoke religious references. On one side, supporters of these technologies often describe the genome as a kind of *sacred text* of biology, a fundamental code of life that can be read and modified for the benefit of humanity. In this view, genomics represents a divine knowledge being unveiled through scientific advancements, a tool to decipher the *mystery of creation*, promising cures for diseases, improved quality of life, and, in some ways, *the completion and enhancement of nature's work*. On the other hand, critics urge caution, warning against humanity's desire to transcend natural or divine limits. Their main argument is the fear of disrupting a balance established by God, hence the *playing God* argument, potentially interfering with something too complex and sacred for humans to fully understand or control.

It is important to emphasize, however, that the charge of playing God is not necessarily rooted in strictly religious worldviews. As we mentioned, the metaphorical use of this objection is grounded in the idea that certain interventions violate the intrinsic sanctity of nature. However, I believe *sanctity* here should be understood as inaccessibility or ungraspability. The core issue lies in the fact that enhancing human nature, while disregarding potential or unknown risks, reveals a form of *hybris* — an overreaching pride. This human thirst for control is perilous because, unlike God, humans are neither omniscient nor perfectly

(6) For an overview, see the article by J. Harris and M. Darnovsky, *Pro and Con: Should Gene Editing Be Performed on Human Embryos?*, "National Geographic" published 14 July, 2016.

benevolent. As such, we may fail to foresee the consequences or fully comprehend the risks associated with tampering with genes, leading to unintended and potentially irreversible effects.

To clarify what I mean, I'll provide two examples of how this argument has been addressed. One prominent version of the playing God argument comes from philosopher Michael Sandel (2007). In his *The Case Against Perfection*, Sandel argues that biotechnological interventions, especially in the context of procreation, undermine the moral and ethical humility that should accompany the creation of life. According to Sandel, the *hybris* of seeking mastery over life through technological means distorts and undermines the awe that, as we have emphasized, is intrinsically associated with procreation. This transformation of the creation of life into a project of control and optimization undermines the sense of wonder and respect that should surround it, replacing the gift–like nature of life with a more calculated and engineered process. A slightly different formulation, which better emphasizes the key point of our previous discussion, is offered by Clive Hamilton (2013). Addressing climate engineering, Hamilton writes that "playing God entails humans crossing a boundary to a domain of control or causation that is beyond their rightful place". He elaborates, "to cross successfully would require mortals to possess a degree of omniscience that has always been preserved for God or the great processes of Nature that are rightfully beyond human interference".

My interpretation of this argument aligns more closely with Hamilton's view, as I ground it less in the violation of divine authority or prerogative and more in the profound gap in understanding that separates humans from the complexity of natural systems. This gap highlights our inability to fully foresee the consequences of interventions like genetic manipulation or altering the chemistry of the world's oceans to absorb more carbon. These actions touch on inscrutable and ungraspable aspects of nature, aspects that still remain beyond our capacity for comprehension. In this sense, "our drive to mastery", as Sandel puts it, must recognize and halt at the boundaries of what remains a mystery. Acting in this way requires a greater tolerance for uncertainty and ambiguity. Admitting and normalizing the presence of mystery, to return to Dawkins, could serve as a means to reintegrate awe into science

and, as we will explore, to offer a meaningful foundation for bioethical considerations concerning repro–genetic biotechnologies. The key point, then, is not about expanding natural contingency solely through the technical domain. As Saint Augustine famously wrote (413–426), "miracles are not contrary to Nature, but solely to what we know about Nature". I believe that by interpreting technological miracles in this sense as well, it becomes possible to carve out a space for awe within science as a bridge between the technological and theological approaches to Nature and, in our case, procreation. Despite Sandel's concerns, it is indeed possible to engage with reproductive technologies without entirely abandoning awe, along with the humility, gratitude, and, to quote him again, the "acceptance of the giftedness of life" traditionally associated with procreation. Rather than framing the debate as *mastery versus mystery*, we might consider that awe can be deepened through thoughtful engagement with biotechnologies. The use of reproductive technologies need not be seen solely as an attempt to control life but can instead be understood as an extension of our appreciation for the complexity and fragility of our biological makeup.

Awe, thus, not only has the power to preserve the idea of Nature — not as something external to humanity, original and pure, but as something that is not (yet) fully dominable — but also ennobles the non–ancillary relationship that should exist between seemingly distinct approaches, such as scientific, philosophical, and religious ones. Moreover, as we will explore in the final sections, awe carries with it a moral paradigm where values such as modesty, caution, precaution, preservation, and gratitude take on central importance(7).

## 3. Awe and praxis: the case of environmental ethics

Awe has recently been recognized as an important positive emotion that offers numerous benefits for well–being (Monroy and Keltner 2023), physical health (Stellar *et al.* 2015), and social interactions (Piff

(7) It is a shift in posture similar to the one Bruno Latour describes in his paper *A Cautious Prometheus? A Few Steps Toward a Philosophy of Design (with Special Attention to Peter Sloterdijk)* (2008), the keynote lecture for the Networks of Design meeting of the Design History Society at Falmouth, Cornwall, 3rd September 2008, which I highly recommend reading.

*et al.* 2015). More generally, awe is thought to have the potential to shape our attitudes toward both ourselves and others, particularly in relation to the larger meaning and purpose of our lives. Although awe is a complex and multifaceted emotion, it can be compared, in terms of its moral functions, to Janus, the Roman god of beginnings. With his two faces, Janus is able to look simultaneously into the future and the past, and the key he traditionally holds symbolizes his role as a guardian of thresholds and transitions — both literal and metaphorical — representing the opening and closing of new paths in human life. Similarly, awe is a transitional and bi–faceted emotion. It has the power to awaken and nurture moral attitudes and transformations in our relationships with others and the world, while also being deeply connected to reflexive self–making, encouraging us to reflect on our place in the broader context of life.

An interesting line of research that supports this idea has emerged from several papers in the field of environmental ethics (Li and Julie 2024; Hu 2023). A common assumption is that nature, intended as *certain natural entities*, being awe–inspiring, is also worthy of preservation. Thus, an ethical principle emerges from an aesthetic experience. Katie McShane (2018) highlights that recent empirical literature on the psychological effects of awe — widely regarded as a positive moral emotion due to evidence that awe makes people humbler, more altruistic, and less self–centred — supports this view. McShane concludes that, while there are legitimate concerns about using awe as the sole foundation for environmentalism, it can certainly inspire environmental attitudes and commitments.

At this point, we might ask: could this argument be translated to the debate on repro–genetic biotechnologies? To answer this question, I will refer to a generalized version of the "environmentalist" argument proposed by Ashley Coates (2022). Her reasoning is as follows:

> (1) Any appropriate object of awe has non–instrumental value that makes it pro tanto worthy of preservation.
> (2) x is an appropriate object of awe.
> (3) Therefore, x has non–instrumental value that makes it pro tanto worthy of preservation.

The only difference between this version of the argument and the environmental one is that "certain natural entities" has been replaced with "x". As long as the substitution of x with a particular entity makes (2) true, the conclusion will be that this entity has a claim to preservation. Coates herself emphasizes that:

> the most promising and underrated application of this generalization of the argument is to bioethical debates concerning entities such as embryos, genetic codes, and life itself. Indeed, the moral status of these kinds of entities is often considered problematic or unclear in a similar way to entities in environmental ethics, such as biodiversity or species. In particular, the former exhibit similar complexity, finely–tuned functioning, and lengthy origination to the latter, and thus seem to have a similar claim to exhibit the relevant sort of greatness. At face value, then, the generalized argument from awe appears well–suited to help us understand the moral status of these kinds of entities.

It is important to note that applying this argument to bioethical contexts does not necessarily entail strong support for conservative conclusions. We are indeed discussing a pro tanto claim to the preservation of awe–inspiring entities that can be outweighed if the preservation in question has sufficiently negative effects. "So, for instance, given that a right to abortion derives from a right to bodily integrity, that right would plausibly trump any awe–based claim to preservation on behalf of a foetus" (Coates 2022). Paraphrasing McShane's conclusions, we could say that while there are legitimate concerns about using awe as the basis for an ethical governance of repro–genetic biotechnologies, it can certainly inspire attitudes and commitments that lead to a deeper sense of responsibility and ethical awareness.

## 4. Awe as ethical self–making

Repro–genetic biotechnologies, by reshaping how we relate to an unborn child, create new interpretive frameworks that guide prospective parents' actions and decisions. These technologies do more than simply

provide a "peek into the womb" (Verbeek 2016), offering a sense of transparency and pre–vision; they fundamentally reorganize procreative agency. By establishing a specific form of contact between the foetus and the parents, these technologies open up a new space of technical control over the procreative process. This enables the expansion of natural and biological contingencies, which have historically defined the mystery of coming into the world.

This confronts prospective parents with a range of new questions concerning responsibility and autonomy. As a result, many philosophers and bioethicists have begun discussing the concept of *liberal eugenics* (Agar 2004; Prusak 2005; Sparrow 2011; Mills 2015), a paradigm that, unlike the coercive eugenics of the twentieth century, is considered not only morally acceptable but also well–suited to address these new challenges. Liberal eugenics is grounded in two key principles of political liberalism: the pluralism of values and the moral and political priority of the individual. In concise terms, the fundamental idea behind liberal eugenics is that it does not promote a specific notion of what constitutes a good or valid life. Instead, it remains neutral regarding individuals' priorities, how people should live, and the values that guide their reproductive choices. This framework aims to protect, and even expand, individual freedoms, including reproductive freedom. The underlying assumption is that individuals are capable of acting rationally in relation to their own interests and values and thus should be entrusted with making informed decisions about their genetic and reproductive futures. As John Harris (1998) emphasizes, "in deciding what kind of child to conceive, the best way to avoid totalitarianism and escape both individual and social prejudices is to grant parents full reproductive freedom". Harris argues that only in cases of urgent reasons, such as evidence of significant harm, should the state or other third parties be allowed to intervene in this decision–making process. Similarly, in many other works, including the influential *Children of Choice* by bioethicist John Robertson (1996), the discussion on reproductive freedom centres on the importance of protecting prospective parents' autonomy from external interference. Reproductive freedom, in this view, is seen as a deeply personal domain whose privacy must be respected. Although this model of negative liberty has a strong

tradition in the context of reproductive rights[8], it is necessary to question whether it remains adequate considering the new choices offered by repro–genetic biotechnologies. We are no longer simply discussing the traditional power of deciding whether and how many children to have, but now also (to a certain extent) *what kind of child to have*. This shift introduces unprecedented ethical considerations. Moreover, we must acknowledge that this new power, operating at the genetic and embodied level, may directly shape the identity of future individuals, carrying significant social and political implications.

What I believe, therefore, is that the liberal procreative paradigm needs to be balanced in order to be suitable for regulating the use of, and controlling the effects of, repro–genetic biotechnologies — especially when it comes to germline genome editing for non–therapeutic purposes. As Stuart Murray writes in *Care and the Self: Biotechnology, Reproduction, and the Good Life* (2007):

> we continue to have faith in a self that we describe as free to choose for itself, an undisputed source of its own reason and will. Furthermore, we continue to conceive of our technologies as rational extensions of our autonomy, extensions of the human being, of its body and spirit. To complete the circle, we believe that our technological developments increase our choices and, as if they were synonymous, our freedom. In this paradigm, freedom is thus the freedom to choose, to have the maximum choice, and to be free from norms and constraints when making choices.

The risk is that such a model may create a short circuit between a fabricated decision–making autonomy and what we might call "genetic nemesis"[9]. Indeed, in our *Century of the Gene* (Keller 2001), the phenomenon of *geneticization* — marked by an increasing tendency

(8) In the landmark ruling of *Roe v. Wade* in 1973, to provide a readily understandable example, the U.S. Supreme Court grounded the right to terminate a pregnancy in the "right to privacy".

(9) The reference is to Ivan Illich's work *Medical Nemesis* (Pantheon Books, New York) in which, with very radical nuances, he emphasized the risks associated with the increasing mythologization of the medical institution as early as 1976. In this sense, nemesis manifests itself in the medicalization of society itself, meaning an all–pervasive medicalizing tendency to interpret pain and death through a medical lens.

to reduce human differences to genetic ones — along with the reemergence of deterministic and essentialist genetic narratives, raises extremely serious and complex issues in the context of expanding procreative possibilities. While it is entirely legitimate for parents to want to provide their children with the best possible opportunities — whether through a nurturing environment, cultural enrichment, or broader chances to lead a good life — the crucial issue lies in understanding how this desire can translate into genetic measures. The danger arises when, in the context of genetic selection, this desire manifests as the wish to pass on the *best* of oneself by preserving what is scientifically, culturally, or socially deemed as *good genes*. In scenarios involving genome manipulation, where the potential exists to go beyond the parental genetic makeup and endow a child with what is perceived to be the absolute best genes, we risk conflating the nature of parenthood and procreative agency with a material extension of the self or the aspiration to create an idealized version of oneself.

As Onora O'Neill (2002) argues, while reproduction matters to people because it allows them to express or enact their deeply held beliefs, it does not follow that reproduction should be viewed solely as an act of self–expression. Nor can a right to self–expression alone justify a right to procreative liberty. O'Neill points out that reproduction "aims to bring a third party, a child, into existence" — an independent being whose life, particularly in the context of genetic biotechnologies, must not be reduced to a vehicle for genetic narcissism. This perspective underscores the critical importance of the concept of self–making — how individuals shape their identities and values within a broader societal, ethical, and political framework — when considering the role of biotechnologies in procreation. As Catherine Mills suggests (2013), procreative agency should thus be reframed as "a deeply personal project of self–making", where the intersection of technology and moral choice not only extends freedom but also complicates and problematizes it. This, I believe, captures the true meaning of the shift *from chance to choice* (Buchanan 2001) — a process that transforms birth from something purely contingent to something increasingly "available" and subject to human control. In this context, awe can play a crucial role by introducing *a concern for the self through alterity*, or the recognition of the otherness of the child.

As we observed in the environmentalist case, awe, as a self–transcendent experience, is indeed characterized by an increased sense of connectedness and a diminished sense of self (Yaden *et al.* 2017), often referred to as the "small self". It also fosters a heightened tendency to attend to others' welfare and a greater inclination toward humility (Kristjánsson 2017; Stellar *et al.* 2018), a foundational virtue that counters selfish inclinations such as entitlement and narcissism. Hopefully, also genetic ones.

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