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Contemporary Bioethics: The Promethean Challenges of Reprogenetics

ABSTRACT

Contemporary bioethics presents to us major challenges in several fields of knowledge. The ever-increasing technological power to interfere with the nature of things (including human nature) demands our increasing ethical awareness and considerations. How are we going to respond to these demands? Our proposal is to address this complex issue by revisiting one of the founding myths of Western civilization, that of Prometheus. Among numerous variations of this myth, we will address in the first part of the paper: Goethe's poem "Prometheus" (1772), Mary Shelley's novel *Frankenstein; Or, The Modern Prometheus* (1818), and Franz Kafka's short piece entitled "Prometheus" (1918). Our understanding of this myth will help us to narrow the *pathos* involved in the current bioethical dilemmas and give us a chance to reflect on the scope of human actions in the fields of recent scientific-breakthroughs. In the second part of the paper we will consider the implications of the creative power involved in the process of assisted reproductive technologies (ARTs), which present a version of the post-modern Promethean challenge. The fast development of reprognetics creates significant concerns dealing with the evolution of our human condition and the erosion of the foundations of the traditional family model. Through the analysis of certain scenarios, in which science, law, and ethics are intertwined, we will at the end revisit an etching of the Spanish painter Francisco Goya, "The Sleep of Reason Produces Monsters" (1799). The symbolism of Goya's work is multiple, but we will explore the one most related to the complex relation between bioethics and biopolitics.

Key words: ARTs, Prometheus, bioethics, biopolitics, reprognetics

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Introduction

Why are we connecting the ancient myth of Prometheus with our contemporary challenges in rerogenetics? More generally, what is the power that narrative histories have to explain the complexity of the ever-changing reality? We could begin answering these questions by pointing out that narratives have always been a source of reflection about the deepest human concerns. In the period of Classical Antiquity, for example, we encounter the Homeric epics with a narrative-explicative system different than the one we find in the argumentative-explicative systems of ethicists and scientists. Myths, legends, and fables have an intrinsic explanatory power to capture a kind and level of complexity that is impossible to depict in “solid” argumentative systems that ethicists and scientists usually use to address the bioethical dilemmas.

The contemporary techno-scientific breakthroughs transform the world as we knew it, and this transformation alters the ways we relate to each other, and to the world as a whole. For better or for worse, science has emerged as a (alleged) master of existence. When humanity has reached the possibility of mass destruction, the world has become an uninviting place to live in; this power of science has managed to unsettle the standing order of reality by turning it into something fragile and perhaps even illusory. The ghost of the atom – of the nuclear fission and its ensuing nuclear mushroom – seems to follow a strange trajectory by expending itself to the power of the genes – with molecular biotechnology and genetics setting the current cutting edge of the scientific progress. This transformation affects our relationship with others and with ourselves, to the extent of silencing the ethical objections that often remain in the shadow of mercantilism. And that is why this transformation is not innocuous for the symbolic maintenance and further development of the human condition. The demiurgical character of modern science, its transforming power over human nature (and nature in general), seems to be provoking unsettling uncertainties and enormous challenges for the proper understanding of the evolving ethical controversies. The most important of them can be formulated in the most general terms as follows: Is that which is scientifically possible also morally desirable?

In this essay we will address the intersection between bioethics and biopolitics by following the path of the controversies that arise in the fields of assisted reproductive technologies (ARTs), for this “privilege scenario” appears to undermine the very foundation of how we understand our own individuality and subjectivity. But before we address this issue, we need to clarify the Promethean challenge of modern science in general.

“The Sleep of Reason Produces Monsters”

This is the suggestive title of the etching produced by the Spanish painter Francisco Goya (1799). What does it add to our reflection? Before we answer this question, we would first like to touch on the ancient myth of Prometheus, and some of its numerous variations throughout the history of Western civilization.

According to the ancient Greek mythology, Prometheus was the cleverest of Titans. His name means “the forward thinker,” the one with a capacity of forethought and prevision. (His brother and counterpart, Epimetheus, is the “backward-looking thinker.”) Although best known for his fire-theft, there is actually something subtler about Prometheus, which is why this figure continues to fascinate every new epoch of humanity. Namely, Prometheus learned all the arts and crafts from the goddess Athena and passed them on men. So, not just the possession of fire, ambiguous and double-edged that it has always been, but the very becoming of man is theft from divinity: since providence is the attribute of godhead, not just fire but something else is stolen from gods, and that is divine provision (pre-vision; *pronoia*). As Nicolai Hartmann clarifies (Hartmann 1931, vol. 2, 148), “Foresight is the intuitive vision in man; in its highest power, it is prophecy. Prevision makes him move forward, conscious of his goal. Man does not live in the present alone. He belongs to the future. And the future belongs to him – within the limit of his prevision. Indeed, to speak exactly, the future is the only thing that practically does belong to him. The past stands eternally still and is not to be changed. Nor is the present to be changed any more than the past, it already has its irrevocable determination in itself.”

Zeus replied to the theft of fire by famously chaining Prometheus to a mountain, but he also took his revenge on humanity. According to Hesiod, Zeus sent Pandora, the first woman, to Prometheus’ brother, Epimetheus, who quickly fell victim to her charms. Pandora got a “gift” of a box (or jar) from Zeus, which she could not resist to open. By removing the lid, Pandora delivered to man the gift of grief, cares, and all evil, which cancel out the benefits bestowed by Prometheus’ theft of fire. As Roger Shattuck rightly pointed out (Shattuck 1996, 15), “Now, later versions of the Prometheus story that have come down to us usually make no mention of the closely linked figure of Pandora. Prometheus’s daring raid on Olympus produces a liberating fire for our ancestors, and the further consequences of that raid are forgotten. The most famous literary treatment of the Prometheus myth – a page in Plato’s *Protagoras*, Aeschylus’ *Prometheus Bound*, [Percy B.] Shelley’s *Prometheus Unbound* – leave out Pandora as an awkward appendage or complication. Thus they avoid dealing with the full consequences to humankind of the knowledge Prometheus brings as narrated in Hesiod’s earliest versions. Here is another instance of truth, Prometheus’ fire, being

separated from its consequences, Pandora's disruptive presence among men. We may not like the full myth, but we are distorting it by cutting it in two. In classical Western painting, Pandora went on to become an allegorical figure for 'beautiful evil'."

Let us also mention here one more important development with regard to the Prometheus myth, which occurred in the aftermath of Kant's philosophy. Although Nietzsche is acclaimed for pronouncing that "God is dead," many historians of philosophy and culture in general recognize that Kant's transcendental philosophy prepared the ground for this radical redirection of Western civilization. In the words of Kant's contemporary, Friedrich Heinrich Jacobi, Kant's philosophy brings us to the crossroads at which we must make the most consequential choice: "Nothingness or a God."

While Kant himself was reluctant to make this choice – in his writings we can find evidence of him exploring, and even endorsing, each of the paths – his later contemporary, Goethe, seems to have taken a decisive turn against God's dominance over our lives. Goethe's famous poem, "Prometheus" (1772), is a rebellious denial of the divine Providence. The fundamental message of the poem seems to be that, if God had been concerned about man, He would have had to arrange the world differently. According to Goethe's poem,

"I should honor you? For what?
 Have you softened the sufferings,
 Ever, of the burdened?
 Have you stilled the tears,
 Ever, of the anguished?
 Was I not forged as a Man
 By almighty Time
 And the eternal Fate,
 My masters and yours?
 Do you somehow imagine
 I should hate life,
 Flee to the desert,
 Because not every
 Flowering dream may bloom?
 Here I sit, forming people
 In my image;
 A race, to be like me,
 To suffer, to weep,
 To enjoy and delight themselves,

And to mock you –
As I do!”

Jacobi was afraid that Goethe thought neither sufficiently nor deeply enough about the implications of this defiance of divinity. Jacobi was convinced that Goethe’s choice leads not only toward dangerous hubris, but eventually toward nihilism as well. According to Jacobi (Critchley 2001, 27), “Choosing Nothingness, [man] makes himself into a God; that is, he makes an apparition into God because if there is no God, it is impossible that man and everything which surrounds him is not merely an apparition. I repeat: God is, and is outside me, a living being, existing in itself, or I am God. There is no third.”

It is hardly a matter of dispute that modern Western civilization has for the most part followed Goethe, turned away from faith, and attempted to test the creative power of humanity. Simon Critchley rightly warns that the results have become alarming (Critchley 2001, 27): “In denying God we risk turning the human being into God. That is, there is a Promethean temptation in Kantian and Fichtean idealism, where the human being turns into some replica of God, creating from nothing (it is worth recalling that Mary Shelley’s novel, *Frankenstein* [1818], was subtitled *The Modern Prometheus*, where something monstrous stalks the scientific rationalism of the Enlightenment).”

Shelley’s *Frankenstein; Or, The Modern Prometheus*, could be considered as one the first “science fiction” novels. There are different issues to reflect on with regard to this novel, but the one we are going to consider in detail involves the responsibility of a creator for his or her creation, together with the risks and consequences that accompany the growth of scientific knowledge. This topic is at the heart of our contemporary bioethical dilemmas, especially when we concentrate on the challenges posed by reprogenetics.

To deal with such an enormously important matter, we will briefly refer to another myth, a legend that offers one of the fundamental insights of the Jewish tradition: the legend of the Golem (a “golem” is an animated anthropomorphic being, mysteriously created from inorganic matter, usually stone and clay). Already in this ancient legend there is a clear warning attached to the creative power. It is expressed through the rebellion of the creature against its creator, together with a threat of punishment that follows the irresponsible use of science and technology (in the form of evil, resulting from the unintended consequences of its careless use).

Why should we expect that this legend and Shelley’s novel are of relevance for the contemporary scenario of the assisted human reproduction? What analogies can be found between such mythical stories and fictive narratives on the one hand, and the

current concerns issuing from the super-modern technological scientific developments on the other?

These are some of the questions we are going to reflect on in this essay, while bearing in mind that analyzing the fictional references will complement our understanding of dilemmatic situations arising in bioethics. In the case of Shelley's *Frankenstein; Or, The Modern Prometheus*, we could begin by saying that the story explores the topics such as scientific morality, the creation and destruction of life, and, no less importantly, the ambition of humanity to assume the role of God. Victor Frankenstein, who tries to compete in power with God, is a modern Prometheus who steals the sacred fire of life from gods and places it in front of the puzzled (and disoriented) mankind.

In the ancient Greek myth, Prometheus is originally understood as the "sculptor" of humanity, a Titan who created man from clay. It is interesting that this is the same creative activity that informs the myth of Golem, and it is also the spirit of Shelley's *Frankenstein*.

This novel, conceived in the early stages of the industrial revolution, actually looks beyond the historical period in which it was created. It is thus interesting to analyze some epochal references that frame its story. Due to the sudden eruption of the Tambora volcano and the unanticipated climatic changes that accompany the eruption, the northern hemisphere endures a long and cold "volcanic winter." This particular climatic situation forces many people to remain sheltered from the inclement weather for long periods of time. In this point, Mary Shelley produces an eerie anticipation of our ensuing environmental meltdown.

It is also important to notice that the story of Frankenstein was influenced by the new research of Luigi Galvani and Erasmus Darwin that dealt with the power of electricity to revive dead bodies. Physiologist Luigi Galvani called this way of producing energy "bio-electro-genesis." Through numerous spectacular experiments, he came to the conclusion that the electricity needed for the revival of dead bodies need not come from the outside, because it is already generated within the living organism itself, which, although dead, still retains the ability to drive the momentum and react to it accordingly. He argued that these experiments were the basis upon which science could consider the true nature of the nervous system as an electrical device. The studies by Galvani inaugurated a whole new scientific discipline that did not exist until then: "neurophysiology," or studying the functioning of the nervous system based on neurology. The study of "galvanism" suddenly flooded the European universities during the late eighteenth century and the early nineteenth century. Experiments with animals, and even human corpses,

encouraged the hope that by means of electricity medical doctors could heal diseases caused by paralysis and even revive dead bodies.

We are dealing here, however, not with death and bringing back to life dead bodies but with new life and its creation. We recognize that it is very challenging for our present referential frameworks to address adequately the field of assisted reproductive technologies. One of the key questions – as difficult as it is important – concerns, generally speaking, the origin of life. The scientific breakthrough has produced a different understanding of how we conceptualize our human experience in the world. As Jacobi forewarned, when “Science” tries to stand in the place of Creator, truths and certainties get mixed. Science has not (yet) found a satisfactory answer to the question of the origin of life (and may probably never find it in the way in which the contemporary science is approaching this question). But what origin are we asking about? The origin that determines our human condition, the one that extracts us from the field of animality to become – via the use of language – the human creatures. As Dudley Young points out (Young 1992, 6), “Science, to put it bluntly, is uneasy with beginnings. Mythology, on the contrary, is concerned above all with what happened ‘in the beginning’... Its signature is ‘Once upon a time’, and its characteristic way of bridging a gap between nonbeing and being is to imagine gods and goddesses to step over it.”

Not surprisingly, then, Young maintains that the origin of humanity is best dealt with through a fictional narration which recounts what no scientific explanation can satisfactorily do. The origin is something that we were told about – for example, when little children ask those seemingly innocent yet annoying questions about the beginning and origin of everything (including who created God). Regardless of how patient and satisfactory our “answers” may be, it is important to recognize that they provide a narrative scheme that builds our “family romance” from the beginning of our human existence. Young insists that the possibility of telling a story of our experience is what characterizes our human disposition in this world. We will address later the importance of building some sort of narrative about the origin when children are conceived through ARTs.

Since Science seems to challenge our subjectivity in almost all spheres of our experience, it should come as no surprise that the appeal to ethics has become so urgent. When we say “Science,” we refer to the paradigm of the techno-scientific rationality, that is, the very heart of modern science. The ideal of modern science, as defined by Bacon and Descartes, was to succeed in imposing man as the lord and master of nature. It is an ideal of domination, appropriation, and exploitation that subjects nature to man. Modern reason was conceived in both the theoretical and practical planes. Being rational has become synonymous with analyzing, organizing,

manipulating, controlling, and determining the efficient and safe means, the most economical and productive means. In order to do this, it is necessary to organize the division of human labor in the most effective way. Instrumental reason defines the means to achieve a given end or goal. It is exclusively interested in instruments or tools and it calculates the most machine-like way to obtain our preselected goals.

We are so engrossed in our instrumental reasoning that we have become negligent of asking fundamental questions and looking beyond our immediate practical interest. We are so disinterested in “forward thinking” that the myth of Prometheus has lost its appeal to us – to our own peril. This sentiment is brilliantly captured in Franz Kafka’s concise rendering of the myth. According to Kafka’s “Prometheus,” there are four versions of the myth:

“According to the first, he was clamped to a rock in the Caucasus for betraying the secrets of the gods to men, and the gods sent eagles to feed on his liver, which was perpetually renewed.

According to the second, Prometheus, goaded by the pain of the tearing beaks, pressed himself deeper and deeper into the rock until he became one with it.

According to the third, his treachery was forgotten in the course of thousands of years, forgotten by the gods, the eagles, forgotten by himself.

According to the fourth, everyone grew weary of the meaningless affair. The gods grew weary, the eagles grew weary, the wound closed wearily.

There remained the inexplicable mass of rock. The legend tried to explain the inexplicable. As it came out of a substratum of truth it had in turn to end in the inexplicable.”¹

If we take this Kafkian stand toward the myth of Prometheus, if everything becomes “the inexplicable mass of rock,” it includes not only the Promethean foresight but also the abandonment of an ethical stance and, ultimately, the death of humanity. Goya’s warnings rings true: the sleep of reason produces monsters!

ARTs: Bioethics and its Promethean Challenge

We will now address a specific scenario that is nowadays in the eye of the storm for several reasons. This scenario could be defined as an emerging focal point for contemporary bioethics (Lima & Cicovacki, 2014). We would like to call it

¹ Quoted from Franz Kafka, *The Complete Stories*, trans. Willa and Edwin Muir (New York: Schocken Books, 1971), 432.

“reprogenetics.” The term was coined by Lee M. Silver, professor of molecular biology at Princeton University, who in 1997 published his book: *Remaking Eden: Cloning and Beyond in a Brave New World*. Briefly, reprogenetics is a term that refers to the connection of the assisted reproductive technologies with the genetic engineering. Symbolically speaking, we can say that reprogenetics is the name that condenses multiple perspectives and problems occurring in the present-day bioethics.

Before beginning with our consideration of what those perspectives and problems are, we would like to establish a terminological and conceptual distinction between eugenics (=selective breeding as a way of human improvement) and reprogenetics. Could it be argued that there is a connection between these two notions? If so, what has been the passage from the ideas contained in the modern term “eugenics” to the post-modern notion of “reprogenetics”?

We can remark that at the beginning of its use, the term eugenics was intimately related to a dark tradition which started with the atrocities perpetrated by Nazi doctors during the Second World War. The term eugenics has since then been associated with the Aryan ideal aiming at an “improvement of the race” via genetic manipulation, among other aberrations committed in pursuit of this irrational ideal. Nowadays, however, the reproductive techniques are also capable of creating those fundamental genetic modifications, but the ideal has changed. If a genetic manipulation is used at all, the ideal is to try preventing – if possible – the transmission of future diseases and thus serving the best interest of the newborns. The use of this new word reprogenetics – which may also include gene manipulations – could be suitable in an attempt to erase the negative association and the implications of the abuse of science contained in the word eugenics.

We consider this specific field of reprogenetics within applied ethics as a privileged scenario because it establishes a dialogue between (i) the recent scientific developments, (ii) the regulatory domain (or legal discourse), and (iii) the subjective (individual, personal) dimension. The field of reprogenetics launches us into a world of uncertainties through its mixture of different discourses, the power struggles, the super-sophisticated technical practices, and vastly diversified worldviews. It abolishes the conventional models of thought and behavior in some cases, and deeply modifies them in others, by promoting radical changes in the traditional forms of family planning and family structures.

We could begin by placing the developments in reprogenetics between the spheres of the technological possibilities and the concerns of individuals. Our main purpose

is to outline a few conflicting issues of the daily practice in order to clarify some central topics and offer our reflections with regard to them.

- How can the development of assisted reproductive technologies affect the demographic transitions? Sex selection techniques are available and in certain countries male offspring are desired in order to provide support to families. What would happen, then, if this kind of preference affects the natural sex distribution?
- Another issue to address is the impact of these technologies on the female body, for example in cases of surrogated motherhood, and also in cases of in-vitro fertilization (IVF). In the case of surrogate motherhood, which is nowadays usually not regulated, Croatia proposed a novel legislative solution which would under certain conditions allow: 1) the surrogate mother not obtaining a commercial or material benefit from the operation; and 2) the surrogate mother would have the choice of keeping the child at birth (Vidlička, Hrstić, Kirin, 2012).
- The post-mortem sperm retrieval is yet another controversial issue: What happens in cases of patients suffering brain death or those in the persistent vegetative state? Are there ethical reasons that support this practice when there is a valid prior consent? Are we considering the fundamental interests of a child?
- Ethical concerns in the pre-implantation genetic diagnosis. This scenario leads not only to the questions regarding embryo selection, but it also questions the validity of the human desire when the baby is made – or “manufactured” – with certain objectives.
- The last scenario we will address is the Intra-Cytoplasmic Sperm Injection (ICSI). This procedure enables that a single sperm be injected directly into an egg, in a medically controlled clinical environment, outside the uterus of the female. This medical fact can have major consequences on our reproductive techniques, for it produces extra-corporeal embryos. In the past it was impossible to conceive a baby without (outside) the female body. Today we still need a woman's body to carry the pregnancy, but the embryo is produced outside the body. When this happens, the embryo becomes equidistant to men and woman and it could become an object of quarrel if the couple separates, or if one of them dies. This technique also leads to the questions regarding the scope of sperm donation, the use of this treatment not only for dealing with infertility problems, but also for dealing with women and men who are single, or some homo-sexual couples which want to establish a family and have their own child.

Each of these points, which has been briefly outlined, will need to be discussed in detail in the future. Our intention here is to establish a pattern of relations between these scenarios, which include the public and the private spheres in need of state regulations. Just by having a look to this introductory scheme we could observe that the field of ARTs presents enormous controversies in the field of science, medicine, technology, ethics, and religion. Perhaps even more urgently, it raises the especially troubling concerns in the field of subjective choices and decisions.

Right to Identity and Legal Controversies in ARTs: The Case of the New Argentinean Civil Code

Argentina is in process of establishing a new Civil Code, which will come into force in January 2016. Some of the articles the new code includes present a revision of the old codes and practices – especially the ones related to the Family Law. Generally speaking, the changed code aims toward assigning more power and autonomy to an individual moral agent. In the last decade Argentina has developed a significant number of legislations aiming at expanding the area of human rights. To mention two examples, we can quote Law No. 26.862, dealing with the “comprehensive access to health care procedures and assisted reproductive technologies” (2013), Law No. 26.618, concerning “equal marriages” (2010), and Law No. 26.743 (2012), dealing with gender identity. These laws represent a significant step forward in liberating our attitudes toward sexual identity and the scope of family models.

Another important step forward consists in a clear legal differentiation – for the cases of ARTs – between the two stages of the process: conception and implantation. Although the status of embryos has not yet been regulated, Argentina is in the processes of drafting a special legislation concerning embryos, which will help to clarify their status, at least in the legal sphere. Lawyers specializing in family legislation recommended that we should understand these modifications of the legal discourse as a whole (the specific legislation of ARTs and the new outlines of the Civil Code 2016) in accordance with the recent international regulations, for example the Universal Declaration of Bioethics and Human Rights (UNESCO, 2005).² These new legislations would enable people to establish a family in (so to say) their own terms. In the future, every society will have to discuss the subjective and social implications of these procedures.

² Universal Declaration on Bioethics and Human Rights, UNESCO, 2005, Article 16, Protecting Future Generations: *The impact of life sciences on future generations, including their genetic constitution, should be given due regard.*” Despite its brevity, this legal proposition presents the heart of the problem, dealing with how genetic manipulation could affect the symbolic development of the human species if the ethical concerns are not taken into account.

There are still many concerns about the outcomes of the new technological developments that need to be regulated and the new practices that are only available because of those technological and scientific developments, but are still regarded as controversial in our societies. For example, after a cycle of an in-vitro fertilization, there are leftover embryos. The process of the embryo cryopreservation is useful for the embryo donation to another person. Vitrification is a very promising cryopreservation method. These new technical possibilities, such as vitrification, enable the conservation of embryos for an almost indefinite period of time, and that is why their preservation has to be legally regulated. What is going to be the destination of the leftover embryos and for how long should they be conserved? The problem that arises in this particular scenario is that as these techniques are relatively new and still experimental, we still do not have many adults born through vitrified embryos to prove the reliability of this method.

All of this suggests that we will have to deal with complex debates in the near future. One of the issues that interest us now is how to consider the dynamic relation between the parenthood and the procreational will. How should we understand the relation of filiation in cases of the assisted reproductive technologies? First, we would like to explore the dialectical tension between the Right to Identity and the Right to Privacy (or confidentiality of the donor in cases of heterologous fertilization). There are several topics to address. One is that the cases of sperm or egg donation involve a “third party reproduction”; and while some countries sustain the anonymity of the donor, in others the law requires their non-anonymity. There is also a possibility of what can be called a “semi-anonymity,” in which the donor may provide personal and medical information but not the identification data. (The new Argentinean Civil Code will privilege this last possibility, but it will be flexible with regard to the other options as well.)

As we have indicated before, this issue is deeply related to one critical topic of growing significance: that of (personal) identity. We will have to discuss what we understand by the Right to Identity in cases of children born through the ARTs with a donor (sperm or egg donation of a “third party”). This possibility provides a novel way of filiation, in comparison to those already outlined in the civil code: a “natural” filiation versus a legal form of adoption. We can now add a third form of filiation – of children born through ARTs. These questions of identity through heterologous fertilization certainly bring challenging concerns. Would it be desirable to define personal identity as a bio-psycho-social notion? This means that we must consider different aspects that are the components of an integral notion of the person’s identity. To address this issue, some lawyers specializing in the area of family

law suggest the differentiation of three types of identity for the cases we are analyzing (Herrera, 2014):

- 1) Genetic identity: when there is a donor or a “third party”;
- 2) Biological identity: defined for the union woman-baby; and
- 3) Volitive identity.

Let us clarify this a bit by considering one example: a heterosexual couple needs a sperm donation. In this case the “genetic identity” is provided by the donor and it is the only thing that relates the child to the third party. By contrast, the “biological identity” relates the child to the mother who provided the egg, who gestated it for nine months, and who gave birth to the child – there is a complex “*bios*” relationship between them. How about the father of the child? The mother’s husband is the one who wants to become a father (volitive identity) and therefore assumes all the rights and responsibilities for the child, but he need not be either a genetic or a biological father.

It is also very interesting to consider the procreational will as a filiatory fact. In this case the father is a man who wants to become a father. Thus, there is no longer a bond to the genetic or biological dispositions, but the relationship is entirely based on the procreational will. Of course, this proposition does not solve all of the problems. There is a strong tension between the Right to Identity (if we understand it in the sense that every human being has the right, but not the obligation, to know his or her genetic background) and the Right to Privacy and Confidentiality (that guarantees no disclosure of the donor identification information). We could argue that in those cases it would be desirable to implement the Principle of Proportionality, assumed when the fundamental rights come into conflict. But, once again, the complexity of such situations exceeds our referential frameworks and calls for further reflection and discussion. They call for further re-thinking of how the natural (life, *bios*) and the ethical realms are related and should be related. Should nature guide ethics, or should it be the other way around? Or is there a possibility of a harmonious interaction of both elements, one worthy of this compound and ambitious name: bio-ethics?

While the legislative approach can give us a perspective on the complexity of the issues under analysis, it does not suffice to solve all open questions in this new field. That is why we try to review these scenarios that combine medical problems associated with legal complexities, by focusing on the ethical-subjective dimension in order to discern whether the technological impact will produce a symbolic transformation over human subjectivity, and whether it would affect the most internal aspect of our human condition. This inquiry issues a strong appeal to the significance of ethical reflection, not only from the position of the “decision maker”

but from the subjective positioning of all the actors involved; such ethical reflection should be treated as an unavoidable dimension concerning the scope of our scientific and clinical analysis.

Accepting that ARTs constitutes a new form of filiation generates yet another type of concern. What we considered above was the current debate regarding the anonymity versus non-anonymity in cases of the gamete (egg or sperm) donation, the procedure known as “heterologous fertilization.” We would like to come back to this point because of its importance in the subjective constitution of children to be born, the consequences regarding this “third party” involvement in the procedure through the contribute of his/her genetic material, and the implications of the Right to Identity versus Right to Privacy of the donor.

This dialectical constellation raises a fundamental question: Is it necessary to know that a person has been conceived by means of a gamete donation? Is this relevant for our identity? And if so, when it is appropriate to reveal that information? At what age? According to the psychoanalytic theory, our origin is an “empty space” for the subjectivity constitution. This means that this empty space must be necessarily filled by a narrative account, which establishes a fictional order of development necessary for and constitutive of the symbolic dimension of human subjectivity and personal identity. Of course, this has nothing to do with the biology of our genes, and that is why, following the legal normative, the father is the one who wants to be a father (volitive dimension of the procreational will) and not the man who contributes the sperm (the donor) with whom the child has just a genetic compatibility.

Thus, the question of paternity clearly goes beyond the dyads “true-false” and “legitimate-illegitimate” and cannot be reduced either to the technological or to the biological considerations. Has our contemporary science extinguished the old axiom: *pater semper incertus, sed mater est certissima* (the father is always uncertain, but the mother is most certain)? Or does it assume that, with regard to the origin, there is strictly speaking nothing new to be said?

Speaking from this point of view, the truth about the origin remains an enigma, and that is why it needs to be addressed through a narrative-fictional dimension. Paul Ricoeur named this perspective a “*narrative identity*”: beyond the biological determination, our filiation is built on a narrative guided by the desire to know our origin and thus our identity (Ricoeur 1991).

In his famous axiom, Lacan settles the need for a non-anonymous and singular desire for the irreducibility order of transmission (Lacan 1973). This connection to desire can be understood in two ways: the desire that precedes me and the desire to desire that consolidate this relationship. This procedure builds the symbolic order of

filiation for human beings; we will have to evaluate in the future if the developments of this scientific breakthrough (now called ARTS) can put at risk the symbolic dispositions that are the foundations of human subjectivity and personal identity.

Conclusion

The goal of our paper consists more in asking difficult questions and contextualizing them within our Western tradition, than in offering definitive answers to them. We have taken the ancient myth of Prometheus as a guiding force and a double-edge symbol of our scientific progress that so often – too often – leads to unforeseen and undesirable consequences. As much as it is important for all scientists – and especially those working at the very frontiers of sciences, such as rerogenetics – to exercise Epimetheus's gift of the afterthought, we would also need the help of his brother's gift of forethought, which we must learn to exercise to the best of our abilities with regard to the directions and implications of new scientific breakthroughs. The frontiers of science must be constantly rethought and reevaluated, and the excitement of new discoveries must be accompanied by ethically sound appraisals. As we could see what happened with the development of the atomic energy, and as Francisco Goya so wisely forewarned, the sleep of reason produces monsters.

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Suvremena bioetika: prometejski izazovi reprogenetike

SAŽETAK

Suvremena bioetika predstavlja velike izazove u nekoliko područja znanja. Sve više rastuća tehnološka moć utjecanja na prirodne stvari (uključujući ljudsku prirodu) zahtijeva povećanu etičku svjesnost i razmatranje. Kako ćemo odgovoriti na ove zahtjeve? Naš prijedlog za rješavanje ovog složenog problema je podsjećanje na jedan od mitova zapadne civilizacije, onaj o Prometeju. Među brojnim varijacijama ovog mita, u prvom dijelu rada obrađujemo Goetheovu pjesmu „Prometej“ (1772), roman Mary Shelley „Frankenstein“ (1818), te kratku priču Franza Kafke „Prometej“ (1918). Razumijevanje ovog mita pomoći će nam u sužavanju *pathosa* uključenog u trenutne bioetičke dileme i dati nam priliku promišljanja o opsegu ljudskih aktivnosti u polju nedavnih znanstvenih dostignuća. U drugom dijelu rada razmatramo implikacije kreativne moći u procesima potpomognute oplodnje koji predstavljaju postmodernu verziju prometejskog izazova. Brz razvoj reprogenetike otvara važna pitanja o razvoju našeg ljudskog stanja i eroziji temelja tradicionalnog obiteljskog modela. Analizom pojedinih scenarija, u kojima se miješaju znanost, pravo i etika, na kraju podsjećamo i na grafiku španjolskog slikara Francisca Goye „The Sleep of Reason Produces Monsters“ (1799). Simbolizam je u Goyinoj grafici mnogostruk, ali istražujemo onaj dio koji se najviše može povezati sa složenim odnosom bioetike i biopolitike.

Ključne riječi: potpomognuta oplodnja, Prometej, bioetika, biopolitika, reprogenetika