PROMETHEUS UNVEILED IN EPIMETHEUS: THE TENSION BETWEEN TECHNOSCIENTIFIC DEVELOPMENT AND HUMAN RIGHTS PROTECTION[1]

O PROMETEU REVELADO EM EPIMETEU OU QUANDO O CAMINHAR DA TECNOCIÊNCIA DESCONHECE DIREITOS HUMANOS

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Abstract

This study examines the relationship between the accelerated process of technological development and its resulting consequences, which ultimately interfere with the structure of the rights to liberty and equality—historical achievements of humanity. It focuses on the detrimental effects of technological progress when directed exclusively toward the enhancement of technology itself and the pursuit of profit, to the detriment of reverence for and respect for the human person, as well as the ideals of equality, fraternity, and solidarity proclaimed in the 1948 Universal Declaration of Human Rights.

The article highlights the relevance of these ideals, which are likewise enshrined in the current Brazilian Constitution, and emphasizes the need for their effective implementation in the pursuit of a more just and solidaristic society. At the same time, it draws attention to the risks arising from their marginalization in the name of an alleged model of development. The research adopts a descriptive approach, employing a dialectical methodology applied to a bibliographical review to promote a critical dialogue among the selected scholars. It concludes that any technological development initiative must, prima facie, be grounded in full respect for human dignity as a fundamental and non-negotiable principle.

Keywords: *Technological Development; Liberty; Equality; Social Transformation.*

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1 INTRODUCTION

When considering historical development and the ethical standards characteristic of each era, it becomes evident that human beings are constructed through a process of progression, and that both their fulfillment and the transformation of the values of the societies to which they belong occur dialectically through the overcoming of essential contradictions, namely, good and evil, justice and injustice, right and wrong. Such a discussion invites a reconsideration of long-established concepts and purportedly absolute truths. Indeed, the fabric of human existence is woven from contradictions and oppositions, ruptures and resistances, and actions lacking support from an ethical framework consistent with their time that do not, in themselves, halt the course of history.

Law must not be conflated with justice; rather, it historically materializes ethical values through institutions of power. For this reason, it is necessary to revisit the past in order to reassess the paradigms of the present. In doing so, an important question emerges: can it truly be said that the rights to equality and liberty are respected today when technological development has assumed the role of a sovereign force within complex societies? Throughout this essay, the authors seek, through the contributions of both national and international scholars, to examine the extent to which this question may be answered in the affirmative or the negative.

With the remarkable advancement of new technologies, humanity entered a period in which certain sectors began to perceive themselves as capable of reaching new horizons and occupying previously unimaginable spaces. The emergence of rapid technological progress granted some individuals and groups greater autonomy and power over others, generating social transformations in which disregard for the Other frequently became a normalized condition.

A review of the historical formation of societies reveals a form of globalization which, while breaking down barriers and establishing new paradigms, simultaneously intensifies the exploitation and subordination of the most vulnerable. It is important to note that this process has often been justified in the name of "evolution" and "progress," without any observable commitment to shaping individuals genuinely concerned with the fullest protection of human rights.

As previously argued:

> *While the exaltation of the human being as a subject of power constitutes the foundation of equality of rights among citizens, regardless of noble or clerical status, it paradoxically also promotes the annihilation of subjectivity. Indeed, a supposedly universal legal knowledge was established on the assumption that neutral subjects of knowledge could exist independently of time and space. This process ultimately gave rise to waves of exacerbated rationalism and an excessively Cartesian worldview, in which reality becomes fragmented into isolated objects of analysis that do not necessarily reflect the whole (HOGEMANN, 2016, p. 1,788).*

Against this backdrop, the present study proposes a reflection on the need for individuals to become more critical and self-aware regarding the roles they assume

within society, thereby fostering an ethical commitment capable of safeguarding fundamental human rights, rights that have been historically constructed through struggles against oppression and in defense of new forms of freedom. Such reflection becomes particularly urgent considering the extraordinary advances made possible by technological development, which, on the one hand, provide humanity with unprecedented conveniences and opportunities, but, on the other, generate consequences that may prove deeply harmful and even threaten human survival on the planet.

This study focuses on the potentially harmful effects arising from technological progress when directed solely toward the improvement of techniques themselves and the pursuit of profit as an end, to the detriment of respect for the human person and the ideals painstakingly achieved and enshrined in the 1948 Universal Declaration of Human Rights. These ideals are likewise echoed in the 1988 Brazilian Federal Constitution and point toward the collective commitment to building a more just and solidaristic society, one in which technological development is harmonized with respect for living beings and the environment. To illustrate this argument, the article employs the metaphorical figure of Prometheus and the Greek myth of the creation of humankind, interpreted through the concept of *hybris*.

To achieve its objectives, the study adopts a qualitative approach based on formal and immediate research sources. From the perspective of data collection, the research is bibliographical in nature. It is a descriptive study that employs a dialectical methodology applied to a review of the relevant literature, seeking to promote a dialogue among the selected scholars. The analysis ultimately concludes that any endeavor involving technological development must be grounded in unconditional respect for human dignity. Any purpose that departs from this foundational premise risks becoming a mechanism of oppression against the most vulnerable members of society.

2 THE PROMETHEAN MYTH AND THE RIGHTS OF FREEDOM

In the myth of the creation of humankind, narrated by *Protagoras* in Plato's dialogue bearing the same name, the drawbacks of technological development unaccompanied by corresponding ethical progress capable of ensuring respect for individual rights are vividly illustrated. There can be no genuine notion of progress without an ethical social transformation capable of accompanying such change.

According to the mythological account, when the time came for the creation of living beings, Zeus entrusted the Titan Prometheus (*pro* = before; *metheus* = foresight, "the one who knows beforehand") with the task of distributing gifts and mechanisms of defense among all creatures, including human beings—who, according to the myth, had been fashioned from clay, earth, and their own tears[3].

[3] The analogy between the words corresponding to earth (from the Latin humus) and human being is a recurrent one throughout the history of ideas. The ancient Greeks believed that a divine and immortal spark permeated and penetrated the generative earth from which life emerged. Accordingly, numerous symbolic

Occupied with this responsibility, Prometheus yielded to the request of his brother Epimetheus, who insisted on carrying out the task himself. Epimetheus ("the one who acts without forethought") proceeded recklessly: claws, sharp fangs, strength, agility, acute vision and hearing, extraordinary sense of smell, powers of metamorphosis, burrowing abilities, flight, hides and scales, colorful feathers, shells, gills, and countless other attributes were distributed indiscriminately among the animals.

When Epimetheus completed his task, however, he realized that he had forgotten the human species, leaving human beings to be born as mere featherless bipeds—naked, fragile, and defenseless. Foreseeing the annihilation of his creation, Prometheus, despite Zeus's previous refusal of a similar request, decided to ascend Mount Olympus and steal from Hephaestus and Athena the arts and techniques of survival, namely, the inventive capacity to create the means necessary for existence, a quality previously reserved for the gods. Prometheus thus appropriated the divine fire, symbolizing knowledge, and bestowed it upon humankind, ensuring its superiority over the other animals. In response, Zeus soon sent Pandora as punishment.

Human progress, therefore, is attributed to the capacity of individuals to gather around the warmth of fire and engage in social interaction. Through this process emerged and were shared language, numeracy, astronomy, collective memory, and moral practices. Human beings learned to cook, weave, produce pottery and bricks, build houses, and smelt metals. The land began to be cultivated and farmed for the sustenance of all. Yet despite possessing intelligence, autonomy of will, ingenuity, courage, and many other virtues, human beings remained miserable because harmonious coexistence among them had not yet been achieved.

Moved by compassion for the plight of humanity, whose inability to live harmoniously with one another and whose excesses (*hybris*) threatened either self-destruction or an even more catastrophic fate (would Prometheus' prophecy eventually come true?), Zeus assigned Hermes the task of distributing equally among all men and women the virtues of modesty and respect (*aidós*) and justice (*diké*). Zeus further decreed that those who lacked these qualities, by placing themselves in opposition to the unifying principle of society, should be put to death. What this herald of human rights sought to guarantee was the dignity of freedom.

This celebrated myth brilliantly illustrates the systemic reality underlying social structures: the connection between technique, political ideals, and institutions, and the eminent role of ethics as a condition for the preservation of life on Earth (COMPARATO, 2016, p. 37). It highlights the importance of ethical conduct in the pursuit of economic growth, emphasizing that the human person must always be preserved in the fullness of his or her complexity and dignity.

explanations have been offered regarding the evolutionary history of humankind. In the Judeo-Christian tradition, God is the sole and supreme creator of humanity; in Greek pagan mythology, however, Prometheus assumes the role of creator and benefactor of the human race.

When tracing a historical trajectory aimed at better understanding the relationship between human rights and ethical-social development, one can identify, at the end of the European Middle Ages, the emergence of a new historical era marked by distinctive characteristics, including the rejection of the old world order, which had been grounded in religious dogma and traditional wisdom as guiding principles of ethical life.

For the first time, the individual acquired a degree of autonomy that had previously been denied. With the accelerated accumulation of scientific knowledge and technological expertise, humanity came to affirm itself proudly as the "master and possessor of nature" (COMPARATO, 2016, p. 157).

Human beings thus began to structure their conduct according to values and concepts that generated conflicts within the sphere of ethical life. Debates emerged concerning individual freedom and the rights of persons vis-à-vis both other individuals and the State. Niccolò Machiavelli (1469–1527) introduced the first major rupture within the traditional ethical system, whose foundational premises had united religion, morality, and law.

Indeed, modernity inaugurated a new conception of society, the result of a long intellectual process rooted in cultural, philosophical, social, and historical developments dating back to Antiquity and gaining momentum at the close of the Middle Ages. This new conception understood the political community as a society founded upon a contractual basis, resulting from the experience and cultural endeavors of rational individuals exercising their autonomy through voluntary agreement.

Both the cause and consequence of this transformation lay in the emergence of the individual as a subject endowed with autonomy and subjectivity, surpassing the dominant conceptions of Classical Antiquity and the Christian Middle Ages, which were centered, respectively, upon the *polis* and the "universal Church." The notion of the person as the fundamental value underlying an entire ethical-legal framework became firmly established only through the convergence of ancient philosophies, particularly the Stoic tradition, and an emerging Christian theology.

Human rights emerged within modern political discourse as a necessary presupposition for the autonomy of individuals in relation to the State, especially in opposition to the authority of absolutist governments in Europe undergoing capitalist expansion. The modern liberal ideology embodied in the great declarations of rights was grounded in the doctrine of natural rights as formulated by social contract theory and justified by the rational nature of the human being, serving the broader liberal and bourgeois political project.

This rationality renders the individual both master and owner of oneself (*jus in se ipsum*), as well as of one's choices. For this reason, preventing an individual from freely exercising would constitute a form of violence. Since natural rights derive from the hypothesis, whether real or imagined, of a pre-social state of nature, their foundational anthropological conception is that of an individual who exists and subsists independently. Within this framework, society ceases to be understood as the locus of human fulfillment, and alterity becomes a merely formal notion, if not an inconvenient one.

From this context emerged numerous thinkers who brought forward their reflections on what the rights of human beings should entail and how such rights might be realized. A fundamental question soon arose: should these rights belong to all individuals or only to a select segment of society? Across different political systems and forms of government, these debates have consistently revolved around considerations of the rights to liberty and equality.

Liberty was the first value championed by the French Revolution, in contrast to the ancient conception of liberty, which corresponded to the political freedom enjoyed by the citizens of Athens, free men, as opposed to slaves, women, *metics*, and children[4]. This status enabled them to participate in deliberations and decision-making concerning the organization of civic life; in other words, they possessed the right to participate in public affairs. Consequently, the idea of liberty was intrinsically linked to the notion of the common good and the collective well-being of the community.

During the Modern Age, however, a new understanding emerged according to which individual well-being was no longer necessarily tied to the well-being of the community. The concept of liberty as independence was born, closely associated with the rise of individualism. As a result, the modern era witnessed the development of freedoms of conscience, expression, association, assembly, and related civil liberties.

From the perspective of this modern conception of liberty, the philosopher Adela Cortina (2005, p. 184) observes: "To understand 'freedom' exclusively as this type of independence gives rise to a selfish individualism, to the entrenched defense of individuals closed within their own interests." She further argues: "Therefore, although freedom as independence is a highly valued and indispensable good, education must urgently convey, both cognitively and emotionally, something as obvious as the fact that such freedom cannot be sustained without solidarity" (CORTINA, 2005, pp. 184–185).

In the eighteenth century, with the advent of the Enlightenment, a third conception of liberty emerged. As Comparato (2015, p. 77) explains: "The core of the axiological principle of liberty is the idea of autonomy, that is, the submission of everyone to norms established by oneself. A free society is one that abides by laws that it has itself enacted".

Nevertheless, it is essential to understand the concept of autonomy correctly because, at first glance, "giving oneself one's own laws" may appear to mean merely "doing whatever one pleases," a notion that is far removed from its true meaning (CORTINA, 2005, p. 185). According to Cortina, achieving freedom as autonomy requires cultivation and learning, precisely because autonomy constitutes one of

[4] "Within the human species, there are individuals as inferior to others as the body is to the soul, or the beast to man; these are the persons from whom the best that can be obtained is the use of physical strength. According to our principles, such individuals are destined by nature for slavery, for nothing is easier for them than obedience. Such is the natural slave: he may belong to another (and indeed does belong to another), and he possesses reason only to the extent necessary to perceive it vaguely; he does not possess reason in its fullness." (ARISTOTLE, 2016, p. 18).

humanity's most valuable achievements. Consequently, autonomy must respect the limits imposed by morality of choice.

As Hogemann (2013, p. 64) observes:

> *"The term autonomy has been employed with an infinite variety of meanings by different ethical schools. Despite allowing for different interpretations of the concept, contemporary moral philosophy generally agrees that two conditions are necessary for its exercise. First, the condition of freedom, understood as a relationship of independence from any form of control, viewed not as a closed concept or absolute self-determination, but as a question permanently open to determining the appropriate measure, condition, or morality of choice capable of guaranteeing it. Second, the personal capacity to act intentionally, that is, to act responsibly".*

Therefore, autonomy cannot be understood simply as a free choice detached from responsibility and respect for others. Rather, it must be interpreted in accordance with those normative and ethical principles that confer meaning upon human dignity. Only under such conditions can autonomy function as a genuine expression of liberty and as a foundation for the realization of fundamental human rights.

3 THE PRINCIPLE OF EQUAL HUMAN DIGNITY

The Universal Declaration of Human Rights of 1948 adopted a set of foundational principles, notably enshrined in Article 1, which states that "All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood," and in Article 6, according to which "Everyone has the right to recognition everywhere as a person before the law." These provisions constitute sovereign principles in the field of human rights.

It is precisely based on this fundamental principle, the preeminence of the human being as the source of all values, that contemporary ethical and legal questions arising from incessant technological progress may be properly assessed (COMPARATO, 2016, p. 243).

It was during the Axial Age of history[5] that the notion of essential equality among all human beings first emerged. Nevertheless, twenty-five centuries elapsed before the Universal Declaration of Human Rights formally proclaimed this principle (COMPARATO, 2015, p. 24).

[5] "In an interpretation that Arnold Toynbee regarded as illuminating, Karl Jaspers argued that the entire course of human history could be divided into two major stages, centered upon a particular epoch occurring between the seventh and second centuries BCE, which would constitute, so to speak, the historical axis of humanity. Hence his designation of this period as the Axial Age (*Achsenzeit*). Between 600 and 480 BCE, some of the greatest thinkers of all time coexisted, although without communication among themselves: Zarathustra in Persia, Buddha in India, Laozi and Confucius in China, Pythagoras in Greece, and *Deutero-Isaiah* in Israel. Each of them, in his own way, articulated worldviews from which a great historical divide emerged: earlier mythological explanations were abandoned, and the subsequent course of history became a long unfolding of the ideas and principles advanced during this period." (COMPARATO, 2006, p. 38).

In a reflection of fundamental importance concerning the principle of equality as a criterion of the nation-state and the condition of stateless people, Hannah Arendt, as interpreted by Celso Lafer, formulated a crucial conclusion with respect to human rights. According to Arendt, it is not strictly true that "all human beings are born free and equal in dignity and rights," as proclaimed in Article 1 of the 1948 Universal Declaration of Human Rights. Similar formulations may also be found in Article 1 of the Virginia Declaration of Rights (1776) and Article 1 of the French Declaration of the Rights of Man and of the Citizen (1789). Human beings, she argues, are not born equal; rather, they become equal as members of a political community through a collective decision that guarantees equal rights to all.

For Arendt, equality is not a given fact, it is neither *physis* nor the result of a transcendent absolute external to the political community. Rather, it is a social and political construction, conventionally elaborated through the collective action of human beings within organized society (LAFER, 2009, p. 150).

From the perspective of the principle of equality, the revolutions of the late eighteenth century played a decisive role in abolishing estate-based privileges and establishing formal equality before the law. A new social order emerged, no longer divided into estates but instead structured around social classes.

The great Enlightenment thinkers, who viewed positive science as a means of liberating humanity from the burdens of tradition, religion, and custom, ultimately contributed, despite their noble aspirations, to new forms of domination. The positivist dogmas of scientism and absolute scientific neutrality asserted that scientific knowledge expresses absolute and unquestionable truths and therefore constitutes the highest and most valid form of knowledge. Furthermore, the scientist was assumed to be entirely ideologically neutral in relation to the object of inquiry. Consequently, the ideals of equality were significantly compromised.

As Thompson (1990, p. 141) observes:

> *"What human beings seek to learn from nature is how to use it in order to dominate it more completely and to dominate other human beings. This is the sole purpose. Enlightenment itself has mercilessly extinguished every trace of its own self-consciousness. As the pursuit of scientific knowledge became coupled with the expansion of bourgeois commodity production, human beings increasingly became appendages of the machine that turns and crushes without ceasing."*

Although the bourgeois public sphere was, in principle, open to all private individuals, it remained restricted to a limited segment of the population. The effective criteria for participation in public debate were property ownership and education. Once again, privilege was concentrated in the hands of a particular social group. As Comparato (2015, p. 78) notes: "Bourgeois civilization clearly separated, as the young Marx observed, the rights of man from the rights of the citizen, conceiving the former as boundary markers between two territories belonging to distinct proprietors."

To correct and overcome the individualism characteristic of bourgeois civilization—founded upon private liberties and formal equality, the socialist

movement, beginning in the nineteenth century, introduced the principle of solidarity as a legal duty.

Based on solidarity, the so-called social rights came to be recognized as human rights. These rights are realized through public policies aimed at guaranteeing social protection and assistance to the most vulnerable and disadvantaged members of society, those who lack the means necessary to live with dignity. Social rights encompass, on the one hand, the right to work and the various rights of wage earners and, on the other hand, the rights to social security, healthcare, education, and social assistance. More broadly, as stated in Article 11 of the 1966 International Covenant on Economic, Social and Cultural Rights, they include: "the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions" (COMPARATO, 2015, p. 79).

The value of equality, proclaimed by the French Revolution, has acquired different meanings over time, including the notion of equality of opportunity, according to which societies undertake to compensate for natural and social inequalities of birth so that all individuals may have access to desirable social positions.

Nevertheless, all these conceptions of equality, whether political, legal, or economic, rest upon a deeper foundation: the recognition that all people are equal in dignity and therefore deserve equal consideration and respect. The principle of equal human dignity, rooted in both religious and philosophical traditions, imposes profound obligations upon societies and educators alike. It requires societies not only to guarantee equality before the law and equality of opportunity, but also to protect the "second-generation human rights" associated with social citizenship, insofar as these constitute moral requirements indispensable to the development of the human person (CORTINA, 2005, p. 187).

The principle of human dignity presupposes a quality inherent in every individual by virtue of their humanity: dignity itself. Consequently, the principle of human dignity necessarily encompasses the principle of equal dignity. All human beings are equally dignified.

As Canotilho (2012, p. 176) emphasizes:

> *"The fundamental principle now mobilized to structure an entire system of values (die Basis für ein ganzes Wertsystem) is the dignity of the human person (Menschenwürde). Only this idea can guarantee and secure the political conditions of peace, freedom, and equality".*

This raises a question that continues to provoke profound reflection: how can human beings be regarded as masters of their own destiny when they lack the conditions necessary to make their own choices? Is it possible to speak meaningfully of liberty where equality in dignity is not recognized?

Liberty presupposes equality. Consequently, technological development must always remain aligned with the principle of human dignity and with respect for the

complexity of human life. The foremost responsibility of public authorities is to ensure such protection, safeguarding technological progress from becoming a source of exclusion, domination, or dehumanization.

In this regard, the following observation is particularly noteworthy:

> *"Today, instead of generating benefits for the community, the industrial property system fosters the concentration of economic power, with little or no dissemination of technology. On the one hand, a significant portion of technological advances is kept secret under the regime of know-how. On the other hand, technological research requires increasingly substantial investments, which only public authorities and large business conglomerates can make. However, guided by the logic of profitability rather than collective service, such investments are undertaken increasingly at the initiative and in the exclusive interest of corporations, with the objective of market domination. Even when carried out by the State, these investments ultimately benefit, almost exclusively, large enterprises." (COMPARATO, 2016, p. 574).*

To cultivate individuals capable of critically analyzing the social reality in which they are embedded, it is essential to encourage critical thinking, stimulate questioning, foster debate, and promote the interdisciplinary examination of social phenomena. A democratic society must remain attentive to the organization and regulation of the means of communication. Public debate on matters of collective interest should be regarded as a fundamental ally in society's efforts to balance and scrutinize the influence of powerful economic interests.

As Comparato (2016, p. 245) aptly observes:

> *"This means, quite obviously, that true education is moral rather than technical in nature. Education is concerned with the only purpose that truly matters: the harmonious development of all human capacities. Mere instruction, by contrast, concerns itself with means and instruments. Diverted from its higher purpose, it may create automatons, but never citizens and free human beings."*

Accordingly, the democratization of mass communication constitutes a *sine qua non* condition for the effective exercise of popular sovereignty in contemporary societies (COMPARATO, 2016, p. 575). In a similar vein, Bobbio (2004, p. 70) argues that: "The sphere of rights related to liberty has been transformed and expanded in response to technological innovations in the transmission and dissemination of ideas and images, as well as to the potential abuses that may result from such innovations".

The emancipatory potential of communication lies in its capacity to convey values, and values presuppose freedom of choice while simultaneously generating duties of conduct and fostering a sense of responsibility. Absent such ethical foundations, technological and communicative advances risk intensifying social inequality and exacerbating conflicts among individuals, while also contributing to economic disorder generated by disparities among formally equal persons. It is therefore imperative to strengthen the ethical responsibility of every individual so

that social and technological transformations do not become mechanisms of oppression against those who are most vulnerable and least advantaged.

4 TECHNOLOGICAL PROGRESS AND STRUCTURES OF POWER

As Bobbio (2004, p. 209) explains, the political relationship *par excellence* is a relationship between power and freedom. According to the author, there is a close correlation between the two: the more extensive the power exercised by one subject within a given relationship, the more the freedom of the other tends to diminish, and vice versa.

It is therefore legitimate to argue that, throughout history, the demand for new rights has often emerged as a form of resistance by the people against those who hold power. Historical experience demonstrates that the struggle for human rights has, at different times, confronted religious, political, and economic powers, each exercising its influence according to the circumstances of a given era.

Technological knowledge, however, is not merely a condition for the development of systems of social organization; it is also one of the principal instruments through which power is exercised (COMPARATO, 2016, p. 31). The use of technological advancement as a resource of power emerged prominently in Europe and is widely regarded as one of the defining features distinguishing the modern age from antiquity. As Bobbio observes, "since Bacon declared that knowledge is power, humanity has traveled a long road" (BOBBIO, 2004, p. 210).

Within Bobbio's framework, the so-called new-generation rights may be conceptually understood as rights that arise in response to dangers generated by technological progress itself. In other words, technological development unaccompanied by a corresponding ethical advancement constitutes a threat to the rights to life, liberty, and security. Bobbio illustrates this point with three paradigmatic examples:

> *"Three examples suffice to illustrate the central issues currently under debate: the right to live in an unpolluted environment, from which ecological movements emerged and profoundly affected political life both within states and in the international system; the right to privacy, which is seriously threatened by the ability of public authorities to store all data relating to a person's life and thereby monitor behavior without the individual's awareness; and finally, the right that is currently generating debates within international organizations and will likely produce the most intense conflicts between opposing conceptions of human nature: the right to the integrity of one's genetic heritage, which goes far beyond the right to physical integrity already recognized in Articles 2 and 3 of the European Convention on Human Rights." (BOBBIO, 2004, p. 210).*

At the end of 2013, the United States became embroiled in a major controversy involving the collection of citizens' data through telephone records and internet service providers. The United States Foreign Intelligence Surveillance Court (FISC), the body responsible for overseeing surveillance activities, upheld as lawful the practice of the National Security Agency (NSA) of collecting telephone metadata

on a massive scale. The court concluded that no fundamental rights had been violated, reasoning that each individual call record was potentially relevant to the country's efforts to combat terrorism and could therefore lawfully be gathered in bulk by intelligence agencies.

In a Message for the 1999 World Day of Peace, the Pontifical Council *Justice and Peace* emphasized that technological development, although undoubtedly an ally of humanity, by facilitating labor, enhancing efficiency, accelerating processes, and increasing productivity, also increases the quantity and quality of the products of human work. Nevertheless, the Council warned that this ally may, in certain circumstances, become an adversary. Such situations arise when mechanization removes opportunities for personal fulfillment, creativity, and responsibility; when technological innovation displaces workers; or when the glorification of machines reduces human beings to the status of their servants.

Particularly relevant in this context is the distinction between technology and ethics articulated by Comparato: "Technology is guided exclusively by the value of utility or the efficiency of the means employed to produce a result, whereas ethics emphasizes the ultimate purpose pursued by the agent and the value of that purpose in relation to other persons and to the community as a whole." (COMPARATO, 2016, p. 504). This author further explains: "Here lies the specific difference between an ethical norm and a technical rule. The latter concerns the means suitable for achieving a given result. Yet the result desired by the agent may, objectively, be either beneficial or harmful to other individuals or to society at large."

Technological advancement thus has the potential to destabilize the ethical foundations of society, since "mere utility and the capacity to produce any result technically tend to become the new deity worshipped throughout the world" (COMPARATO, 2016, p. 34). At the same time, technology profoundly transforms the ways in which power is exercised over both nature and society.

As Comparato (2016, p. 581) observes:

> *"The Chorus, however, is not dazzled by contemplation of this extraordinary gift which, according to the myth of Prometheus, is of divine origin. It concludes its reflection by reminding us that, although human beings possess a technical ingenuity that surpasses all expectations, they remain free to employ it either for good or for evil."*

From this perspective, one may infer that so-called "development," when divorced from respect for the human person, may itself become a new form of oppression. Those who control the means of technological creation frequently retain power over entire categories of individuals. As Young defines it, an "oppressed group" is a group that shares physical, cultural, or economic characteristics and is subjected to the economic, political, and social advantages enjoyed by a privileged group through institutional arrangements that perpetuate exploitation, marginalization, impoverishment, deprivation, or vulnerability to violence (YOUNG, 2006, apud LOURENÇO, 2008, p. 288).

Accordingly, technological development cannot be assessed solely through the lenses of efficiency, innovation, or economic growth. It must also be evaluated considering its consequences for human dignity, equality, freedom, and social justice. Otherwise, technological progress risks becoming merely another mechanism for reproducing asymmetries of power and deepening structures of exclusion that human rights seek to overcome.

> *The last two centuries have provided the most compelling historical illustration of this profound truth. Humanity has definitively become the "master and possessor of nature," including its own nature, through the acquisition of the power to manipulate genetic heritage. Simultaneously, however, through the astonishing accumulation of technological power, human ingenuity has never before been capable of producing such a concentration of catastrophes, devastation, and degradation. Never has humanity been so deeply divided between an affluent minority and an impoverished majority as it is today (COMPARATO, 2016, p. 580).*

Human rights currently constitute a new global ethos. Naturally, it must not be forgotten that an ethos represents the realm of what ought to be (BOBBIO, 2004, p. 210). The starting point for this reflection is a fact of reason: namely, that all human beings are conscious of certain commands experienced as unconditional, that is, categorical imperatives. We are all aware of the duty to comply with a set of rules (CORTINA, 2005, p. 69). Consequently, everything that reason presents as a duty ought to be fulfilled.

The Preamble of the 1988 Federal Constitution of Brazil, in harmony with the major Human Rights Declarations, outlines the objectives of the Constituent Assembly, encompassing a remarkably broad range of aspirations: "to ensure the exercise of social and individual rights, liberty, security, well-being, development, equality, and justice as supreme values of a fraternal, pluralistic, and prejudice-free society."

The Constitution establishes, in Article 3, items I, II, and IV, as well as in Articles 7 and 37, substantive principles and forms of liberty and equality, together with redistributive principles. Article 3 identifies as a fundamental objective of the Republic the construction of a free, just, and solidary society. Furthermore, it commits itself to the eradication of poverty and marginalization, the reduction of social and regional inequalities, and the promotion of the well-being of all, free from discrimination based on origin, race, sex, color, age, or any other form of prejudice.

The history of Human Rights has been built over time through struggles and acts of resistance. It is important to recognize that the documents intended to preserve human rights are permeated by an ethic of protection. Nevertheless, greater vigilance is required to ensure that such normative mandates do not become mere dead letters.

It is worth recalling that the Universal Declaration of Human Rights begins by affirming that "the recognition of the inherent dignity and of the equal and inalienable rights of all members of the human family is the foundation of freedom, justice and peace in the world."

In connection with this issue, the following observation deserves emphasis:

> *"The ethical system prevailing within a society always performs the function of organizing or ordering social life according to a general rule. There is no social order detached from an ultimate purpose, since it is precisely in light of such a purpose that one may determine whether a human group is ordered or disordered, whether one is confronted with a casual gathering of individuals or with an organized community" (COMPARATO, 2016, p. 23).*

The transformations occurring in the world must be consistent with the type of development that humanity seeks to achieve, namely one grounded in respect for human dignity and oriented toward sustainability, placing confidence in the possibility of a solid and lasting form of development for both the planet and its inhabitants.

In the words of Bobbio (2004, p. 211), confidence alone is not sufficient for success: "Yet without any confidence at all, the game is lost before it begins. And if one were to ask what is necessary to have confidence, I would return to Kant's words: sound concepts, extensive experience, and above all, a great deal of goodwill".

For these reasons, scholars devoted to the pursuit of knowledge must prioritize an ethical framework guided by responsibility and precaution. The issue is that scientific research is often not regulated by, or linked to, specific ethical codes designed to prevent experiments or inappropriate uses of scientific discoveries that may prove harmful, or even devastating, to the environment or to human life.

Given that globalization has become an undeniable reality across every region of the globe, intrinsically connecting the destinies of both human and non-human beings, the necessary discussion, both public and private, within academic and scientific institutions concerning research ethics and the technical applications of scientific knowledge must involve all nations, from the most developed to the least developed.

Science must necessarily serve the improvement of human quality of life rather than contribute to the degradation of human conditions or of the surrounding environment. Consequently, its mission should be the reduction, and ideally the elimination, rather than the deepening of social inequalities. Democratic access to technological advances constitutes a fundamental right that must be guaranteed and recognized for all, without distinction of any kind.

The Budapest Declaration of 28 June 2002 demonstrated significant sensitivity from the perspective of ethical dimensions of science and technology by affirming that science should be regarded as a common good of humankind and that its applications must serve humanitarian purposes. However, the very need to state this objective explicitly reinforces the perception that, regrettably, such an understanding often remains confined to the realm of common sense; transforming normative aspirations into effective reality is a different matter altogether.

The Declaration further emphasizes access to education, beginning in childhood, as a human right and identifies scientific education as essential to human development. Accordingly, the primary focus of applied science today should be the reduction of poverty at all levels of global society and the elevation of living standards to conditions that may be considered minimally decent.

It is also important to emphasize that the Constitution of UNESCO highlights the significance of moral and intellectual solidarity among the peoples of the world. This notion forms the foundation of what is commonly referred to as a "culture of peace." Yet the most accurate translation of this idea into contemporary terms, urgent and necessary for worldwide cooperation among scientists and researchers from every corner of the globe, united by a common denominator, may be condensed into a single principle: an ethic of respect for life and for human beings.

5 FINAL CONSIDERATIONS

This article began by referring to the myth of *hybris*, which accounts for the creation of humankind in Greek mythology. According to the narrative told by the Titan Prometheus, he witnessed his creation surpass its creator and become corrupted after receiving the fire of knowledge.

In his punishment, chained to a rock in the Caucasus Mountains, Prometheus, amid immense suffering, realizes that human beings, vain, bellicose, and, like himself, deeply attached to material existence, despite being animated by divine fire and knowledge, possess a resentful spirit guided by a rebellious intellect. With their imagination thus exalted, it is no longer surprising that they succumb to corruption and perversity. Whether as oppressors or as oppressed, they degrade themselves within the limits of their own transience. Only through the intervention of Zeus, by means of Hermes, would humanity receive a corpus of rights guaranteeing justice and freedom, that is, human dignity, capable of counterbalancing the prevailing *hybris* that might otherwise lead to its annihilation.

It may be inferred that, throughout history, rights of freedom have assumed distinct characteristics according to historical developments. For example, at the end of the European Middle Ages, the emergence of a new era was marked by a rupture with the Old World and its foundations, namely religion and traditional wisdom as guiding principles of ethical life. Human beings thereafter began to structure their conduct based upon values and concepts, giving rise to new ideas within the sphere of ethical life.

Freedom, as one of the most fundamental values of the French Revolution, implied the notion of autonomy, that is, the human capacity to establish one's own norms and to determine one's conduct according to them. Such autonomy, however, did not signify an unrestricted freedom of choice detached from responsibility and respect for others. Rather, it must be understood in accordance with the principles that recognize and affirm the dignity of the human person.

The Universal Declaration of Human Rights of 1948 proclaims, in Article 1, the fundamental right of all human beings to equality in dignity and rights, while

Article 6 establishes that every individual has the right to recognition as a person before the law. As a fundamental principle affirming the preeminence of the human being in the world, human dignity serves as the source of all values and provides the foundation from which new ethical and legal questions arising from unrestrained technological development may be addressed.

This gives rise to a pressing contemporary dilemma: how can individuals be considered masters of their own destiny when they are unable to make their own choices? Is it possible to speak of freedom where equality in dignity is not recognized? Freedom necessarily presupposes equality, respect, and solidarity. Therefore, any form of development that fails to consider the essential assumptions of *aidós* (moral respect) and justice, principles symbolically established by the mythological Zeus, cannot enable humanity to attain its own Olympus, whatever form that aspiration may take. Put differently, there can be no purely individual solution. The way forward must be collective, or there will be no way forward at all. For this reason, the principles and objectives of Human Rights reveal themselves to be indispensable to human survival.

The mission of public authorities is to prepare citizens for life and to undertake the task of educating them so that they may become capable of making their own decisions and, whenever necessary, transforming reality, while strengthening, through public deliberation, outcomes that benefit society.

The demand for new rights constitutes a form of resistance by the people against those who hold power. Throughout history, the struggle for human rights has confronted various forms of power, including religious, political, and economic power, each corresponding to specific historical contexts.

Human rights, constructed through centuries of social and political struggles, now constitute the backbone of contemporary legal systems. Fundamental rights, liberty, equality, and fraternity proclaim the imperative that any endeavor involving technological development must, *prima facie*, be grounded in full respect for human dignity. Any objective that departs from this premise risks becoming a new form of oppression against those in vulnerable conditions.

The principle of pursuing one's immediate self-interest at the expense of the common good is incompatible with the emerging global order, characterized by the progressive consolidation of the rights of humanity and the dignity of the human person. These values constitute the central guiding principles in the struggle against excessive individualism and the systematic prioritization of material interests as the ultimate purpose of human existence, leading instead to an ongoing commitment to combating social inequality.

The progressive mastery of technologies, which invites us to revisit the myth of Prometheus, must necessarily proceed in accordance with the ethics of human rights embodied in all major declarations of human rights. Only in this manner can such normative instruments avoid becoming mere symbolic proclamations devoid of practical effectiveness.

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