

---

## ENUNCIACÃO


### Revista do Programa de Pós-graduação em Filosofia da UFRRJ

---

#### Thou shalt care for the vulnerable image of man!

*Você deve cuidar da imagem do ser humano!*

Roberto Franzini Tibaldeo\*

 <https://orcid.org/0000-0001-9836-0546>

**Abstract:** In this article, I endeavour to present the philosophical reasons for Hans Jonas' dislike of certain tendencies of biotechnological development aiming at ameliorating the human being. According to Jonas, there are sound reasons why human beings should avoid playing God and refrain from using science and technology to 'recreate' their own being. Rather than simply discussing the issue from either a consequentialist or a deontological point of view, Jonas opts for a more resourceful and imaginative way to prevent the human being's reification or deterioration, by focusing simultaneously on the human being's vulnerability and higher potential.

**Keywords:** Hans Jonas; image of man; genetic engineering; cloning; vulnerability.

**Resumo:** Neste artigo, procuro apresentar as razões filosóficas para a aversão de Hans Jonas às tendências do desenvolvimento biotecnológico cujo objetivo seria melhorar o ser humano. De acordo com Jonas, existem razões sólidas pelas quais os seres humanos devem evitar brincar de Deus e se abster de usar a ciência e a tecnologia para "recriar" seu próprio ser. Em vez de simplesmente discutir essa questão de um ponto de vista consequentialista ou deontológico, Jonas opta por uma forma mais engenhosa e imaginativa de prevenir a reificação ou deterioração do ser humano, enfocando simultaneamente na vulnerabilidade e no potencial superior do ser humano.

**Palavras-chave:** Hans Jonas; imagem do ser humano; engenharia genética; clonagem; vulnerabilidade.

---

\* Doutor em Filosofia pela Università degli Studi di Torino, Itália. Realizou pesquisa de pós-doutorado na Université Catholique de Louvain, Bélgica. É membro do GT Hans Jonas da ANPOF e professor adjunto da Pontifícia Universidade Católica do Paraná. Contato: [roberto.tibaldeo@pucpr.br](mailto:roberto.tibaldeo@pucpr.br).

**Introduction: technological development and ethical challenges**

From the very beginning of his most celebrated book, *Das Prinzip Verantwortung*, Hans Jonas enunciates the core thesis of his research:

The irresistibly unleashed Prometheus, supplied by science with unheard-of powers and by economics with an incessant impulse, demands for an ethics that through self-restriction prevents technological power to become a raw deal for human beings. The persuasion that the promises of modern technology have turned into a threat, or that the latter has indissolubly joined those promises, is the opening thesis of this book.<sup>1</sup>

Among the reasons for this threat, Jonas highlights the following circumstances:

Not counting the insanity of a sudden, suicidal atomic holocaust, which sane fear can avoid with relative ease, it is the slow, long-term, cumulative – the peaceful and constructive use of worldwide technological power, a use in which all of us collaborate as captive beneficiaries through rising production, consumption, and sheer population growth – that poses threats much harder to counter.<sup>2</sup>

This passage highlights the distinctive feature of the thinking of Hans Jonas on technology. While coeval scholars, such as Karl Jaspers (1958) and Günther Anders (1956) among others, focus their analysis on ‘exceptional’ events related to the employment of technology, like a hypothetical atomic holocaust, Jonas, in contrast, believes that what is really threatening in post-World War II technology is that troublesome results arise precisely from its ‘ordinary’ employment on a massive scale. Jonas summarizes the novelty of the present day condition as follows: first, the massive use of technology generates cumulative and irreversible effects on the environment and on the biosphere; second, thanks to modern technology the human being has become an object of technology itself (indeed, this aspect proves to be relevant to the present enquiry into human cloning); third, technology has become the “Calling” of humankind – that is to say, on the one hand its employment is unavoidable, while on the other hand it gives rise to crucial ethical issues:

---

<sup>1</sup> JONAS, H. *Das Prinzip Verantwortung. Versuch einer Ethik für die technologische Zivilisation*. In: Kritische Gesamtausgabe der Werke von Hans Jonas, vol. I/2. Freiburg, Rombach, pp. 1-420, 2015, p. 15. The preface to the English translation [Jonas 1984, p. ix] is slightly different).

<sup>2</sup> JONAS, H. *The Imperative of Responsibility. In Search of an Ethics for the Technological Age*. Chicago: University of Chicago Press, 1984, p. ix.

[Technology's] cumulative creation, the expanding artificial environment, continuously reinforces the particular powers in man that created it, by compelling their unceasing inventive employment in its management and further advance, and by rewarding them with additional success – which only adds to the relentless claim. This positive feedback of functional necessity and reward – in whose dynamics pride of achievement must not be forgotten – assures the growing ascendancy of one side of man's nature over all the others, and inevitably at their expense. If nothing succeeds like success, nothing also entraps like success.<sup>3</sup>

Already ancient *techne* – states Jonas – was a tool thanks to which humankind exercised power over nature, irrupted violently into the cosmic order, and invaded nature's various domains in order to gain self-assertion<sup>4</sup>. There is, however, a difference between ancient *techne* and modern technology, since the latter highlights “an infinite forward-thrust of the race”<sup>5</sup>, and its development poses the risk of degeneration due to “an excess of power to ‘do’ and thus an excess of offers for doing”<sup>6</sup>, and due to the above-mentioned unrestrainable tendency to “the cumulative self-propagation of the technical change of the world”<sup>7</sup>. According to Jonas, these features highlight the core difference between the present age and the traditional framework: nowadays, an undeniable fact has come to light – that is,

the critical vulnerability of nature to man's technological intervention – unsuspected before it began to show itself in damage already done. This discovery [...] alters the very concept of ourselves as a causal agency in the larger scheme of things. It brings to light, through the effects, that the nature of human action has *de facto* changed, and that an object of an entirely new order – no less than the whole biosphere of the planet – has been added to what we must be responsible for because of our power over it.<sup>8</sup>

The success of modern technology subverts precisely the classical belief in the invulnerability, immunity and immutability of nature, and highlights that an overall change has undeniably occurred: “Dynamism” – states Jonas – “is the signature of modernity. It is not an accident, but an immanent property of the epoch, and until further notice it is our fate”<sup>9</sup>. Of course, this peculiarity of modernity has also an ethical side: since nature is vulnerable to human action, how can the latter be prevented from being too harmful for the whole? But *why* should the human being aim at preserving the

<sup>3</sup> *Ibidem*, p. 9.

<sup>4</sup> Cf. *Ibidem*, p. 2.

<sup>5</sup> *Ibidem*, p. 9.

<sup>6</sup> *Ibidem*, p. 181.

<sup>7</sup> *Ibidem*, p.7.

<sup>8</sup> *Ibidem*, pp.6-7.

<sup>9</sup> *Ibidem*, p. 119.

existence and integrity of nature (including the specificity of human nature), after all? Only because human beings rely on nature, and the consequences of the biosphere's destruction would be harmful for us (utilitarian point of view)? Or on the sole basis of some general principle asserting that the preservation of nature and of the human being's specificity is something good in itself (deontological point of view)? Or for some other reason?

This ethical enquiry is precisely what Jonas aims at fulfilling. A first remark: although Jonas aims to overcome the anthropocentric stance of traditional ethics<sup>10</sup>, it is quite evident that Jonas' focus is not on nature in itself, but on nature as inhabited and enriched by human beings. This is the reason why his ethical reflection pivots on the so-called "image of man", whose meaning and existence Jonas aims to clarify and preserve:

What we must avoid at all cost is determined by what we must preserve at all cost, and this in turn is predicated on the "image of man" we entertain. Formerly, this image was enshrined in the teachings of revealed religions. With their eclipse today, secular reason must base the normative concept of man on a cogent, at least persuasive, doctrine of general being: metaphysics must underpin ethics. Hence, a speculative attempt is made at such an underpinning of man's duties toward himself, his distant posterity, and the plenitude of terrestrial life under his dominion.<sup>11</sup>

In order to clarify *what* is at stake in nature's vulnerability to human technology, Jonas provides the following answer: "among the stakes risked in the game, there is one of metaphysical rank (physical as its origins may be), an 'absolute' which, as a supreme and vulnerable trust, lays upon us the supreme duty to preserve it intact"<sup>12</sup>. This "absolute" is the "core phenomenon of our humanity, which is to be preserved in its integrity at all costs, and which has not to await its perfection from the future because it is already whole in its essence as we possess it"<sup>13</sup>.

### **Responsibility and the "image of man"**

In order to clarify these statements and the related duty to be responsible (especially in times of technological and economic development), I wish to summarise Jonas' argument as follows: first, the phenomenon of *life* is a *purpose* of nature, which

---

<sup>10</sup> Cf. *Ibidem*, p. 4.

<sup>11</sup> *Ibidem*, p. x.

<sup>12</sup> *Ibidem*, p. 33.

<sup>13</sup> *Ibidem*, p. 34. See also Weisskopf 2014, pp. 25-29; Becchi-Franzini Tibaldeo 2016.

becomes self-evident in the human being's capacity to set and achieve aims and goals<sup>14</sup>; second, the *purposiveness* evidenced by life is “a fundamental self-affirmation of being, which posits it *absolutely* as the better over against nonbeing”<sup>15</sup>; third, there is an “ontological axiom”, according to which purposiveness is a “good-in-itself, of which we grasp with intuitive certainty that it is infinitely superior to any purposelessness of being”<sup>16</sup>; fourth, the ontological axiom gains an *obligating force* on human liberty, which “is no longer its automatic executor but, with the power obtained from knowledge, can become its destroyer as well”<sup>17</sup>; fifth, the human being has the ethical duty to offset *responsibility* against indiscriminate freedom.

As a result, Jonas answers the question concerning responsibility by referring to two *commandments*. The first states that the “*existence [Dasein]* of mankind comes first”, since “the possibility of there being responsibility in the world, which is bound to the existence of men, is of all objects of responsibility the first”<sup>18</sup>. In addition, a *second commandment* has to be fulfilled, one that actually clarifies the meaning of the abovementioned “image of man”: humankind not only has to survive, but to ‘live well’ too. In other words, we are also charged with the duty toward the distinctive “*condition*” [*Sosein*] of human beings, “and the quality of their life”<sup>19</sup> – that is, that they accomplish their lives according to their ambivalent viz. vulnerable nature<sup>20</sup>. Jonas summarises this new duty of responsibility as follows:

Born of danger, its first urging is necessarily an ethics of preservation and prevention, not of progress and perfection. [...] [W]hat now matters most is not to perpetuate or bring about a particular image of man, but first of all to keep open the horizon of *possibilities* which in the case of man is given with the existence of the species as such and – as we must hope from the promise of the *imago Dei* – will always offer a new chance to the human essence. This means that the “No to Not-Being” – and first to that of man – is at this moment and for some time to come the primal mode in which an emergency ethics of the endangered future must translate into collective action the “Yes to Being” demanded of man by the totality of things.<sup>21</sup>

<sup>14</sup> This is the result of the connection between Jonas 1966 and Jonas 1984; see Ricœur 1992, Franzini Tibaldeo 2009, Köchy 2013 and Hauskeller 2015 among others.

<sup>15</sup> JONAS, H. *The Imperative of Responsibility. In Search of an Ethics for the Technological Age*, p. 81.

<sup>16</sup> *Ibidem*, p. 80.

<sup>17</sup> *Ibidem*, p. 82.

<sup>18</sup> *Ibidem*, p. 99.

<sup>19</sup> *Ibidem*, p. 40; JONAS, H. *Das Prinzip Verantwortung. Versuch einer Ethik für die technologische Zivilisation*, p. 91.

<sup>20</sup> Franzini Tibaldeo, R. 2018. “‘Quaestio mihi factus sum’. L’immagine dell’essere umano nella filosofia di Hans Jonas”. In: *Annuario filosofico*, 33, pp. 437-461.

<sup>21</sup> JONAS, H. *The Imperative of Responsibility. In Search of an Ethics for the Technological Age*, pp. 139-140.

Thus, being responsible does not at all mean that humankind is entitled to adopt a strictly anthropocentric or merely utilitarian stance towards nature, including human nature. Quite the opposite, responsibility has to do with being at the service of and caretaking its own vulnerable object (viz. nature and human nature), and not with dominating it:

the object of *responsibility* is emphatically the perishable *qua* perishable. Yet in spite of this condition which it shares with myself, it is more unsharably an “other” to me than any of the transcendent objects of classical ethics; “other” not as the surpassing better, but as nothing-but-itself in its own right, and without *this* otherness being meant to be bridged by a qualitative assimilation on my part or on its part. Precisely this otherness takes possession of my responsibility, and no appropriation is intended here. Yet just this far from “perfect” object, entirely contingent in its facticity, perceived precisely in its perishability, indigence, and insecurity, must have the power to move me through its sheer existence (not through special qualities) to place my person at its service, free of all appetite for appropriation.<sup>22</sup>

In other words, the “otherness” of the object of responsibility emphasises the object’s own vulnerability<sup>23</sup>. And the latter is an ontological feature that has in itself an obligating force on the human being’s liberty, whose *Dasein* and *Sosein* ought to be first of all responsibly preserved. In Jonas’ words:

In the truly human aspect, nature retains her dignity, which confronts the arbitrariness of our might. Ourselves being among her children, we owe allegiance to the kindred total of her creations, of which the allegiance to our own existence is only the highest summit. This summit, rightly understood, comprises the rest under its obligation.<sup>24</sup>

As a result, we can now fully understand why Jonas ends *Das Prinzip Verantwortung* with an appeal to preserve the *integrity of the human being’s essence* [*Integrität des “Ebenbildes”*], since “something sacred” [*ein “Heiliges”*] discloses itself through humankind, something “inviolable under no circumstances (and which can be perceived independently from religion)”<sup>25</sup>. Against the triumphalism of utopian ideologies, Jonas reaffirms that first of all humanity courageously has to accept its

---

<sup>22</sup> *Ibidem*, p. 87.

<sup>23</sup> Cf. Simon 1993; Ricœur 1994; Greisch 1994, pp. 79-82; Pulcini 2013.

<sup>24</sup> JONAS, H. *The Imperative of Responsibility. In Search of an Ethics for the Technological Age*, p. 137.

<sup>25</sup> JONAS, H. *Das Prinzip Verantwortung. Versuch einer Ethik für die technologische Zivilisation*, p. 419-420.

demanding task of humbly fulfilling the ambivalent and vulnerable hendiadys of freedom and responsibility:

The time for the headlong race of progress is over, not of course for guarded progress itself. Humbled we may feel, but not humiliated. Man's mandate remains exacting enough outside of paradise. To preserve the integrity of his essence, which implies that of his natural environment; to save this trust unstunted through the perils of the times, mostly the perils of his own overmighty deeds – this is not a utopian goal, but not so very modest a task of responsibility for the future of man on earth.<sup>26</sup>

This “modest” task of responsibility consists in a “power over power”<sup>27</sup> and requires the empowerment of freedom's capacity for self-restraint and moderation. The enhancement of responsibility calls for the aptitude to resist the seductions of power and for the self-control of the human being's “consciously exercised power”<sup>28</sup>. And, actually, the knowledge of vulnerability and the caretaking of the latter play an active role in both limiting the excesses of freedom and enhancing responsibility, whose “heart is veneration for the image of man, turning into trembling concern for its vulnerability”<sup>29</sup>. This is, however, only the first step. The following one is the full recovery of the profound sense of mystery, sacredness and sacrosanctity highlighted by the abovementioned doctrine of creation:

The recovery of that sense – states Jonas in an article first published in 1968 – something more positive than the merely negative sense of caution which humility suggests, is the next step. Informed by the idea of creation, it will take the form of *reverence* for certain inviolable integrities sanctioned by that idea. The doctrine of creation teaches reverence toward nature and toward man, with highly topical, practical applications in both directions.<sup>30</sup>

As a result, the discovery of nature's vulnerability to technological development forces humanity to realize that to some extent the employ of technological power is not ethically neutral and has to be restricted. However, the effort of setting limits is not the whole issue, since what makes this enterprise reasonable and feasible is the ability to understand the reasons underlying self-restriction. Vulnerability as the key feature of life supplies such a reason, along with a motivation appealing to emotions to behave

---

<sup>26</sup> JONAS, H. *The Imperative of Responsibility. In Search of an Ethics for the Technological Age*, pp. 201-202.

<sup>27</sup> *Ibidem*, p. 142.

<sup>28</sup> *Ibidem*, p. 129.

<sup>29</sup> *Ibidem*, p. 201. See also Gensabella Furnari 2008; Sganzerla 2012.

<sup>30</sup> *Ibidem*, p. 179.

accordingly. The human being ought to be the “responsible caretaker” of responsibility’s vulnerable object, and this is precisely because the latter highlights an “intrinsic claim to integrity” that demands our reverence: this – states Jonas – “is something absolute, the respect for the manifestation of life on earth, which should oppose an unconditional ‘no’ to the depletion of the six-day’s plenitude”<sup>31</sup>.

### **The case against human cloning**

Let us now turn to human cloning, with the aim to detail how the abovementioned reflections on responsibility and vulnerability are practically operationalised.

As for other bioethical issues discussed by Jonas (extension of life span, behaviour control, organ transplantation, and euthanasia), human cloning and the broader topic of genetic manipulation make a common reference to the “image of man” and its vulnerability. We already mentioned the latter’s anthropological and ethical relevance, along with its connection with the “image of God”. Now we wish to add further considerations.

As with the vulnerability of nature, the vulnerability of the image of man occurs thanks to technology, and its possible application on mankind itself. Indeed, the remarkable achievements of present-day medicine highlight something ambivalent: on the one hand, they have beneficial effects on the human being’s *Sosein* and succeed in preventing or defeating serious illnesses and hereditary diseases; on the other hand, medical technological progress can distort its ends and turn into an intrinsically risky and dangerous enterprise, one that relinquishes its public responsibility and thus requires thorough ethical consideration<sup>32</sup>. What Jonas highlights here is that life has become potentially vulnerable to medical technological progress in many ways.

Genetic manipulation and biological engineering seem to disclose a land of opportunity still to be explored. The issue at the basis of Jonas’ reflections is the following: are all the possibilities offered by the application of technology to biological and genetic research to be fulfilled? Are we allowed to do so? Moreover, have we a right to fulfil them? However, the problematic aspect of these issues greatly increases when the object of such research is precisely the human being himself, as it is the case with

---

<sup>31</sup> *Ibidem*, pp. 179-180.

<sup>32</sup> JONAS, H. “Ärztliche Kunst und menschliche Verantwortung“. In: Id., *Technik, Medizin und Ethik. Praxis des Prinzips Verantwortung*. Frankfurt am Main: Insel, 1985, pp. 146-161; see also Becchi 2008.



human cloning. As stated by Dietrich Böhler, Jonas' answer to the above mentioned questions can be summarised in the principle "in dubio contra projectum"<sup>33</sup>. Indeed, genetic manipulation and biological engineering highlight the most serious risks, and this is due to several reasons. The main one is related to the unheard-of role played by the engineer, who can "engineer the engineer"<sup>34</sup>. Apart from the possible arising of unforeseen and even undesired long-term effects related to these interventions, this kind of manipulation highlights dangers related to a new view or image of humanity and the natural world. The issue arises from

this most ambitious dream of *homo faber*, summed up in the phrase that man will take his own evolution in hand, with the aim of not just preserving the integrity of the species but of modifying it by improvements of his own design. Whether we have the right to do it, whether we are qualified for that creative role, is the most serious question that can be posed to man finding himself suddenly in possession of such fateful powers. Who will be the image-makers, by what standards, and on the basis of what knowledge?<sup>35</sup>

After all, these questions converge into one: "in what image" is the human being to be re-created or better created<sup>36</sup>? The centrality of the image of man to genetic manipulation and biological engineering reinforces our previous statement about the twofold role played by vulnerability in Jonas' thinking: on the one hand, Jonas fears the technological illusion of erasing vulnerability from life and human nature; on the other hand, he is aware of the extreme fragility of (human) life to technology. This is why he believes an ethical enquiry into these issues is so urgent.

In order to justify his cautious attitude towards genetic and biological engineering, Jonas makes two remarks. The first is from the perspective of the persons benefitted by the improvements: until now, life has been unpredictably governed by chance, while thanks to genetic and biological control (through both negative/preventive and positive/melioristic eugenics) chance could be restricted or even eliminated in order to gratify individual wishes<sup>37</sup>. As a result, a widespread and homologated wish to achieve the same peculiarities could end in an impoverishment of the variety of human life in the

---

<sup>33</sup> BÖHLER, D. "In dubio contra projectum. Mensch und Natur im Spannungsfeld von Verstehen, Konstruieren, Verantworten". In: Id. (ed.), *Ethik für die Zukunft. Im Diskurs mit Hans Jonas*. München: Beck, 1994, pp. 244-276.

<sup>34</sup> KASS, L. *Toward a More Natural Science: Biology and Human Affairs*. New York: Free Press, 1985, p. 18; see also Jonas 1974, pp. 141-167.

<sup>35</sup> JONAS, H. *The Imperative of Responsibility. In Search of an Ethics for the Technological Age*, p. 21.

<sup>36</sup> JONAS, H. *Philosophical Essays. From Ancient Creed to Technological Man*. Englewood Cliffs (NJ): Prentice-Hall, 1974, p.146.

<sup>37</sup> *Ibidem*, p. 146-153.

world. Moreover, thanks to futuristic modes of manipulation, such as human cloning, someone could be arbitrarily given the same genetic features (for instance, beauty, intelligence etc.) of another person. The risk here – states Jonas – is the hindering of the individual’s right to live his or her own life, since he or she is forced to retrace the life of others<sup>38</sup>. The second remark is focused on the role played by the scientist, that is the very author and designer of programmes aiming not only at genetic enhancement but at the achievement of a new (nowadays we would say “transhumanist”) species of human being<sup>39</sup>:

A different thing is the dream of some of our frontiersmen of science: the genetic remaking of man in some image, or assortment of images, of our own choosing, which in fact would be the scientist’s according to his lights. The potentially infinite, transcendent “image” would shrink to charts of desired properties, selected by ideology (or will it be expediency? or fad?), turned into blueprints by computer-aided geneticists, authorized by political power – at last inserted with fateful finality into the future evolution of the species by biological technology<sup>40</sup>.

This, according to Jonas, is the real issue to be analysed, and the one that takes us back to vulnerability: the legitimacy of any genetic remaking of man. This is a matter of greater significance than the fears aroused by human cloning, which according to Jonas is somehow a minor issue. Besides, its noteworthiness is not a mere result of the probability of negative consequences arising from such interventions: a sheer analysis in consequentialist terms of the human conduct alone, eventually instructed by the principle of precaution, does not provide a satisfactory answer to the risks related to genetic manipulation. There is indeed something more at stake, something recalling the twofold role played by the vulnerability of the “image of man”, which I tried to highlight above.

## Conclusions

In the current era of triumphant rights, Jonas constantly reminds us of our duties to comply with the “image of man” and its dignity. This is especially urgent as regards human cloning, as well as broader issues related to genetic and biological engineering.

---

<sup>38</sup> *Ibidem*, p. 153-163; esp. pp. 159-163; see also Habermas 2003, p. 31; Prusak 2008; Ferré 2008; Dewitte 2014.

<sup>39</sup> Stelarc 1991; Habermas 2003, pp. 62-63; Kurzweil & Grossman 2004; Bostrom 2005; Savulescu & Bostrom 2009; Coeckelbergh 2013; Hauskeller 2013 and 2016; Becchi & Franzini Tibaldeo 2017; O’Connell 2017; Oliveira-Lopes 2020.

<sup>40</sup> JONAS, H. *Philosophical Essays. From Ancient Creed to Technological Man*, p. 180-181.

These duties highlight specific aspects of the overall duty towards the vulnerability of life as manifested chiefly through human existence and its uniqueness.

Indeed, as we have seen, the human specificity relies on the ontological meaning of the “image of man”, which evidences a certain vulnerability to technical intervention. The point is, however, that this “image of man” summarises the good-in-itself of not only humanity’s existence (*Dasein*) and peculiar condition (*Sosein*), but of the overall adventure of life. As a result, the “image of man” turns into an ethical value demanding for our responsible caretaking – a duty implying also the preservation of the contextual conditions for global habitability and the florescence of life.

According to Jonas, the case against human cloning has to be understood in the very terms of an excessive and misplaced employ of human freedom over its vulnerable object, in order to attain an impoverished and morally questionable result. More than just focusing on the likely problematic consequences of human cloning, Jonas tackles the issue from the point of view of the reductionist mindset and epistemology of the technological image-makers. It is indeed their *hybris* and lack of critical ethical awareness that leads Jonas to reject their melioristic stance.

Jonas insists on setting ethical constraints over technology and casts doubt upon those technological and biomedical interventions that threaten the future and integrity of the worldly adventures of vulnerability. One might not be fully convinced by Jonas’ attempt to support vulnerability by referring to ontology and metaphysics. Nevertheless, his ontological enquiry into the vulnerability of organic life and of the “image of man” is completely consistent with the author’s bioethical reflections on human cloning, and with the twofold aim to recover our duties towards the essential vulnerability of life and become active and responsible caretakers of its intrinsic value.

## References

ANDERS, G. *Die Antiquiertheit des Menschen*, vol. I: *Über die Seele im Zeitalter der zweiten industriellen Revolution*, München: Beck, 1956;

BECCHI, P. & FRANZINI TIBALDEO, R. “The Vulnerability of Life in the Philosophy of Hans Jonas”. In: Masferrer/García-Sánchez (eds.), *Human Dignity of the Vulnerable in the Age of Rights*, Cham, Springer, 2016, pp. 81-120;

BECCHI, P. & FRANZINI TIBALDEO, R. “Hans Jonas e il tramonto dell’uomo”. In: *Annuario filosofico*, 32, 2017, pp. 245-264.

BECCHI, P. *La vulnerabilità della vita. Contributi su Hans Jonas*. Napoli: La Scuola di Pitagora, 2008;

BÖHLER, D. "In dubio contra projectum. Mensch und Natur im Spannungsfeld von Verstehen, Konstruieren, Verantworten", in: Id. (ed.), *Ethik für die Zukunft. Im Diskurs mit Hans Jonas*, München, Beck, 1994, pp. 244-276;

BOSTROM, N. "A History of Transhumanist Thought". In: *Journal of Evolution and Technology*, 14, 1, 2005, pp. 1-25;

COECKELBERGH, M. 2013. *Human Being @ Risk. Enhancement, Technology, and the Evaluation of Vulnerability Transformations*. Dordrecht: Springer, 2013;

DEWITTE, J. "Clonons un être humain", *Alter*, 22, 2014, pp. 211-232 ;

FERRÉ, F. "On Making Persons: Philosophy of Nature and Ethics". In: Tirosh-Samuels/Wiese (eds.), *The Legacy of Hans Jonas. Judaism and the Phenomenon of Life*, Leiden-Boston, Brill, 2008, pp. 493-501;

FRANZINI TIBALDEO, R. *La rivoluzione ontologica. Uno studio sulle origini e il significato di "Organismo e libertà"*. Milano-Udine: Mimesis, 2009;

FRANZINI TIBALDEO, R. "Quaestio mihi factus sum. L'immagine dell'essere umano nella filosofia di Hans Jonas". In: *Annuario filosofico*, 33, 2018, pp. 437-461;

GENSABELLA FURNARI, M. *Vulnerabilità e cura. Bioetica ed esperienza del limite*. Soveria Mannelli: Rubbettino, 2008;

GREISCH J. 1994. "L'amour du monde et le principe responsabilité". In: Vacquin (ed.), *La responsabilité. La condition de notre humanité*, Paris, Autrement, 1994, pp. 72-89 ;

HABERMAS, J. *The Future of Human Nature*. Cambridge, Polity Press, 2003;

HAUSKELLER, M. *Better Humans? Understanding the Enhancement Project*. Durham: Acumen, 2013;

HAUSKELLER, M. "The Ontological Ethics of Hans Jonas". In: Meacham (ed.), *Medicine and Society, New Perspectives in Continental Philosophy*. Dordrecht: Springer, 2015, pp. 39-55;

HAUSKELLER, M. *Mythologies of Transhumanism*. Cham: Palgrave Macmillan, 2016;

JASPERS, K. *Die Atombombe und die Zukunft des Menschen*. München: Piper, 1958;

JONAS, H. *The Phenomenon of Life. Toward a Philosophical Biology*. New York: Harper & Row, 1966;

JONAS, H. *Philosophical Essays. From Ancient Creed to Technological Man*. Englewood Cliffs (NJ): Prentice-Hall, 1974;

JONAS, H. *The Imperative of Responsibility. In Search of an Ethics for the Technological Age*. Chicago: University of Chicago Press, 1984;

JONAS, H. ‘Ärztliche Kunst und menschliche Verantwortung’. In: Id., *Technik, Medizin und Ethik. Praxis des Prinzips Verantwortung*. Frankfurt am Main: Insel, 1985, pp. 146-161;

JONAS, H. *Das Prinzip Verantwortung. Versuch einer Ethik für die technologische Zivilisation* (1979). In: *Kritische Gesamtausgabe der Werke von Hans Jonas*, vol. I/2. Freiburg, Rombach, 2015, pp. 1-420;

KASS, L. *Toward a More Natural Science: Biology and Human Affairs*. New York: Free Press, 1985;

KÖCHY, K. ‘Von der Naturphilosophie zur Naturethik. Zum Ansatz von Hans Jonas’, in: Hartung/Köchy/Schmidt/Hofmeister (eds.), *Naturphilosophie als Grundlage der Naturethik. Zur Aktualität von Hans Jonas*, Freiburg-München, Alber, 2013, pp. 27-54;

KURZWEIL, R. & GROSSMAN, T. *Fantastic Voyage. Live Long Enough to Live Forever*, Emmaus (PA): Rodale, 2004;

O’CONNELL, M. *To be a Machine. Adventures among Cyborgs, Utopians, Hackers, and the Futurists Solving the Modest Problem of Death*. London: Granta, 2017;

OLIVEIRA, J. & LOPES, W. E. S. (orgs.). *Transumanismo: O que é. Quem vamos ser*. Caxias do Sul, Educs, 2020;

PRUSAK, B. G. “Cloning and Corporeality”. In: Tirosh-Samuels/Wiese (eds.), *The Legacy of Hans Jonas. Judaism and the Phenomenon of Life*, Leiden-Boston, Brill, 2008, pp. 315-344;

PULCINI, E. *Care of the World. Fear, Responsibility and Justice in the Global Age* (2009). Dordrecht: Springer, 2013;

RICOEUR, P. ‘La responsabilité et la fragilité de la vie. Ethique et philosophie de la biologie chez Hans Jonas’ (1991), in: Id., *Lectures 2. La contrée des philosophes*, Paris, Seuil, 1992, pp. 304-319 ;

RICOEUR, P. ‘Le concept de responsabilité. Essai d’analyse sémantique’. In : *Esprit* (November 1994), pp. 28-48.

SAVULESCU J. & BOSTROM, N. (eds.). *Human Enhancement*. Oxford: Oxford University Press, 2009;

SGANZERLA, A. “Jonas: o homem como ser-na-natureza”. In: Sganzerla/Valverde/Falabretti (orgs.). *Natureza humana em movimento*, São Paulo, Paulus, 2012, pp. 322-341;

SIMON, R. 1993. ‘Le fondement ontologique de la responsabilité et de l’éthique du futur’, in: Müller/Simon (eds.). *Nature et descendance. Hans Jonas et le principe “Responsabilité”*. Genève : Labor et Fides, 1993, pp. 101-107 ;

STELARC. ‘Prosthetics, Robotics and Remote Existence: Postevolutionary Strategies’, *Leonardo*, 24, 5, 1991, pp. 591-595 ;

WEISSKOPF, W. A. ‘Moral Responsibility for the Preservation of Humankind’ (1983), in: Gordon/Burckhart (eds.), *Global Ethics and Moral Responsibility: Hans Jonas and his Critics*, Farnham, Ashgate, 2014, pp. 23-40.

Recebido em: Maio de 2021  
Aprovado em: Agosto de 2021