The specific intentionality of pedagogy: nurturing the human between presence and distance

Epistemological issues in light of post-humanism

Claudia Spina*

Abstract

This paper, in light of the current pandemic emergency, reflects on the specific intentionality of pedagogy in nurturing the *human* between *presence* and *distance*. Starting from national legislative measures, which recognised the possibility of implementing the educational-teaching activities in e-learning, using computer and/or technological tools, the analysis then discusses the science-technology connection following an epistemological perspective. This helps to clarify how the changes due to the acquisitions of techno-sciences have revolutionised even the epistemological system of pedagogical thinking-action, called to move towards new theoretical-planning directions. The man-technology hybridisation processes involve constantly ongoing anthropological change, which leads to the definition of a cultural paradigm of the post-human. Post-humanist pedagogy is called to reconfigure the *proprium* of the human species: the open and dynamic evolutionary potential, which is nourished by hybrid connections and creative thinking.

Il contributo, alla luce dell'attuale emergenza pandemica, riflette sulla specifica intenzionalità della pedagogia di coltivare l'umano tra presenza e distanza. Con il muovere da provvedimenti normativi nazionali, che hanno riconosciuto la possibilità di svolgere le attività educativo-didattiche in e-learning, tramite l'impiego di strumenti informatici e/o tecnologici, la disamina procede con il ragionare sul nesso scienza-tecnica secondo una prospettiva epistemologica. Ciò aiuta a precisare come i cambiamenti dovuti alle acquisizioni delle tecno-scienze abbiano rivoluzionato anche l'impianto epistemologico del pensare-agire pedagogico, tenuto a dirigersi verso nuove direzioni teorico-progettuali.

* Ricercatore di Pedagogia generale e sociale.

I processi di ibridazione uomo-tecnologia comportano un mutamento an-tropologico costantemente in corso, che conduce alla delineazione di un para-digma culturale del post-umano. La pedagogia post-umanistica è chiamata a riconfigurare il proprium della specie umana: l'evolutività aperta e dinamica, che si alimenta di nessi ibridativi e di pensiero creativo.

Alcuni porcospini, in una fredda giornata d'inverno, si strinsero vicini vicini, per proteggersi, col calore reciproco, dal rimanere assiderati. Ben presto, però, sentirono il dolore delle spine; il dolore li costrinse ad allontanarsi di nuovo l'uno dall'altro. Quando poi il bisogno di riscaldarsi li portò di nuovo a stare insieme, si ripeté quell'altro malanno; di modo che venivano sballottati avanti e indietro fra due mali: il freddo e il dolore. Tutto questo durò finché non ebbero trovato una moderata distanza reciproca, che rappresentava per loro la migliore posizione[1].

1. The pandemic crisis and the educational action between *presence* and *distance*

The Covid-19 emergency and the resulting lockdown leads to the adop-tion of legislative measures, which recognise, with the aim of containing the infection, the possibility of conducting remote educational and didac-tic activities at schools of every order and degree throughout the country by using the computer and/or technological tools available[2]. In this regard,

[1] A. Schopenhauer, *Parerga e paralipomena*, tr. it., Adelphi, Milano 1998, vol. II, chap. XXXI, section 396 («One cold winter's day, a number of porcupines huddled together quite closely in order through their mutual warmth to prevent themselves from being frozen. But they soon felt the effect of their quills on one another, which made them again move apart. Now when the need for warmth once more brought them together, the drawback of the quills was repe-ated so that they were tossed between two evils: cold and pain, until they found a moderate mutual distance, which was the best position for them»).

[2] Cfr. G. Bertagna, *La scuola al tempo del Covid. Tra spazio di esperienza ed orizzonte d'at-tesa*, Edizioni Studium, Roma 2020; M. Corsi, *Dopo il coronavirus*, in «Nuova Secondaria», 10 (2020), pp. 14-17; M. Musaio, *Dalla distanza alla relazione. Pedagogia e relazione d'aiuto nell'emergenza*, Mimesis Edizioni, Sesto San Giovanni (Mi) 2020; A.M. Simonelli, *Oggi, ai tempi del Covid-19*, in «Nuova Secondaria», 2 (2020), pp. 72-79; G. Tognon, *Pandemia e peda-*

there is legislative reference to the proposed aid, so as to overcome the difficulties faced by families and teachers without sufficient connection. In order to promote inclusion and contrast school dropout, the government is considering the possibility of providing schools and students with the necessary devices for the access to teaching methods that are compatible with the emergency situation.

Through the first operational guidelines for the online educational procedure, educational institutions, therefore, are beginning to receive the operational educational framework, which requires them to provide themselves with a *School plan for integrated digital teaching*, intended as an innovative teaching-learning methodology in a good balance between synchronous and asynchronous activities. Furthermore, guidelines are offered in relation to indications for designing the above Plan to be adopted as the praxis complementary to in-person teaching and to be attached to the *PTOF* (*Three-year Plan of Studies*) or integrated in it[3].

Resorting to digital learning environments (Google Suite, Microsoft Teams, WeSchool, Moodle, etc.) and enhancing the use of mobile devices, has paved the way for the possibility of accessing educational-didactic paths from any location. This also leads to a redefinition of the spatial boundaries of learning environments (ubiquitous learning). This new implemented reality, which refers to the relationship between ubiquity, presence and distance, is also nurturing innovative research scenarios. They are aimed at increasing the production of interactive teaching tools (*edugames, edurobots*, etc.), available in the context of integrated digital teaching, in traditional settings and in hybrid learning environments, designed to strengthen the potential that the Human Machine Interface (HMI) offers in terms of the coding and representation of space.

The lockdown experienced during 2020 (and partly still implemented in 2021) is a microscope for social disparities, as the pandemic has significantly accentuated socio-spatial inequalities[4], just as, at the same time,

---

gogia a confronto. Grandezze e limiti della ricerca educativa italiana, in «Nuova Secondaria», 3 (2020), pp. 195-204.

[3] Cfr. Departmental note 17 March 2020, n. 388; Legislative Decree 25 March 2020, n. 19, Article 1, paragraph 2, letter p; Legislative Decree 8 April 2020, n. 22 (converted, with modifications by law) into Law 6 June 2020; Legislative Decree 19 May 2020, n. 34; Decree of the Minister of Education 26 June 2020, n. 39; Ministerial Decree 7 August 2020, n. 89.

[4] Cfr. E. Morin, *Cambiamo strada. Le 15 lezioni del Coronavirus*, tr. it., Raffaello Cortina Editore, Milano 2020.

it establishes a new form of extended responsibility, from which no individual can escape[5]. Moreover, the (total or partial) confinement is demonstrating that there are obvious differences between resorting to digitalisation merely for communicative and/or informative exchanges and implementing educational action. This is because education and teaching are characterised by specific purposes and demands. Without doubt, in the contemporary world, as a result of the pandemic, we are witnessing the emancipation of technology from moralistic condemnation, often advanced in the past by generations not included among the so-called digital natives. It is also understood that *presence* can no longer be conceived only in traditional terms (physical presence in reality) and that online relations fill an otherwise insurmountable void, due to the risks of infection. We cannot but acknowledge, therefore, that there are several types of *presence* and amongst them we must indeed include *digital presence*, which must be strengthened and employed in accordance with a responsible use of digital media[6].

Although this reasoning is certainly shared, it must be noted that confinement, smart-working and virtual interactions make us feel the absence of human contact in a significant way and make us realise that it is most likely better to put aside the idea of educational-didactic relationships being totally replaced by digitalisation. Instead, it would be better to speak about the *complementarity* between presence and distance, and reflect on how to achieve it in the best way. Schools, in fact, identified as teaching *centres*, cannot entirely sacrifice the physical presence of the various figures who operate in the school environment (teachers, students, parents, etc.); that is, they cannot decline the possibility of establishing intersubjective relationships that are authentic and meaningful in real life, in view of a learning process endowed with meaning. On the other hand, however, the use of the Internet can prove useful in order to carry out cooperative activities. By carrying out remote group work in e-learning (rather than individual exercises alone), we would avoid running into a real oxymoron. This is because the Internet is relationships, collaboration, mutual help, as well as collective product, and it can promote cooperative forms of learning, through the use of communities of practice. Therefore, it is not

---

[5] Cfr. P. Giordano, *Nel contagio*, Einaudi, Torino 2020.
[6] Cfr. P.C. Rivoltella, *Le virtù del digitale. Per un'etica dei media*, Morcelliana, Brescia 2015; Id., *Tecnologie di comunità*, Scholé-Morcelliana, Brescia 2020.

a matter of discussing whether e-learning or traditional learning is a better educational method; instead we must start from the assumption that every educational action has its own peculiarities, which make it more functional for particular educational contexts compared to others.

2. The science-technology connection and the specific intentionality of pedagogy in nurturing the human

The discussion on education during the pandemic emergency, which necessarily calls into question the use of technologies, invites us to reflect, according to an epistemological perspective, on the science-technology connection and on the specific intentionality of pedagogy in nurturing the *human* between presence and distance[7]. During the twentieth century, technology, compared to basic research, became increasingly autonomous with regard to its objectives and to the instruments used. Heuristic research gradually became more subject to practical applications and therefore, over time, science began to be dependent on economic-political interests[8]. At the same time, researchers acquired highly specialized skills, although at times they lacked an overall vision, thus undermining the responsibility of prediction, an essential characteristic of scientific action. Furthermore, computer tools seemed to assume a greater degree of autonomy of action, coming to interact dynamically with the figure of the researcher. Therefore, with regard to the scientist and the machine, there was a symbiotic action, which led to the birth of a *new agent*, given by the combination of both.

The progressive sectorisation and specialisation determines the achievement of a science which is increasingly fragmented and sacrificed to objectives/times/methods imposed by economic-political interests. As Cambi points out, «le tecnologie dell'educazione tengono il campo e si offrono come le vere pedagogie del tempo presente. Sono efficaci, sono

---

[7] Cfr. G. Spadafora, *La pedagogia. Questioni epistemologiche*, Anicia, Roma 2016.

[8] Cfr. M. Perniola, *Il sex appeal dell'inorganico*, Einaudi, Torino 1994; I. Sanna (ed.), *La sfida del post-umano. Verso nuovi modelli di esistenza?*, Edizioni Studium, Roma 2005; A. Tosolini (ed.), *Il post-umano è qui*, Emi, Bologna 2008; M. Farisco, *Ancora uomo. Natura umana e postumanesimo*, Vita e Pensiero, Milano 2011; M. Farci, *Lo sguardo tecnologico. Il postumano e la cultura dei consumi*, FrancoAngeli, Milano 2012; P.L. Marzo, *La natura tecnica del tempo. L'epoca del post-umano tra storia e vita quotidiana*, Mimesis Edizioni, Sesto San Giovanni (Mi) 2012; R. Braidotti, *Il postumano. La vita oltre l'individuo, oltre la specie, oltre la morte*, tr. it., DeriveApprodi, Roma 2014.

progressive, sono produttive e, così, stanno al passo con la cultura dell'Età Tecnologica. L'epistemologia, allora, cade in un cono d'ombra. E di fatto è caduta. Ma qui opera, per così dire, un feticismo della tecnica che nella cultura attuale è tutt'altro che scontato»[9].

In this context, strictly human values (freedom, autonomy, solidarity, democracy, etc.) are in a sense threatened, overshadowed and at times eclipsed by the great scientific and technological revolutions of contemporary times, or by the dominance of technology and its inevitable progress, which at the same time opens up interesting (enhancement of knowledge) but also contradictory (adapting massification) scenarios.

With respect to this emerging panorama, pedagogy and educational action perform an important function of safeguarding what is *human*, by promoting personal originality, subjective creativity and individuality as well as diversity, with regard both to integrated digital teaching and the traditional experience of in-school learning. Therefore, in addition to the *connection between subject-culture-society*, it is also and above all necessary to investigate the *relationship between nature and technology,* in light of the changes recorded both in the biological and technological fields; changes which have led us to reconsider various key issues, with undeniable pedagogical repercussions (e.g. the mind-brain relationship; biological/artificial contamination and therefore the increasing interdependence between biological and artificial intelligence; the human/post-human challenge; etc.). We cannot disregard the problematic nature regarding the revolutionary frontiers of artificial intelligence, which rapidly change with the advancing discoveries of genetic research. Hence there is a clear need for educational intervention that can guide the subject and the community in living out the transformations taking place, in view of the affirmation of a *new humanism*, rooted in fundamental pedagogical categories such as responsibility, commitment, creativity, etc. We can understand how these changes, due to the acquisitions of techno-sciences, have radically revolutionised the epistemological system of disciplines. There is particular reference to biology and cybernetics, but *pedagogical thinking-*

---

[9] F. Cambi, *L'epistemologia pedagogica oggi*, in «Studi sulla formazione», 1 (2008), p. 160 («the technologies of education hold their ground and they offer themselves as the real pedagogies of the present time. They are effective, they are progressive, they are productive and thus they keep up with the culture of the Technological Age. Epistemology, therefore, falls into a shadow cone. And indeed it has fallen. But in this case it operates, so to speak, a fetishism of technology which is far from obvious in contemporary culture»).

action is also called upon to redefine itself in epistemological terms. The techno-scientific evolution taking place requires pedagogy to move towards new theoretical-planning directions.

3. Post-humanism as a new humanism and post-humanist pedagogy

In the 21st century, the scientific, cultural and epistemological turning point has led to the co-evolution of the natural and artificial dimension. The *logic of life* and the *technological logic*, applied together to the edification of complex systems, produce bio-artificial devices which become full-fledged parts of the environments of life, supporting more traditional technological works, arising from an intentional transformation process accomplished by man (printed press, cell phones, etc.). These devices are capable of affecting existential modes, having an impact on the cognitive and interior human system. We are witnessing a growing increase in the rate of *naturalness* in machines (the biologicalisation of machines, built as *living systems* [e.g. synthetic animated characters, robots, the universe of virtual realities, planetary telephone systems, etc.]) and *unnaturalness* in man (the mechanization of living beings: the implantation of artificial organs, the grafting of bio-artificial prostheses in the human body, in order to compensate for physical deficits and modify the body system, thus optimising its functionality and resources). This all announces the advent of a *post-human reality*, disturbing at times; a reality with respect to which human knowledge is often insufficient and unsuitable to respond to new situations and problems arising from these changes taking place. This nature-product contamination requires an interdisciplinary exchange, useful in order both to create a dialogue between the various heuristic-hermeneutic perspectives and to identify interpretative tools and propose action strategies.

Just as the 20th century experienced the crisis of the centrality of the *anthropos* (Darwinian revolution), of the *logos* (Freudian revolution) and of *Western man* (Taylorian ethno-anthropological revolution), so the 21st century is living the so-called *artificial revolution*. The latter leads to a gradual change in the relationship between the technological products and the biological subjects that have acted in order to accomplish them; products which are progressively more pervasive and autonomous compared to the human race that created them. Therefore, varied horizons are opened up relating to the sphere of both the thinkable and the possible.

Contributi alla vita consultoriale

We witness phenomena of *hybridisation* between the biological the artificial dimension, which weaken the traditional boundary between these two worlds more and more. These call into question (on more complex issues, such as human cloning) ethics, which struggles to chase after technology and to meditate on the frequently unpredictable effects of technosciences. In this regard, Galimberti questions: «Come può l'etica chiedere alla tecnica, che può, di non fare ciò che può? Ci riesce davvero? Credo di no»[10]. These pressing issues of current relevance, unresolved to this day, refer to an epistemological and ethical debate on science, technology and education, with a view to develop new value-related orders.

The man-technology hybridisation processes involve constantly ongoing anthropological change, which seems to result in the definition of a *cultural paradigm of the post-human,* characterised by the union between the biological and the technological[11]. At a closer look, this cultural revolution that is always advancing, pertaining to the same humanity and the social order, doesn't only affect technology, but precisely the *human*.

The above vision takes on particular relevance for pedagogy, because it calls for some considerations on the irreversible changes that affect contemporary man and that concern his nature, his functions, the type of relational and communicative dynamics used, the circulation of culture, political order, the macrosystems of community life, as well as the organisation of the global market. The products of the biological evolution therefore have a significant impact on the way of *inhabiting* oneself and the world (living, leisure and working spaces, etc.), of experiencing, communicating, learning, building intersubjective relationships, growing, getting old, etc.[12] This means that the structure of the human body, the processes of identity building, the cognitive and affective dynamics are deeply changed. At the same time there is a change in the places of educa-

---

[10] E. Boncinelli - U. Galimberti, *E ora? La dimensione umana e le sfide della scienza*, Einaudi, Torino 2000, p. 119 («How can ethics ask technology not to do what it is capable of doing? Can it really do so? I think not»).

[11] Cfr. R. *Marchesini, Post-human. Verso nuovi modelli di esistenza*, Bollati Boringhieri, Torino 2002; Id., *Il tramonto dell'uomo. La prospettiva post-umanista*, Edizioni Dedalo, Bari 2009; P. Barcellona - T. Garufi, *Il furto dell'anima. La narrazione post-umana*, Edizioni Dedalo, Bari 2008; K. Kelly, *Quello che vuole la tecnologia*, tr. it., Codice edizioni, Torino 2011; E. Franzini, *Moderno e postmoderno. Un bilancio*, Raffaello Cortina Editore, Milano 2018; M. Revelli, *Umano, Inumano, Postumano. Le sfide del presente*, Einaudi, Torino 2020.

[12] Cfr. F. Pinto Minerva - R. Gallelli, *Pedagogia e post-umano. Ibridazioni identitarie e frontiere del possibile*, Carocci, Roma 2004.

tion, within which the student acquires the knowledge, skills and competences necessary to ensure freedom and autonomy of thought, as well as great socio-political involvement.

The original interweaving and the new contamination of the *logical principles of natural life* and the *logical principles of artificial life*, by virtue of the major changes produced, give rise, within the framework of scientific communities, to a number of questions (disconcerting to some extent), involving horizons not too far away. We even ask ourselves: *"Will the man of the future be able to exercise control, of whatever kind, on complex bio-electronic systems, which will gradually run cities, schools and hospitals?"*. And: *"When it becomes a reality to implant additional memory circuits in man, what kind of humanity will inhabit the Earth?"*. The research conducted in the fields of math, genetic engineering, cybernetics, robotics, etc., opens up futuristic scenarios already partially defined, which put an end to the traditional cognitive and axiological autonomy between humanity and science. The combination, which combines biological elements with mechanical elements, apparently determines a particular evolution and leads to the birth of a new human race: *post-humanity*.

In the face of this somewhat disturbing scenario, the pedagogue is called upon to reflect on the transformations taking place, in order to guide educators and, therefore, educational practice itself. The epistemological debate on the (increasingly concrete) hypothesis of post-humanity demands to be carried out on both an *intra* and *inter-disciplinary* level. It would be appropriate to develop a scientific project activity which, by taking advantage of contributions from the whole world of research (the *Sciences of nature* in dialogue with the *Sciences of the spirit*)[13], can accept the difficult challenge of change and engage in a reflection on the *not-yet* (which postpones to tomorrow but which is already present in a primordial form) recalling the utopian dimension (to which pedagogy is linked)[14], which establishes the transformative responsibility. Utopia, in its twofold critical and planning requirement, reads and interprets the problematic nature of educational reality, while it aims to discover new values, establishing the categories of difference and of the possible. As a result, it makes pedagogy

---

[13] Cfr. W. Dilthey, *Introduzione alle scienze dello spirito*, tr. it., La Nuova Italia, Firenze 1974.

[14] Cfr. A. Tolomelli, *La fragile utopia. Impegno pedagogico e paradigma della complessità*, Ets, Pisa 2007; F. Frabboni - G. Wallnofer (eds.), *La pedagogia tra sfide e utopie*, FrancoAngeli, Milano 2015.

a *science on the move,* multifaceted, whose research is always in progress. The utopian dimension allows us to take an innovative and hermeneutic look at the *existing*, in order to anticipate the *non-existing* and guide future development. As it meditates on permanent transformative paths (referring to the individual and to the species), pedagogical science stands out for its prophetic tension; it is connected with utopian projects. Indeed, it is called upon to prefigure the future of the being in evolution and to guide it, so that he is able to handle the changes he will encounter; changes closely interconnected with the most extensive transformations concerning the scientific-technological and socio-cultural scenario, as well as (we can certainly add today) the contingent epidemiological conditions.

Therefore, in contemporary times the task of pedagogy is also to examine the factors of change in place which are ferrying mankind towards post-humanism. This involves reflecting on current problematic and/or emerging issues which are also inherent to the didactic-educational use of edugames and edurobots, in order to promote inclusive processes in hybrid learning environments, within which technologies play a crucial role. Reasoning about such aspects aims to predict future outcomes, giving form to utopian tension, which originates from the category of the possible. It should be pointed out, however, that if on the one hand the perfective planning of pedagogical science corresponds to the category of prefiguration, on the other hand it is connected with the fact of reality, that is, it clings to the existing concrete context, to the *circumstance* of Orteghian memory[15]. Hence, the expression *pedagogy in situation*[16]; a pedagogy linked to life, in the same light as Zambranian philosophy, rooted in a *poetic reason*[17].

On the basis of these considerations, on which scientific research sheds light, and in respect of an ecosystem perspective[18], *Post-human pedagogy* looks toward a *new humanism*, which seals the pact between pedagogical,

---

[15] Cfr. J. Ortega y Gasset, *Obras Completas*, Fundación José Ortega y Gasset-Taurus, Madrid 2004-2010; Id., *Il tema del nostro tempo*, tr. it., Sugargo Edizioni, Milano 2018.

[16] Cfr. G. Bertagna, *Modernità epistemologica della Pedagogia generale e principi di Pedagogia generale*, in G. Minichiello (ed.), *Epistemologia pedagogica: stato dell'arte*, Pensa Multimedia, Lecce 2006, pp. 113-172.

[17] Cfr. M. Zambrano, *Filosofia e poesia*, tr. it., Edizioni Pendragon, Bologna 2002.

[18] Cfr. M.O. Florita, *L'intreccio. Neuroscienze, clinica e teoria dei sistemi dinamici complessi*, FrancoAngeli, Milano 2011; L. von Bertalanffy, *General System Theory: Foundations, Development, Applications*, George Braziller, New York 2015.

ethics and law, as it is rooted in a training process aimed at embodying forms of cosmic solidarity. By observing the increasingly frequent implementation of genetic manipulation practices, it is first of all necessary to reflect once again on the concept of *person* (nowadays connected with identity hybridisation processes) as well as on education/training and all the knowledge that has guided human beings so far in the reading/understanding of the surrounding reality. The epistemological task of human sciences is to investigate the object of study, that is, man and his path of human perfectibility, in relation to the profound changes which go beyond usual codification/orientation standards of the human. Hence, a renewed commitment for educational reflection: to consider the possibilities/impossibilities which emerge from the phenomena of bio-technological contamination, in view of the structuring of both personal identity and the whole social ecosystem, within which forms of democratic coexistence can be embodied.

In light of the prospect of a post-humanism, the utopian tension, typical of pedagogical science, can be read as a gnoseological resource, useful in the context of an interdisciplinary dialectical exchange. The path to be followed is certainly not that of denying humanism, on which culture has long been rooted. The intention is not to reject the past that contributed in allowing humanity and science to build themselves up autonomously with regard to the cognitive and axiological dimension. Instead, we must reinforce a *renewed notion of humanism*, which takes into account the limits and risks of an anthropocentric vision, in order to open up to the other self (human/non-human; natural/artificial), inhabitant of the Earth in the same way. Therefore, it is a question of redefining the concept of humanism, to be read also and above all through the category of *otherness*. This is because, as the philosophical-pedagogical literature teaches, the human being (endowed with a partial, but at the same time teleological and perfective nature) is structured, enriched (with representations, ideas, behaviour models, etc.) and recognized through his interaction with You[19]. By overcoming the anthropocentric principal of classical (traditional) humanism, in modern times man, far from being the ontological centre of the universe, the measure of all things, independent, self-sufficient and

---

[19] Cfr. P. Ricoeur, *Tempo e racconto*, tr. it., Jaca Book, Milano 1986, vol. i; Id., *Tempo e racconto. La configurazione nel racconto di finzione*, tr. it., Jaca Book, Milano 1987, vol. ii; Id., *Tempo e racconto. Il tempo raccontato*, tr. it., Jaca Book, Milano 1988, vol. iii.

distinguished compared to the exterior, stands out for his open evolutionary organisation, for his co-evolution with the otherness, with always unpredictable outcomes. It is therefore possible to speak of a decentralised identity, distinguished by an «irriducibile *parzialità ontologica*: ossia della particolarità del suo essere al mondo *assieme* agli "altri" […], della sua costituiva e mai risolta "apertura" verso il mondo della natura, dei simboli, delle relazioni»[20]. Precisely in light of the techno-scientific evolution, we have come to a greater realisation of man's condition of interdependence towards the products developed from his *téchne* and his *poiesis*. Thus a profound repositioning of man in the universe takes place (he no longer represents its centre). As a result, the epistemological fragility typical of the human species' claim to self-sufficiency is overcome and the ideas of self-reference (referring to human beings), dichotomous relationship between nature and culture and the human mind's autonomy from biological ties gradually collapse. This is because light is shed on mutual exchanges and mutual contaminations.

The prefix *post-*, which appears in reference to several compound words, does not indicate a contrast with respect to humanism. It is not a question of announcing the much dreaded decline of humanism but of promoting its *new* redefinition. It would be appropriate to reconsider the complex concept of the *human*, now reaching towards a particular condition connected with scientific evolution. The latter requires the corroboration of strictly human dimensions: creative and critical-reflective thinking, the openness to change and learning, the responsible attitude that should be directed to the other self.

4. Educational planning and paradigm focused on the promotion of creativity

In what way can we achieve a requalification of the *human* and what devices should be used? It would probably be useful to reflect pedagogically on an *educational planning*, capable of relating the current cultural scene of hybridisation to an educational action oriented towards supporting the student along his perfective path. This in order that he may become a

---

[20] F. Pinto Minerva - R. Gallelli, cit., p. 154 («unyielding ontological bias; that is, the particularity of his existence in the world together with "others" […], his constitutive and never resolved "openness" towards the world of nature, symbols and relationships»).

multidimensional being[21] and may develop a thought of complexity (to be directed towards the current plural reality), seen as a thought capable of reading and understanding himself (but also others and the world) while he lives through the transformations he encounters and whose protagonist he is[22]. A formative project, therefore, imbued with utopian significance and designed to make the individual aware of the identity transformation he has experienced. This can prove to be feasible especially if he will be entrenched in the exercise of the imagination, in a paradigm focused on the promotion and reinforcement of creativity, characteristic of living systems and, in particular, the human species. By materialising in anticipations and in the identification of courses of action, it allows to steer to the future, to cope with critical transformative conditions which, by virtue of their own nature, require of the individual constant adaptation/re-adaptation, construction/deconstruction processes. Creativity allows us to look *beyond* the existing. It can therefore open up possible worlds, prefigure original post-human scenarios, as well as identify innovative strategies, in order to best deal with the changes underway. This also takes place through the promotion of the ability to realise relationships and exchanges based on collaboration. The development of the creative dimension, which takes shape in the merging of convergent and divergent thought, of *logos* and *pathos*, thus makes it possible to imagine the future, through predictions that take into account natural/artificial contamination. Thanks to creativity, new modes can be predicted, whether they be existential (in living places with the presence of bio-mechanical devices, useful for the survival of the human species and, in general, of life on the planet) or communicative-relational (with human/non-human interlocutors).

When does creative thinking find fertile ground for its development? This takes place when, in the various educational contexts, one works in order to enhance in the student not a *single* but *plural thought* and, at the same time, *hybridised* with respect to the material, symbolic, natural and technological components; components which concern living environments (within which the individual experiences the world) and which

[21] Cfr. F. Frabboni, *Emergenza educazione. La scuola in una società globalizzata*, Utet, Torino 2003, p. 13.
[22] Cfr. E. Morin, *Sfida della complessità*, tr. it., Editoriale Le Lettere, Firenze 2017; M. Ceruti, *Il tempo della complessità*, Raffaello Cortina Editore, Milano 2018.

change according to the spatial-temporal coordinates and therefore the historical-cultural conditions. This is therefore referred to a thought that is able to *think the unthinkable*, that is able to grasp, in line with the systemic perspective, the parts and the whole, the hybrid ties in the experience, the interrelations between each event and its circumstance, the differences between self, otherness and the context, as well as what unites and keeps together. An autonomous, free, anti-dogmatic, respectful and democratic thought can go beyond barriers and prejudice. This involves promoting at the same time the development of a *reasoning* that is both *scientific* (critical, flexible, explorative, capable of building bridges and crossings among the numerous and varied aspects of plural and contemporary reality) and *aesthetic* (rooted in the agreement of *logos* and *pathos*, for the purpose of an original hermeneutic analysis of the world) and *ethical* (founded on the idea of good and responsible life, to be understood as *praxis curae*: care of self, others and the world)[23].

This discussion, aimed at the consideration of the post-human and the implementation of the *educational planning of a new humanism*[24], is related to concepts which are characteristic of the field of ethics, such as (individual and social) responsibility and freedom. Hence, it refers to the desired opportunity to give rise to a real democracy on a global scale, within which everyone can understand (by experiencing it first-hand) the importance of cooperation and experience an active participation, based on autonomous choices. This means that this *educational project* also becomes a *democratic project*, whose implementation calls upon the field of pedagogical research and education. From the above it is clear, therefore, that the *post-human* should not be interpreted as the *end of the human*, but as the requalification of the *human*, to be rooted in global solidarity and in what Zambrano defines as the homeland of all feelings: *pity*, as the ability to deal with the diverse, in order to make room for the You in the I and thus take him in[25].

[23] Cfr. F. Valbusa - M. Ubbiali - R. Silva, *Il bene nel pensiero dei bambini. Una ricerca educativa nella scuola dell'infanzia e primaria*, in «Encyclopaideia – Journal of Phenomenology and Education», 50 (2018), pp. 47-66; L. Mortari, *Aver cura di sé*, Raffaello Cortina Editore, Milano 2019.

[24] Cfr. F. Pinto Minerva - R. Gallelli, *Pedagogia e post-umano. Ibridazioni identitarie e frontiere del possibile*, cit.

[25] Cfr. M. Zambrano, *Sentimenti per un'autobiografia. Nascita, amore, pietà*, tr. it., Mimesis Edizioni, Sesto San Giovanni (Mi) 2012.

5. Conclusions

Pedagogical science, a theoretical-practical discipline, is governed by a specific intentionality: to nurture the *human* and think of education as the process of support and care to be directed to the subjective educational path. There follows a *speculative concern* joined by a *methodological concern*. *Post-humanist* pedagogy is called upon to reconfigure the *proprium* of the human species: *open* and *dynamic evolutionary potential*, which is nourished by hybrid connections and which leads it to build connecting bridges. By following this direction, it can help to go beyond the anthropocentric visual angle, without underestimating either the demand for a radical connection between human and non-human or the formation of a subject increasingly involved in bio-technological forms of hybridisation. Indeed, the experiences man has had in the world stimulate and reorganize his neuronal repertoires. This means that they have a crucial impact on the biological factors that make up his own sensorial-perceptive, motor, cognitive and emotional structure. This is how the surrounding reality is inscribed in the biological heritage belonging to both the individual and the human species.

It is therefore necessary to become involved in the fine-tuning of the formative project of a new humanism in terms of a post-humanism, aimed at the development and enhancement of a complex thought, which is made up of various dimensions (scientific, creative, caring, ethical, etc.) and that is therefore capable of creating links between the heterogeneous phenomena of reality. It is believed that this *educational planning*, by corroborating the co-evolutionary encounter between nature and culture, subject and context, biological (man) and technological (machine), and acknowledging the leading role played by otherness, can determine the overcoming of epistemological anthropocentrism (typical of Western thought), thus reducing the gap between *human* and *non-human*, which it led to over time. In light of this new awareness of the contemporary world (the increasingly evident intertwining of man with technological-scientific devices), we can understand how the educational path coincides with the hybrid and co-evolutionary process with otherness (understood in a broad sense: man, machine, context); a decisive process for the purposes of both self-definition and self-fulfilment and of the conservation of the human species and the whole life on the planet.

Therefore, by paraphrasing Schopenhauer's famous porcupine dilemma[26], according to which the requirements of society invite men to move towards each other, although their qualities and their limits continue incessantly to move them away from each other in a precarious balancing act, in the same way, in modern times Covid-19 has forced mankind to keep its distance, to do without that *warmth* which contact and reciprocity can ensure. All we can do is hope, while being aware of the difficulty of managing the pandemic situation, that the political authorities will succeed in reconciling health prevention with the socio-economic recovery of the Nation and with the emerging pedagogical-educational demands. This can be done by achieving a balance between varied interests and individual rights, such as the right to life, health, freedom, education, etc.[27], also with reference to the disabled, who require specific educational-teaching plans, as well as interventions in support of the families[28]. Therefore, it is a question of taking action without doing too much harm to anyone and reaching the best solution for everyone, in the name of global cooperation[29], which must include empathetic understanding[30]. After all, in accordance with a systemic-relational vision and with the intent of resorting to a metaphor which, thanks to its representative force, is carved in people's minds, «nessun uomo è un'isola, completo in se stesso; ogni uomo è un pezzo del continente, una parte del tutto»[31].

[26] Cfr. A. Schopenhauer, cit., vol. II, chap. XXXI, section 396.

[27] Cfr. A. Celotto, *La quarantena dei diritti. Come una pandemia può sospendere le nostre libertà*, Historica Edizioni, Roma 2020; J. Habermas - K. Günther, *Ogni diritto ha un limite*, tr. it., in «MicroMega», 5 (2020), pp. 61-69.

[28] Cfr. L. Ferraro, *La rete resiliente. Buone prassi educative e didattiche per i disturbi dello spettro autistico ai tempi del Covid-19,* Independently published, 2020.

[29] Cfr. E. Morin - A.B. Kern, *Terra-Patria*, tr. it., Raffaello Cortina Editore, Milano 1994.

[30] Cfr. E. Stein, *L'empatia*, tr. it., FrancoAngeli, Milano 1985; J. Rifkin, *La civiltà dell'empatia. La corsa verso la coscienza globale nel mondo in crisi*, tr. it., Mondadori, Milano 2011; M. Santerini, *Educazione morale e neuroscienze. La coscienza dell'empatia*, Editrice La Scuola, Brescia 2011; A. Bellingreri, *Per una pedagogia dell'empatia*, Vita e Pensiero, Milano 2005.

[31] J. Donne, *Devozioni per occasioni d'emergenza*, tr. it., Editori Riuniti, Roma 1994, p. 112 («no man is an island, entire of itself, every man is a piece of the continent, a part of the main»).

Bibliography

Barcellona P. - Garufi T., *Il furto dell'anima. La narrazione post-umana*, Edizioni Dedalo, Bari 2008.

Bellingreri A., *Per una pedagogia dell'empatia*, Vita e Pensiero, Milano 2005.

Bertagna G., *Modernità epistemologica della Pedagogia generale e principi di Pedagogia generale*, in G. Minichiello (ed.), *Epistemologia pedagogica: stato dell'arte*, Pensa Multimedia, Lecce 2006, pp. 113-172.

Id., *La scuola al tempo del Covid. Tra spazio di esperienza ed orizzonte d'attesa*, Edizioni Studium, Roma 2020.

Boncinelli E. - Galimberti U., *E ora? La dimensione umana e le sfide della scienza*, Einaudi, Torino 2000.

Braidotti R., *Il postumano. La vita oltre l'individuo, oltre la specie, oltre la morte*, tr. it., DeriveApprodi, Roma 2014.

Cambi F., *L'epistemologia pedagogica oggi*, «Studi sulla formazione», 1 (2008), pp. 157-163.

Celotto A., *La quarantena dei diritti. Come una pandemia può sospendere le nostre libertà*, Historica Edizioni, Roma 2020.

Ceruti M., *Il tempo della complessità*, Raffaello Cortina Editore, Milano 2018.

Corsi M., *Dopo il coronavirus*, «Nuova Secondaria», 10 (2020), pp. 14-17.

Dilthey W., *Introduzione alle scienze dello spirito*, tr. it., La Nuova Italia, Firenze 1974.

Donne J., *Devozioni per occasioni d'emergenza*, tr. it., Editori Riuniti, Roma 1994.

Farci M., *Lo sguardo tecnologico. Il postumano e la cultura dei consumi*, FrancoAngeli, Milano 2012.

Farisco M., *Ancora uomo. Natura umana e postumanesimo*, Vita e Pensiero, Milano 2011.

Ferraro L., *La rete resiliente. Buone prassi educative e didattiche per i disturbi dello spettro autistico ai tempi del Covid-19*, Independently published, 2020.

Florita M.O., *L'intreccio. Neuroscienze, clinica e teoria dei sistemi dinamici complessi*, FrancoAngeli, Milano 2011.

Frabboni F., *Emergenza educazione. La scuola in una società globalizzata*, Utet, Torino 2003.

Frabboni F. - Wallnofer G. (eds.), *La pedagogia tra sfide e utopie*, FrancoAngeli, Milano 2015.

Franzini E., *Moderno e postmoderno. Un bilancio*, Raffaello Cortina Editore, Milano 2018.

Giordano P., *Nel contagio*, Einaudi, Torino 2020.

Habermas J. - Günther K., *Ogni diritto ha un limite*, tr. it., «MicroMega», 5 (2020), pp. 61-69.

Kelly K., *Quello che vuole la tecnologia*, tr. it., Codice edizioni, Torino 2011.

Marchesini R., *Post-human. Verso nuovi modelli di esistenza*, Bollati Boringhieri, Torino 2002.

Id., *Il tramonto dell'uomo. La prospettiva post-umanista*, Edizioni Dedalo, Bari 2009.

Marzo P.L., *La natura tecnica del tempo. L'epoca del post-umano tra storia e vita quotidiana*, Mimesis Edizioni, Sesto San Giovanni (MI) 2012.

Morin E., *Sfida della complessità*, tr. it., Editoriale Le Lettere, Firenze 2017.

Id., *Cambiamo strada. Le 15 lezioni del Coronavirus*, tr. it., Raffaello Cortina Editore, Milano 2020.

Morin E. - Kern A.B., *Terra-Patria*, tr. it., Raffaello Cortina Editore, Milano 1994.

Mortari L., *Aver cura di sé*, Raffaello Cortina Editore, Milano 2019.

Musaio M., *Dalla distanza alla relazione. Pedagogia e relazione d'aiuto nell'emergenza*, Mimesis Edizioni, Sesto San Giovanni (MI) 2020.

Ortega y Gasset J., *Obras Completas*, Fundación José Ortega y Gasset-Taurus, Madrid 2004-2010.

Id., *Il tema del nostro tempo*, tr. it., Sugargo Edizioni, Milano 2018.

Perniola M., *Il sex appeal dell'inorganico*, Einaudi, Torino 1994.

Pinto Minerva F. - Gallelli R., *Pedagogia e post-umano. Ibridazioni identitarie e frontiere del possibile*, Carocci, Roma 2004.

Revelli M., *Umano, Inumano, Postumano. Le sfide del presente*, Einaudi, Torino 2020.

Ricoeur P., *Tempo e racconto*, tr. it., Jaca Book, Milano 1986, vol. I.

Id., *Tempo e racconto. La configurazione nel racconto di finzione*, tr. it., Jaca Book, Milano 1987, vol. II.

Id., *Tempo e racconto. Il tempo raccontato*, tr. it., Jaca Book, Milano 1988, voI. III.

Rifkin J., *La civiltà dell'empatia. La corsa verso la coscienza globale nel mondo in crisi*, tr. it., Mondadori, Milano 2011.

Rivoltella P.C., *Le virtù del digitale. Per un'etica dei media*, Morcelliana, Brescia 2015.

Id., *Tecnologie di comunità*, Scholé-Morcelliana, Brescia 2020.

Sanna I. (ed.), *La sfida del post-umano. Verso nuovi modelli di esistenza?*, Edizioni Studium, Roma 2005.

Santerini M., *Educazione morale e neuroscienze. La coscienza dell'empatia*, Editrice La Scuola, Brescia 2011.

Schopenhauer A., *Parerga e paralipomena*, tr. it., Adelphi, Milano 1998, vol. II.

Simonelli A.M., *Oggi, ai tempi del Covid-19*, «Nuova Secondaria», 2 (2020), pp. 72-79.

Spadafora G., *La pedagogia. Questioni epistemologiche*, Anicia, Roma 2016.

Stein E., *L'empatia*, tr. it., FrancoAngeli, Milano 1985.

Tognon G., *Pandemia e pedagogia a confronto. Grandezze e limiti della ricerca educativa italiana*, «Nuova Secondaria», 3 (2020), pp. 195-204.

Tolomelli A., *La fragile utopia. Impegno pedagogico e paradigma della complessità*, Ets, Pisa 2007.

Tosolini A. (ed.), *Il post-umano è qui*, Emi, Bologna 2008.

Valbusa F. - Ubbiali M. - Silva R., *Il bene nel pensiero dei bambini. Una ricerca educativa nella scuola dell'infanzia e primaria*, «Encyclopaideia – Journal of Phenomenology and Education», 50 (2018), pp. 47-66.

Von Bertalanffy L., *General System Theory: Foundations, Development, Applications*, George Braziller, New York 2015.

Zambrano M., *Filosofia e poesia*, tr. it., Edizioni Pendragon, Bologna 2002.

Ead., *Sentimenti per un'autobiografia. Nascita, amore, pietà*, tr. it., Mimesis Edizioni, Sesto San Giovanni (MI) 2012.

Contributi alla vita consultoriale

Legislative references

Departmental note 17 March 2020, n. 388.
Legislative Decree 25 March 2020, n. 19, Article 1, paragraph 2, letter p.
Legislative Decree 8 April 2020, n. 22 (converted, with modifications by law) into Law 6 June 2020.
Legislative Decree 19 May 2020, n. 34.
Decree of the Minister of Education 26 June 2020, n. 39.
Ministerial Decree 7 August 2020, n. 89.