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Composing Worlds: A Portuguese Transdisciplinary Network in Humanities, Health and Well-Being

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Abstract: The project "Composing worlds: humanities, health and well-being in the 21st century" aims to build a network of experts in the humanities, social and health sciences, who think about health and well-being in contemporary technological societies. The relevance of this project is based on the growing evidence that most of the problems that the 21st century will face, particularly in the area of health and well-being, relate to the way in which humans connect to the environment, to non-human beings, to different cultures and to technologies. Its main goal is to bring out personal and well-founded ideas on these issues and to reflect on how the humanities may help with difficult environmental, social and technological issues. The methodology used in the first phase of the project consists of an open answer interview, built in a participatory way by the network of experts, and of a thematic analysis of the answers. It is an exploratory research project, which uses thematic analysis to identify the key ideas of each author, and to induce the corresponding main themes. The themes are then organized by semantic correspondence into thematic clusters. The thematic axes are abstracted from these clusters, and they constitute the vectors to be developed in the second phase of the project, by proposing their integration into university curricula, research and intervention of social, cultural and community outreach. Some of these developments are already in place.

Keywords: humanities; health; well-being; transdisciplinarity

1. Introduction

We are living a time of vast transformations, both in human societies and the environment. These transformations call for a critical and emphatic reflection on the future

we want to build, and the directions we intend to promote, in order to make our common world more hospitable and more inclusive, both for human and non-human beings. This paper consists in the presentation of a network project, bringing together specialists of different areas in the humanities and the social, natural and health sciences, who reflect upon major issues of today's environments and societies, focusing mainly on health and well-being[1].

There is growing evidence that most of the problems that the 21st century will face, particularly in the area of health and well-being, relate to the way humans interact with local and global ecological contexts, with cultures and with technologies. In the Anthropocene[2], human presence in nature and natural responses from planet Gaia[3] are inextricably intertwined, composing new local and global environments for life. New climate and biophysical conditions engender changing biotopes and lifeforms [4]. Changing human niches generate migrations and new social movements, new cultural products, new questionings of the future, new narratives and visual concepts [5]. Today, science and public awareness are brought together by new controversies and collaborative expertise. Information, media and digital realities add layers of psychosocial and cultural meanings that do not always adhere to immediate bodily experiences. Ulrich Beck's [6] metamorphosis of the world expresses this estrangement that keeps us in a perplexed position in face of the major transformations of our living places, and of the world at large. These are epochal changes of ways of living and of worldviews, brought about by transformations in climate regimes, global social and political life and technologies.

The humanities and the arts, together with the environmental, social and the health sciences, are essential fields of knowledge to understand this metamorphosis and its impact on health and well-being. They offer us a deeper, as well as a broader, opportunity to enact, to think about and to diagnose these new complex realities. It was by considering this premise that the network "Composing worlds"[4] was created, embodying a cooperative effort through its various inter- and transdisciplinary ideas and activities of training, research, and cultural and community involvement. In the field of transdisciplinary studies, several efforts have been made to highlight the need of this approach to address health and well-being framed by the contemporary challenges. Rita Charon [7] devoted attention to the powerful link between literature and health suggesting that the degree of attention that medicine pays to the individual patient's predicament can be indicated by tracking the history of medicine's attention to the power of words, which has seen both growth and decline. This paper explores the role of literature and storytelling in improving patient care and medical education. One potential challenge of transdisciplinary work in health humanities is the need to overcome disciplinary silos and integrate insights from literature, ethics and social sciences into medical education and practice. The work of Francourt and Finn [8] has demonstrated the role of arts in improving health and well-being, namely by promoting initiatives at local and national levels and supporting cross-sectoral collaboration. Furthermore, the work of Kirk et al. [9], close to our own, that shows that human health and well-being are closely tied to the quality of relationships with other species, highlighting the importance of a collective process of "being well together" that goes beyond human boundaries. These are a few examples of a significant amount of literature that has been published around these topics. Several Health Humanities Networks are actively working towards recognizing the intersection between health and humanistic disciplines, including fine arts and social sciences. For instance, "The Doctor as a Humanist" [10] aims to promote networking, collaboration, knowledge exchange and research in medical humanities, as well as re-humanizing healthcare. The "Health Humanities Consortium (HHC)" [11] is a global interdisciplinary organization that promotes health humanities research, education and practice. The "Health Humanities Lab" [12] is a collaborative network of scholars and practitioners who use humanistic approaches to explore issues related to health and illness. "The Arts and Health Alliance" [13] is an international network that promotes the use of arts in healthcare and community settings. Despite the significant importance of these networks, they face challenges in overcoming disciplinary boundaries and integrating

diverse perspectives. This can be difficult due to varying terminologies, methodologies and epistemological assumptions across different fields.

To address this complex issue, the "Composing Worlds" network aims to bring together the complex relationships between nature-culture, humans, non-humans, places of life and Western epistemology with the critical contribution of humanities, such as communication, arts, cinema, literature, ethics and bioethics. These are crucial subjects that shape our main questions: what worlds should we compose, and what relationships should we define for the humanization of contemporary living environments? How can we promote the health of both humans and non-humans in an integrated way, while overcoming the rigid distinction between nature and culture?

To answer these questions, the "Composing Worlds" network proposes a set of thematic clusters and axes based on experts' interviews. The aim is to integrate the results into university curricula, as well as social, cultural and community training and interventions. By bringing nature, humanities, social sciences and arts closer to health and well-being, the network hopes to foster a more holistic approach to healthcare and well-being.

2. Contextualization and Relevance

The project "Composing worlds" intends to build a network of specialists in the humanities and the social and health sciences in order to propose ideas that might inspire the kind of worlds we want to compose, and to promote global health, to enhance the humanization of cultures and to support well-being in our common living environments. The project arose at the University Fernando Pessoa and brought together a group of 12 specialists from three different universities. The relevance of this project pertains to the growing evidence that most of the problems that the 21st century will face, particularly in the area of health and well-being, relate to the way humans affect climate and adapt to different environments, interact with other species, use technologies, develop cultures and politics or promote social inclusion.

At a material level, ecology shows that the planet is modifying its thermal and pluvial regime, the distribution and number of species and the chemical constitution of soils, air and water. Climate change impacts on human and non-human health and survival, and the Anthropocene reminds us of human responsibility and the need to stabilize ideas to define good governance for the planet. The composition of societies is also changing; human migratory movements are now a social constant because of climate change, poverty and war. The dialogue between diverse cultural traditions has a direct impact on health systems and leisure conceptions. Aggression in one region of the planet is felt like aggression next door. In our globalized world, the potential destructive power of nuclear weapons and war directly affects our physical and mental health, as well as ecosystems [14]. Digital objects have invaded our daily lives and we seem to believe the messages on our mobile phones more than the experienced reality. Health and leisure spaces can be lived without leaving home, and our subjective life, especially that of the youngest, is impregnated with filters and other applications that build fleeting *personae* in imaginary metaverses. Real life and its affordances are being replaced by fictional places where everything is possible, excluding concrete environmental and social requirements.

On the other hand, our social world has never been as connected as today, and the internet and the media, in their various forms, bring together people from all over the planet, building the global village [15] and progressively creating the noosphere, or the sphere of human consciousness, prophesied in 1923 by the Jesuit priest and evolutionary biologist Pierre Teilhard de Chardin [16].

It is likely that, in not too distant a future, the division between the humanities, health sciences and engineering, ecology or physics will cease to exist, and students will receive training in these different valences as soon as they enter schools. The syncretism that results from the new inter- and transdisciplinarities calls for a philosophical and critical reflection that should not lose sight of ecological and social reality. One of the dangers of transdisciplinarity without a clear grounding is the futility of its descriptions, and the

consequent creative impasse. Given that we humans are the agents, it is necessary to acknowledge human nature, because a transdisciplinary effort that does not consider what we know about it (regardless of gratuitous political statements) is incomplete[5].

3. Participants, Methodology and Results

The participants of the project "Composing worlds"[6] are twelve recognized specialists (Males = nine; Females = three) from three Portuguese universities, composed of experts from a wide range of disciplines, including bioethics, ethics, literature, cinema, psychology, anthropology, sociology, medicine, communication, landscape architecture and science and technology studies.

The methodology used in the first phase of the project was an interview with an open response script, built in a participatory way by the network of experts. The goal of the interview, divided into four dimensions, was to bring to light personal and well-founded knowledge and sensitivities in the face of major issues involving the humanities, health and well-being in contemporary societies (Table 1).

Table 1. Dimensions and questions of the interview script.

Dimension	Question
Personal background	1. What is your subject area of initial training and how does it relate to your current professional activity and your main research interests? Please detail your answer.
	2. Does your activity as a researcher and teacher relate to the area of well-being and/or health? If yes, how are these areas addressed? If not, what were the influences that, in your scientific and academic career, marked your interests? How can they contribute to your understanding of well-being and/or health?
Concepts' definition and the utility of humanities and social sciences	3. This is a project about well-being and health. How do you define these concepts and what are, in your opinion, the areas of the humanities that can contribute most to their study? Please tell why.
	4. In your experience, and starting from your area of research, what are the major issues that, in the area of well-being and/or health, make you think today? How can your research contribute to their understanding?
	5. What are the themes in the area of well-being and/or health that you consider most embarrassing or, conversely, most promising for the future? Please tell why reasons.
Technological and ethical issues	6. Technologies for human well-being and/or health are rapidly changing and affect contemporary societies in different ways. How does it redefine the place of the human in this world increasingly marked by technologies?
	7. What is your opinion on the role of critical and ethical thinking at a time of great technological advances, environmental transformations, changes in social discourses and dialogues with other non-Western partners? How do you think about the relationships they establish with the search for truth in knowledge?
Current research experience related to well-being and health	8. How could your subject area participate in interdisciplinary projects related to health and/or well-being? If possible, can you give one or more examples, proposing the general designs of this investigation?
	9. Do you have any other questions or important life events that shape your ideas about human well-being and/or health that you would like to develop?

This research is inductive, realistic and of a semantic level; its goal is to identify the original themes emerging in the texts of each author and not the historical, critical or psychological contextualization of their answers. It is a qualitative and exploratory research that uses thematic analysis[7] with various levels of reading and text coding in order to identify the original key ideas of each author and to induce the corresponding main themes.

The authors' responses to the interview were subject to six levels of analysis:

1. Global reading and familiarization with the text of each author;
2. Global analysis of each text highlighting the key ideas;

3. Global coding, by terms, of the related key ideas;
4. Organization, throughout the text, of the related terms into themes;
5. Return to the text and the key ideas, reviewing and synthesizing them into 10 main themes;
6. Final review of the corpus of the key ideas and the 10 main themes by the authors.

The themes that were considered by the specialists included, among others, entertainment, types of news and well-being, ecology and relationships with non-human animals, regenerative landscaping, science in advanced technological societies, social networks and smart digital devices, identities, gender, sex and assisted reproduction, education, diversity and values, brain health and medical and psychological technologies, evolution and mental health, transdisciplinary research, bioethics, subjectivity and the place of narrative, aesthetics, ethics and spirituality.

The themes were later organized into nine correspondence groups, or semantic clusters, which are:

I. Public knowledge of science;
II. Critical thinking and ethics in health;
III. Well-being, health, democracy and social justice;
IV. Holistic (transdisciplinary) approach to health and well-being;
V. Health systems, diversity, cultures and nature;
VI. Technologies, artificial intelligence, health and well-being;
VII. Environment, health, sustainability and equity;
VIII. Evolution, organisms, time and mental health;
IX. Health as a proto-value produced inside relationships between people.

The analysis of the themes by cluster allowed us to identify a set of transversal thematic axes that were reviewed by the network of experts. They include, among others: concerns with controversy and truth in an information society; critical literacy and internet; north-south epistemologies; humanism and post-humanism; climate change, ecology and anthropology of health; applied technologies and the democratization of access to health care; tribalism and social media; cultural diversity; gender and health; bioethics and environmental ethics; the arts and humanities in global and community education; evolution, adaptation and mental health; biophilia[8]—the human motivation to connect with nature and other living beings [19]—in hospital landscapes and in living places; artificial intelligence, the technologization of human habitats and its effects on brain and health. The new socio-familial and technological contexts of child development deserved particular attention, as did the Darwinian evolution of human and non-human organisms.

The axes are lines for development in the second phase of the project, dealing with transdisciplinary and interdisciplinary skills that respond to the challenges related to health and well-being in the 21st century. The infusion of themes into university curricula was indicated as a way to disseminate forms of critical thinking in scientific courses. This is because the discussion of their contents, and the intuition involved with emotional and societal issues, raises critical awareness and promotes original thinking.

From the global assessment of the thematic axes, some lines of thought were detected that largely denote the orientation of the project "Composing worlds". These are:

(i) The importance of the human rights as opposed to the cultural relativism of practices, pointing to a relative universalism of institutions and values[9];
(ii) The growing importance, not yet fully assumed, of a relational ecology, involving the objective and subjective dimensions of local relations between humans and non-humans, abandoning the idea that ecology should be treated as 'just complexity', and promoting a more extensive idea of ethics and politics;
(iii) The preponderance of a relational ontology, as opposed to a causal one, pointing to a more organic (as opposed to mechanical) conception of science and society.

The search for the universal up from the particular, thinking along borders and lines with the production of new techno-natural [21] and disciplinary hybrids, the humanist

concern with the rescue of the concrete other, the attention to suffering and to the processes of living and dying in humans but also in non-humans, the presence of the spiritual in its diversity and ethical unity: these are all aspects that point to the emergence of a global proto-narrative of relational and ethical connotation.

In general, what the project revealed is that postmodernity seems to have given way to new narratives and new ethical and even metaphysical interrogations. Themes such as happiness, love, compassion, kindness and beauty, and universal concepts such as the Anthropocene and Human Rights, associated with *think local/act personal*, seem to have replaced the relativism of thoughts and practices, the constructionism of feelings, the localism and immanentism of values and communitarian multiculturalism. Ph. Descola [22] tells us that we may be witnessing a slow shift from the naturalist paradigm to a more analogous conception of the relationships between humans and non-humans. These changes call for our scrutiny and critical thinking, but also for a greater attention to cognitive characteristics inherited from biological and cultural evolution that remain active.

4. Discussion: Humanities, Health and Well-Being

The project "Composing worlds" aims to find out how humanities can contribute to a better understanding of multiple issues of health and well-being in contemporary societies.

It became clear, from the answers given to the interview, that health and well-being are experienced today in broader contexts than the systems traditionally dedicated to them. Biological and cultural identities are conceived as concrete diversities living in real ecologies. Personal lifestyles and information from different origins condition the paths to health and well-being. **Cluster I and II** show that in order to have an adequate understanding of all these data, it is necessary to acquire skills in contextual reading, interpretation and critical elaboration of arguments, in parallel to technical training. The humanities, due to their ability to deal with texts and images, as well as with the mentalities of the epoch, are important instruments for literacy in health. They allow for the unveiling of institutional symbols and practices. One of the important aspects of literacy in health is the relationship between personal biography and illness. The production of autobiographical texts in the course of healing processes can be of great help in understanding one's own humanity, as well as that of others, in relation to therapeutic procedures. This understanding is accessible through literature, poetry, the visual arts—particularly if they are accessed and rehearsed in workshops promoting creative writing—drawing and theater.

Self-examination can be an extremely useful tool when there is debate and controversy around public or personal health issues. This competence can be developed through the reading of testimonies, the examination of arguments and the joint construction of cases and consensus. This allows for the development of case construction techniques and for modalities of influence and persuasion. The process will be limited by ethical considerations, as societal values run deeply and determine the contexts in which they act.

In an indirect way, and often in an artistic way, narrative medicine [23] (p. 246) allows us to sharpen our sensitivity to forgotten dimensions of health and well-being by promoting the expressive encounter with health staff. Likewise, familiarity with texts and their contextualized interpretation can help to decode health in digital messages, frequent in our daily lives through the internet, in an era of post-facts and post-truths. Literacy in health contributes to a broader ability to deal with technical data consensus through peer communities when applied biomedical sciences are at stake.

Cluster III aggregates questions of democracy and social justice in association with health and well-being. Martha Nussbaum [24], in one of her most cited texts, argues that a healthy and participatory democracy involves developing the skills offered by the humanities because they cultivate critical and autonomous thinking, as well as the ability to clearly communicate original personal ideas.

The economic growth model does not, by itself, generate the best quality of life because the latter does not depend linearly on accumulated wealth [24]. For this author, thinking of viable scenarios for a dignified, varied and future-bearing human life implies the cultivation

of imagination and empathy, the holistic intelligence and the appreciation for personal detail. These are skills that show how models of control and discrimination, typical of scientific methodologies, are not able to cope alone with complex contemporary issues. Demagogy and mass rhetoric can, as is the case in politics and social affairs, also mark the fields of health and well-being. Examining the present arguments allows us to disentangle ideas and beliefs about diseases and treatments which permeate cultures and people's opinions, and often promote literacy inequalities.

Cultural values are generally based on an invariant core of behaviors and ideas that allow individual and group survival, but these are not necessarily expressed in the same way in all cultural groups and, furthermore, within certain limits, they may vary with time[10] [25]. However, for Armitage et al. [26], not all social change is good. There must therefore be a fundamental value on which to build valid arguments and beneficial projects. This value is generally grounded in our bodily, emotional and cognitive experiences, and in our relationships with other humans and non-humans alike. It is most easily captured by the ways the arts descriptively receive the world and give it back restoratively, through creative imagination. "The humanities might offer us private understanding, pleasure and consolation" [26] (p. 4) in the face of a constantly changing world. They can also offer us tools to constructively guide change, because each work of art is a "creative poiesis" [26] (p. 4), a powerful way of dealing freely with the forces and needs of each time and place.

The importance of interdisciplinarity and curricular transversality of themes relating the humanities to health and well-being is emphasized by **Cluster IV**.

For Nicolescu [27], interdisciplinarity corresponds to the transfer of methods from one discipline to another, usually more complex discipline. Transdisciplinarity, in turn, respects what is at the same time between, across and beyond the different disciplines. Its goal is to understand phenomena in a more comprehensive way, and one of its imperatives is the unity of knowledge. Transversality allows us to maintain the disciplinary content, developing the imaginative and integrative aspect of its themes, in an exploratory conception of science that opposes traditional positivism and develops a complex, dynamic knowledge in search for meanings. Transdisciplinary projects in medical or psychological curricula show more clearly the tacit values of these scientific disciplines. Causal determination, analytical materialism, disease categorization or diagnostic universality can be rethought in the light of humanities' values. The discussion of freedom, diversity, beauty, justice, dignity and even truth, understood as the feeling of coherence between disparate information, can imbue medical and psychological disciplines with density and meaning. Vignettes of literature and visual arts dealing with the scientific questions addressed by the disciplines will allow students to perceive in a deeper and tangible way the reality that is being described [28]. With these vignettes, suffering and death, but also joy and life, become less abstract and are less likely to be treated as external objects.

Working with the humanities in transversal methodologies is a way of making curricular content more accessible and didactically more interesting. In addition, the transversality of the humanities in health allows us to rethink what it means to be human and how humans, but also non-humans, should be treated, specifically in research. As the concept of "One Health" [29][11] portrays, there is growing evidence that health and well-being do not exclusively concern the medical or psychological sciences, but a multitude of other disciplines that deal with social issues, with natural and urban ecosystems, and with plants and animals. The complexity of this interaction is easily understood when we tell stories that display them. These stories can be inserted, as case studies, both in scholarly curricula and in continuing education modules.

Cluster V and **Cluster IX** show that it is impossible to think about health and well-being independently of people, and of time and place. Health systems of different cultural groups, at different times in history, differ in terms of the organization of symptoms in diagnoses, etiologies and treatments, in terms of institutions and social practices concerning the patient, the therapist and the community. Health humanities[12] [31] are prepared to deal

with this diversity and to propose culturally informed, and often negotiated, perspectives in contexts of science (**Cluster I**).

Today's medicine is increasingly the medicine of the four P's: preventive, predictive, participatory and personalized. As suggested by **Cluster I**, it combines trust and consensus about the clinician's ability to indicate the origin of the disease and to propose the appropriate therapy, as well as trust and consensus about the patient's ability to participatively integrate the indications that have been suggested to him. Instead of a linear model of information being passed down from the specialist to the user, **Clusters I, V** and **IX** point to a circular and relational model in health, where knowledge impacts on diagnosis and healing processes.

As the authors' answers generally showed, the idea that pathologies correspond to fixed, abstract and universal entities involving the corresponding therapeutic protocols should be replaced by the idea that it is people who are sick, and that it is with people's particular suffering that therapists have to deal. Being sick is an existential condition [32], and important work has shown that the quality of the bonds between patient and therapist are essential elements for a regenerative response. This is translated into effective biochemical and psychological changes [33]. Our mind–body system operates in a non-dual way, and in close connection with significant people and shared values. The links between humanities, health and well-being become clearer when we appreciate how literature, poetry, plastic and visual arts contextualize in time and culture, specifically through the relationships between people, the meanings of health and illness, life and death, diagnoses and the corresponding treatments. These are questions specifically treated by **Cluster IX.** The ways in which other people dealt with illness and suffering, how they intimately elaborated on their healing journey and how they imagined their own death, has an important cathartic effect that humanizes and brings together what is often lived as a solitary experience. The humanities give us privileged access to the pulse of experience in their role of revealing that which is common through unique experiences. That is why it is not uncommon for doctors, psychologists and other therapists to carry out artistic or literary activities as catharsis and as ways to elaborate their own practice.

Cluster VI is about new digital technologies and artificial intelligence (AI). Generally considered by the researchers as opportunities rather than threats, they raised questions about their social impact, their autonomy versus human control, the remote monitoring of biometric and personal data for government or business records, the robotization of health and, more generally, of human habitats and their impact on education and work. The effects of technologies and AI on the developing brain were mentioned, as well as economic and digital inequalities, with exclusion or access restriction to online services in health care, culture and leisure. Citizen conditioning through social media governed by encrypted algorithms which are difficult to access were also mentioned.

AI and its developments will increasingly depend on an informational and digital literacy that uses language and communication as special tools. How will we use and understand this language and communication? How will we contextualize them as tools for the analysis and interpretation of technical texts? How can we understand the 'intelligent' production of hypertext and meta-image, these new cultural objects that did not result from human cognition? More generally, what is the ontological status of these new objects? Where are the limits to cultural creativity, to physical or mental improvement and to treatment, that result from machine–human hybridization?

This discussion implies interdisciplinary knowledge and an ethical examination of the complex problems that involve the proliferation of objects and algorithms that are potentially smarter than we are. We need to assess, debate and examine AI from the point of view of philosophy, ethics and politics, but also science fiction and the visual arts. The latter creatively anticipate the scenarios in which our imagination of the future is exercised. Combining ethics with fiction allows us to restore the limits of the human and helps to compose the appropriate arguments for techno-social options. If we do not want to be replaced by machines, we have to go back to what makes us human. This

includes cooperative learning, creativity, critical thinking, empathy and authenticity, the skills generally associated with arts and humanities education.

Cluster VII relates to the environment, to the ways we live and define humans and non-humans, and how these impact on health and well-being.

A vast literature in environmental philosophy and environmental ethics has been proposing, since the second half of the last century, an important social transformation regarding the way we treat non-human animals, climate, natural and cultivated ecosystems, modes of consumption and the exploitation of other species' habitats. The results of neglecting these issues were recently demonstrated by the SARS-CoV-2 pandemic. The very notion of nature has been questioned, and with it, the notion of culture. Contemporary anthropology shows that there are other ways of apprehending and inhabiting the environment, and ours is just one of many, with its modes of identification, its ontology and its practices [20]. The relationship between nature, health and well-being is clearly perceived today, and the need for an environmental literacy for the 21st century that deals with these issues has never been more evident. The notion of "One Health" [29] clearly states this interdependence. However, the "One Health" approach has certain limitations, primarily its emphasis on zoonotic diseases, which can result in overlooking other health concerns that are also associated with the environment, such as non-communicable diseases (NCDs) and environmental contamination [34]. Additionally, there is a possibility that this approach may prioritize the biomedical aspects of health, neglecting the social and cultural factors that impact health. Thus, the "Eco-Health" approach takes a more comprehensive perspective on health and considers the social, economic and environmental factors that contribute to health outcomes. It highlights the significance of community participation and engagement in identifying and addressing health problems [35]. However, implementing this approach can be challenging due to its complexity as it requires the integration of multiple disciplines and viewpoints, which may necessitate substantial resources and coordination. In this sense, there is a need for convergence.

In 2005 [36], Louv proposed the phrase "nature deficit disorder" to designate the phenomenon, common in urbanized children, of an excessive distance from natural environments. This distance raises a set of physical, psychological and social health problems. Nevertheless, one of the most difficult challenges facing environmental education is to effectively change modern ways of life, which are reinforced, for generations, by beliefs about the natural world as an infinite resource. It seems like an impossible task to change Western ways of feeling, of thinking and acting towards nature. We need new narratives and modes of identification and a new sense of reconnection with non-humans that drives our action. Health, work and leisure, in a changing climate context, confront us today with unforeseen personal and societal choices, in which ethics is called upon to define the ever-moving frontiers of good action. Humanities can help us to get in touch with the possibilities of moral imagination, seeking for ground for common choices out of productive reflexivity.

Environmental or ecological humanities, articulated with the concept of biophilia [37], can be of important value because they deal with issues of cultures, values, preferences and responsibilities in face of urgent environmental problems. Overcoming the division between culture and nature, environmental humanities aim to overcome the divisions between the sciences and the humanities, between Western, Eastern and indigenous ways of relating to the natural world, redefining the place of humans on this planet. The environment has always been associated with human issues of justice, work and politics, and environmental humanities can help to raise new meanings that have an internal coercive drive. A new Western paradigm, integral ecology[13], relies on a connectivist ontology in which the various relationships between humans, non-humans and environment are to be recognized, accepted and steered. Bringing storytellers, artists and communicators together with psychologists, ecologists and engineers will allow the overcoming of barriers between fields of knowledge and will contribute to a bold conception of environmental action, where biophilia will serve as an axis for creative solutions to common problems.

Cluster VIII addresses questions of evolution and mental health. How do they articulate with the humanities?

According to Armitage et al. [33], the Enlightenment produced two related modes of achieving knowledge, and these are modelling and experimentation. These two modes are typical of physical and biological sciences but, since the beginning of the 20th century, they were also used by the social and the human sciences. Their purpose is to achieve objective and universal knowledge. They deal with the "primary qualities" of solid reality (*natura naturata*), revealing the laws of functioning of the already created nature. However, this desideratum, applied to the social sciences like psychology, sociology or anthropology, engendered an epistemological tension between materialism and mentalism that still persists in its various versions.

This tension is equally present in animal and human ethology. Research protocols that exclude the individuality and originality of unique reactions has engendered a rich literature in human and animal behavioral sciences that tends to reject the application of statistical, mechanistic models. Considering an active, not a simple reactive organism allows for a better approach to understanding animals living within their environment and behaving with intentional meanings: that is behavior considered as *natura naturans*, or the timely becoming of natural beings.

In terms of mental health, the concept of an active organism helps to build a dynamic framework for the manifestation of mental disorders. Rather than mechanically resulting from the assembling of a set of symptoms and causes into diagnostic categories, mental disorders are conceived in the broader context of their ecology and evolutionary adapted physiology, the history of mentalities and institutions and the social groups and families in which they manifest themselves. Having been perceived as disturbed mental functioning, symptoms are understood within personal life histories where development occurred [39–41].

The current conception of mental disorders sees them mainly as pathologies of the brain that require the corresponding biochemical, electromagnetic or neuro-feedback treatments. Without forgetting the important advances of psychiatry and clinical psychology in treating major disabling symptoms, **Cluster VIII** critically addresses the diagnostic closure of a universal psychopathology because it blurs the adaptive richness of human nature, the originality and boundaries of its behavioral and relational activity in different cultures in a menacing world. We know today that mental disorders are part of a broader evolutionary and life history adaptation that develops in often disturbed ecologies, within often disturbed families and relationships. These adaptations tell personal, sometimes collective dramas that are encapsulated into symptoms that we should seek to understand. The articulation of evolution with a dynamic approach to personal life histories allows for a creative synthesis of science and humanities in psychopathology and clinical psychology.

The humanities are of great relevance to this more global and, at the same time, more personal framework for psychopathology, because they offer a cultural and critical understanding of the constraining factors of behavior, emotion and cognition. In the Anthropocene, mental suffering acquires global dimensions; to understand it, we need concepts that are open to cultures and to the diversity of internal experiences, and not an abstract universalism that freezes the movement of life. The humanities can help with creative thinking, while at the same time promoting a more sensitive and critically empowered awareness of evolutionary, psychodynamic, institutional and social constraints.

5. Conclusions

The arts and the humanities offer descriptive and restorative versions of the world. In general, they reflect the present, what we think about things and beings at a given moment. However, the present is an ever-changing experience, and the humanities allow us to experiment with variations of the future that we wish to collectively build. The stories we tell about the future, the utopias or dystopias that fill times of historical void or moments of rapid change and object proliferation, as in the present, are ways of slowing down the irreversible movement of time. It was through considering this premise that the

network "Composing worlds" was created, embodying a cooperative effort through its various inter- and transdisciplinary ideas and activities of training, research and cultural and community involvement.

Through the discourses of the twelve specialists interviewed in the first phase of the project, nine semantic clusters were identified, translating the complexity of the topic analyzed. However, these clusters also open a field of possibility to further explore their topics in the second phase of the project, which will consist in the development of various training activities, proposing the implementation into university curricula, research and intervention of social, cultural and community outreach, with some of these already in place. This allows us to disseminate forms of critical thinking in scientific courses and projects, as well as in social contexts, namely in how humanities and social sciences can be useful when dealing with health and well-being issues, especially in a century where contemporary societal challenges imply a transdisciplinary approach. Moreover, it is expected that the second phase of the project will mobilize the clusters in enhancing literacy in health and well-being that contribute to an informed and participatory citizenship. With the help of the humanities, in their archival role for collective cultural memory, and in their revitalizing function of helping people to live a good life, these axes can be important resources for the formation of citizens who are actively involved with their world of life, and not only passively responding to economic or social constraints.

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Notes

[1] We understand the concept of health beyond the WHO definition "as a state of complete physical, mental, and social well-being". In the west, well-being is typically understood as a state of balance between the body and mind in a given physical and social environment. This notion of well-being has evolved over time, reflecting changing ideas about what constitutes bodily, psychological and socio-environmental health. Despite the WHO's emphasis on the interconnectedness of health and well-being, however, Western medical, psychological, environmental and social practices tend to operate in isolation from one another. We address the body through biochemical and surgical interventions, the mind through psychosocial and psychotherapeutic approaches, the environment through engineering or biological interventions and the social through various events and celebrations. Techno-scientific modernity has failed to produce a theory and practice that integrates these different aspects of life in a meaningful way. As a result, social and environmental activities, physical and mental therapies, are often experienced as fragmented or even intrusive, targeting one aspect of common life or one organ or thought in isolation, rather than considering the person as a whole. Therefore, we understand health as an integrated approach to conceptualizing environmental and social well-being alongside individual health. This approach involves proposing holistic theories that recognize the interconnectedness between the body, mind, spirit and nature, with the aim of restoring a sense of coherence and symbolic significance to health within its larger context.

[2] The Anthropocene corresponds to the geological era marked by the impact of human activities on planet Earth. The term was first used in 2000 in a publication by P. Crutzen and E. F. Stoermer [1].

[3] The Gaia hypothesis, formulated in 1972 by J. Lovelock [2], proposes that planet Earth is a living organism, with the biosphere and the physical and chemical elements in dynamic interaction. Bruno Latour and Timothy M. Lenton [3] developed this concept, as opposed to the fixed concept of planet Earth and nature, arguing that the air, the oceans, the climate, the soils and everything

that we have made unstable now interacts with us. We enter geohistory and the Anthropocene is the era in which Gaia, the Greek goddess of the Earth, manifests her generating potential. For Latour, this is the most effective concept for considering the unpredictable and non-linear manifestations of the Anthropocene.

4 Henceforth "Composing worlds".

5 Sá-Nogueira Saraiva, 2022, personal communication.

6 For more information on the project please visit official website: https://compormundos.fundacaofernandopessoa.pt/o-projeto (accessed on 28 March 2023).

7 We will follow the methodological indications developed by Braun, V. & Clarke, V. [17].

8 The idea of biophilia was first coined in 1973 by E. Fromm [18]. The author related it to a loving attitude towards everything that is alive and to the need to live with nature.

9 As Ph. Descola argues in his 2005 book *Par-delà nature et culture* [20], Paris, Gallimard.

10 Aggressive behavior can be replaced by an aggressive fantasy and give rise to a new cultural encoding for the same motivation.

11 One Health is a collaborative, multisectoral and transdisciplinary approach that recognizes the interrelationship between people, animals, plants and the environment. The aim is to work at the local, regional, national and global levels with the aim of achieving optimal health outcomes.

12 The term "medical humanities" has been replaced by the term" health humanities", indicating the conceptual shift from the ideas of illness and treatment, to the ideas of healthcare and well-being [30].

13 Integral ecology is exposed in Pope Francis' Encyclical Letter *Laudato Sí* [38].

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