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Augmented Reality and Pedagogical Anthropology: Reflections from the Philosophy of Education

Abstract: Philosophy of education, as applied philosophy, deals with educational issues from a philosophical point of view, including those raised by modern technology. Being a form of social interaction, education is probably one of the experiences most altered by technology; through ICTs, it has gained a myriad of options not only for accessing knowledge but also for human development. In this chapter, I will analyze some challenges that Augmented Reality presents in philosophy of education, paying particular attention to its ramifications for pedagogical anthropology. To be specific, I will explore the following human traits: lack of instincts and its influence on the development of initiative; human precariousness in the environment and ability to adapt; ontological knowledge of reality, through transmediation, and Zubiri’s concept of the human being as an “animal of realities;” and, finally, leisure understood as a non-vital human need.

Keywords: Augmented Reality, pedagogical anthropology, philosophy of education, human initiative, human precariousness, ontological knowledge, transmediation, leisure.

1. Introduction

One of the most thought-provoking dialogs in Lewis Carroll’s famous story Alice’s Adventures in Wonderland goes like this:

Alice: Would you tell me, please, which way I ought to go from here?
The Cat: That depends a good deal on where you want to get to.
Alice: I don’t much care where ...
The Cat: Then it doesn’t matter which way you go.
Alice: ...so long as I get somewhere.
The Cat: Oh, you’re sure to do that, if you only walk long enough. (Carroll 2001, p. 87)

A range of reflections could arise from this brief conversation. Noddings (2002) believes that it has considerable didactic value in teaching formal conversation – the philosophical type of discourse that is useful in teaching the norms of
proper discussion. My own interest, from a pedagogical standpoint, lies in calling attention to a particular reflection it inspires vis-à-vis the aims of education — that the goal dictates the path to be taken. In other words, not all roads lead to the same place, and to determine the best route or best means to employ to get where we want to go, we must first know where we want to go. In pedagogical terms, this means that, preliminary to all educational actions, an approach must be chosen based on the type of person we want our educational endeavors to produce (Escámez/García López 1998) — which refers us, of necessity, to anthropological thinking on education.

Comparing the human development approach, elaborated through the efforts of Martha Nussbaum and Amartya Sen, with the economic development approach will elucidate this idea. The latter approach, because it equates ‘progress’ with ‘economic development’, has major implications for the organizational structure of a society or country, in general, and the educational system, in particular. Among the most consequential of these is the weighting of the curriculum toward certain competencies and content. Under the economic development model, for example, a society would place special emphasis on mathematical skills, technological and financial know-how, and marketing strategies as the foundation of literacy — the ultimate objective being to make that society more competitive in the free market (Nussbaum 2012). This means that other subjects, such as History, Art, Literature, and Philosophy would become subordinate, along with skills like critical thinking and democratic dialogue. Thus, depending on the model a society aspires to create, it is not difficult to shape one type of person vs. another type of person by the choice of curriculum content.

This is nothing new in the history of education; since the days of ancient Greece, educational thought has been linked, more or less explicitly, with anthropological thought. Today, however, owing to modern technology’s impact on basic aspects of human life, we find ourselves in a situation that could bring about a significant departure from previous thinking. Thanks in large part to technological advancements, changes are taking place in the realms of employment, communications, friendship, love, responsibility, privacy, and education, leading us to ponder certain areas in need of an update for the digital age. This major, categorical change in the anthropological conception has even prompted some authors to start inquiring into the possibility of a new stage in human evolution and introducing concepts such as post-humans (Bostrom 2008, Cortina/Serra 2015). Biologists like Wilson (2014) maintain that we are in the midst of another Enlightenment that puts us in position to abandon the logic of natural selection in favor of artificial selection based on human will and intelligence. Genetic manipulation would enable us to live longer and to have more robust
memory, better eyesight, etc. and, in this day and age, the Humanities would have to yield to Science and allow technology to address questions about the meaning of our existence. Philosophers like Bostrom (2009) argue that technological advances have the power to alter the human condition or human nature itself by endowing individuals with capabilities that were once unimaginable. In this panorama, there seems to be new meaning in Nietzsche’s Superman; as the German thinker once declared, “Man shall be just that to the Superman: a laughingstock or a painful embarrassment” (Nietzsche 2000, 8).

Not only does technology enable us to do more things but the things we can do are quite different from what we used to do, and we are capable of functioning in new, quite diverse areas. As far as education is concerned, this means updating didactic methods, of course. First, however, abiding by the logic in the dialog between Alice and The Cat, we must take the anthropological model into consideration so that what we do makes sense and does not become frantic activity driven by the pressure of empty and meaningless innovation (Barrio 2015). In other words, if anthropology and education are not in harmony on this matter, we risk becoming like a chicken with its head cut off, running around aimlessly.

In this chapter, I will use the prism of Philosophy of Education to analyze the relationship between technology and the way we view the human being — focusing, in particular, on Augmented Reality. My point of departure will be the characteristics that certain philosophical and educational anthropologists have identified in the human being.¹ Although these characteristics are interrelated and impossible to understand in isolation from each other, we will view them separately for purposes of this analysis. These characteristics are the lack of instincts, human precariousness in the environment, the capacity for ontological knowledge of reality and for devising realities not present, and the human need for leisure.

¹ A glance at the history of thought reveals that it is not possible to speak of a unified philosophical conception of the human being, for this idea has changed with the different trends and authors. Furthermore, as Scheler (2000) has stated, for some years now, we have found ourselves in a time of profound difficulties in anthropological study. Since it is not the purpose of this chapter to list them all, we will choose those that we believe are most relevant to the characteristics of today’s digital technology, in general, and of Augmented Reality, in particular.
2. Key anthropological aspects of the relationship between education and technology

Education simply would not be possible if we, as individuals, did not have certain specific traits in common – a set of characteristics that allow us to speak of a transformative influence on the reality of an individual or group of individuals. This is one of the reasons that, traditionally, the word ‘education’ has not been used in connection with species other than human beings; concepts such as training or instruction are used instead. Let us identify some of the major anthropological traits that are relevant to technology, adhering to the proposals of certain scholars in pedagogical anthropology (Wulf 2008, Barrio 2000, Escámez/García López 1998). While anthropology has been of interest to philosophers since its inception, pedagogical anthropology – from an educational perspective – is a discipline that did not systematically evolve until the latter half of the twentieth century, especially in Germany and the United States (Bouché et al. 1995).

2.1 The lack of instincts and its impact on initiative

Strictly speaking, human beings do not have instincts that would cause them to behave at all times in a specific, stereotypical manner – this being, most likely, the result of phylogenetic evolution and brain development. This may be better understood through comparison with other animal species. Whereas the members of an animal species will all be similar to each other in their behavior, owing to immutable, pre-determined genetic parameters, human beings show great complexity in their behavior. This limits our ability to ascertain the shared genetic traits that would enable us to understand a species as a whole. Thus, although it is accepted, nowadays, that genetics has an influence on human behavior, we can say that this behavior does not follow a strict pattern; rather, there are individual patterns created over a lifetime through personal initiative and with varying degrees of originality. Even mimetic abilities – an inherently human trait – should be understood as the individual embodying something he/she has observed and not just imitating a model; in other words, it is creating, not just copying (Wulf 2008). Here we have the outcome of that lack of instincts – here, where the ability to make decisions is rooted not in genetics but in the individual’s own will, contextualized in the here and now. Rationality and
affectivity are two elements that have an influence on this will of the individual by adding a wide array of variables that impact decision-making. Along with this, the specific context exerts a not inconsiderable influence on the individual. Thus, in response to a given stimulus, human behavior cannot be characterized as predictable, for that response is mediated by many factors that impact the decision-making process.

This is highly relevant to the development of modern technology and, most especially, to its applications in education. With every advancement in hardware and software, there appears to be a corresponding increase in the centrality of the user’s role in applying the technology. The transition from Web 1.0 to Web 2.0 has been, perhaps, technology’s most significant conceptual shift, qualitatively speaking, for it signaled a revolution in the individual’s role – from being just an information viewer and recipient to being an information author and creator participating in the information production process. It is no longer just a small group of computer technicians who are building the Internet; roles are now distributed through a sort of digital democratization that, in a sense, reinforces the cultural democratization process that has unfolded in recent decades. A tremendous array of possibilities for human development has opened up, owing to the ease of sharing information and, in many cases, creating innovative applications that offer new forms of expression, behavior, and human interaction in cyberspace. This scenario appears to be more suitable for the anthropological trait of lack of instincts than earlier technological schemes, in that it affords open space for human singularization. Viewers seated in front of a screen that sends all viewers the same information would seem to be consistent with a closed, deterministic anthropological conception, with no space for the initiative required. In contrast, growing technology-mediated participation has expanded the opportunities for human agency in responding to stimuli and has improved human’s ability to make decisions and to create – not mere variations on a melody which, according to Scheler (2000), pertains to animals, but rather entirely new melodies, which puts fulfillment as a ‘being of action’ within reach (Escámez/García López 1998).

From an educational standpoint, there are two major consequences of this approach. First, the prevailing technological paradigm opens up opportunities for individual initiative and, therefore, achievement rooted in a basic anthropological trait. In addition, this initiative has, increasingly, a second dimension that is highly relevant to education. Technology opens up not only avenues for individual expression but also the opportunity to participate in creating those avenues of expression. In other words, it creates opportunities to participate in designing both technological devices and applications (Prensky, 2008) – designs that often include educational and Augmented Reality activities, as occurs
with *studio-based learning*, through games or research into the surroundings (Wu *et al.* 2013). Second, it facilitates the designing of individualized educational pathways, which represents a fresh appreciation of human singularity and humans’ specific learning needs.

It would be fitting, however, to present two thoughts on these contributions. On the one hand, excessive openness in creative spaces could lead us to encouraging what Thomas (1995) referred to as post-industrial society’s “self-actualization through creativity”, the major consequences of which include an increasing narcissism and a false socialization of creativity, which aspires to a reinvention and persistent originality resulting, paradoxically, in massification and social homogenization. On the other hand, in today’s educational milieu — and despite the paradigm shift — we still find technology-mediated schemes that severely limit this human capability. In effect, aspiring to make educational actions more systematized, efficient, and scientific has often led to technology being used as a control mechanism, as seen today in certain systems, such as certain MOOCs (Carver/Harrison 2013, Margaryan *et al.* 2015) and even *learning analytics* and Augmented Reality itself (Wu *et al.* 2013).

ICTs have not brought about the educational transformation they promised, one reason being, most likely, that the organizational changes required did not follow the investments in equipment. Among those changes, one of the most crucial is student interaction and student participation in the learning process (Akbiyik 2010), which entails modifying not only the technology but also the instructional design. While changing the tools is hardly simple and straightforward, changing the model is far more complex.

### 2.2 Human precariousness in the environment and technological transformation

As a characteristic specific to humans, some anthropologists, such as Arnold Gehlen and Adolf Portmann, have pointed out that humans are poorly suited, biologically, to their environment. The most obvious manifestation of this is the fact that humans need adult supervision and upkeep during the first years of life and are limited in terms of biological specialization. Conversely, however, humans have not only the ability to care for and nurture their young but also the extensive intellectual development that makes it possible for them to adapt the environment to their needs. Humans are at a considerable advantage in that they are not bound to a specific ecosystem, which endows them with great versatility and enables them to live in a variety of surroundings (Aselmeier 1983). The means we employ to live in those surroundings are what we refer to as *culture*. 
Technological advancement is the product of this intellectual capacity together with that culture. Therefore, so is Augmented Reality — demonstrating, simultaneously, a further step in transforming the environment. Augmented Reality gives us a privileged vision of reality that could be referred to as a heightened sensory experience, so to speak, for it is a more advanced vision than we could get through our senses alone. The valuable information we obtain in real time enables us to make a more comprehensive and, therefore, more accurate assessment of the situation which, in turn, will facilitate effective decision-making.

Augmented Reality introduces several innovations, however, with reference to the traditional human experience of understanding reality. First, the transforming of the environment takes place on a level prior to the present reality itself, where there is not necessarily any direct impact on the environment. In other words, the intervention is carried out on the channel through which the environment is observed but does not modify what is observed — at least not initially. What is modified, actually, is the observer's intellectual experience, and this greatly multiplies social-cognitive opportunities — or, to put it another way, the learning opportunities for a group of individuals. If the observers are spared the work of modifying the environment, they may each have a more intense subjective learning experience.

Second, as we were pointing out, even though humans' intellectual capacity enables them to modify the environment without having to modify themselves significantly or to develop specialized defense or survival organs, there is a feedback effect that happens with Augmented Reality. This is because the human intellect is capable of generating new, augmented ways of understanding the environment that enhance the options for adapting it to human needs. In short, if my intellectual ability makes it easy for me to understand the environment, I will be better able to transform it and adapt it to my needs. But if my intellectual ability develops new ways of understanding the environment that are qualitatively superior to the traditional ways, I will be able to act upon the environment even more efficiently and more intelligently. This was demonstrated with the previous point, which enables me to act upon it and obtain knowledge of it without ever modifying it, through subjective experiences I share with several individuals.

Third, while heightened sensory experience refers to seeing and hearing, mainly, it is worth stressing that there is a growing interest in including other senses that would provide a well-rounded experience. For example, we now have theaters where movies are projected in four dimensions, including thermal effects, wind, heat and cold, even rain and various scents, like wet earth or flowers that appear in a meadow before us, a freshly baked cake, big city smog, etc. The sense of touch deserves special mention, especially in light of the upsurge in
3D printers, which can produce and reproduce objects that can be not only viewed like a picture or photograph but also handled.

Human beings are a reality open to the world and remain that way throughout their existence. Of the conditions that make learning and education possible, this is the most obvious — known also as malleability, unfinishedness or, in a more specific sense, educability. Along this line, Barrio (2000) has stated that the more human beings know, the more they grow as individuals; what’s more, they incorporate what they know in such a way that it becomes part of them. This, in turn, implies that the potential for growth is determined by the opportunities for learning and understanding which, to a great degree, depend upon the context in which the individual is found. An environment where new information that could become knowledge is lacking and where there is little opportunity to access resources or interact with people would be an environment that is not very favorable to human development. In contrast, a milieu rich in information networks, with connections to different resources and a variety of people, constitutes a situation very favorable to steady growth.

Augmented Reality is located in the latter type of environment, which is enriched because it supplies not only information — which, generally speaking, the Internet also supplies — but also specific information linked with the structuring of the information the user receives. Even though the individual chooses where to cast his/her eyes in a mixed observation of reality, there is, in fact, a pre-established architecture that arranges the hyperlinks and connections. The upshot of this pre-set design is a mediated navigation that could deprive individuals of autonomy; they should be aware of this and develop what Burbules (2004) has called critical hyper-reading. Once we accept, however, that there is no net neutrality, the Augmented Reality experience may be thought of as training in evaluation of online content — which is precisely one of the principal things Education demands of the Internet (Esteban/Fuentes 2015).

2.3 Ontological knowledge and the animal of realities

The philosopher Xavier Zubiri (1986) attributes to human beings, vis-à-vis their relationship to reality, a number of unique characteristics that distinguish them from other living beings. We will point out two of these here. On the one hand, he states that humans are capable of a far deeper understanding of the environment than animals, for animals perceive the environment only in terms of stimuli, whereas humans are able to grasp its true reality. As Barrio (2000) puts it, this is an ontological type of knowledge, in that humans are able to grasp and comprehend the entire scope of their reality. Augmented Reality en-
hances this ontological knowledge, and that has major ramifications for education.

When we visit a city and access information about a building that can be acquired only through Augmented Reality, we are enriching our knowledge of the environment. The same happens when we visit a museum where we see paintings and, simultaneously, access information about the artists, the society in which they lived, the meaning of the symbols and colors they used in their work, etc., thereby enhancing both the experience and our knowledge. Likewise, this is how we turn the viewing of a painting into a transmedia learning experience (Fuentes 2015), for we can not only view it but also listen to an audio narration about its context; read a text; watch a video; compare it with other works by the same artist or other artists of that period, thus comparing two schools of painting; and even debate perceptions of the painting with other people. We can listen to the music that the artists listened to or that inspired them while they were painting; we can have an interpretive guide for each part of a painting. All of this contributes to our ontological knowledge of reality in that it enables us to comprehend more fully what the painting means, its socio-historical context, and even the perspective that influenced how the artist proceeded with the work.

Transmediation also finds a connection with the two anthropological traits previously mentioned — specifically, heightened sensory experience and initiative. The opportunity to participate and interact, in particular, is one of the basic features of transmedia narratives (Fuentes et al. 2015; Jover et al. 2015) — mainly those defined as framework or open transmedia (Pence 2012), which are freely created by multiple users producing visions of a particular world, as opposed to experience or closed transmedia, which are produced by a single agent. In this regard, as spaces suitable for transmediation — largely because of their association with mobile devices (Rojas 2013) — Augmented Reality schemes must take into account the setting in which it is desired that they be implemented; in the educational sphere, consistent with the anthropological trait of lack of instincts, this calls for a greater degree of openness to user creation and participation.

On the other hand, Zubiri defines the human being as an ‘animal of realities’ in that individuals are capable of devising a reality that transcends their immediate environment. In other words, humans can have a cosmovision without having to be physically present in all the places that shape it — or, to put it another way, can shift from one scene to another without actually having to appear in any of them. This anthropological trait is more evident in the context of technology. Let us consider two examples. First, communication with people far away is possible when the speaker is contextualized. It is not enough just to receive the
message; a coherent contextualization — the environment where the message originated, the circumstances that gave rise to it, etc. — is required to understand the message properly. As Polaino (2008) explains, this is why, when we have a cell phone conversation, we usually start by asking, ‘Where are you?’ — simply because we need to situate or contextualize the other person. When we call a known landline, this is obviously not necessary because contextualization precedes the call. What makes this possible, as Zubiri describes, is our ability to grasp several realities simultaneously without the need to be physically present in them.

The second example has to do with Augmented Reality, through which we sidestep the actual reality and shift to other realities not present that, though not exactly the same, are associated with the reality we are seeing; they are other superimposed realities that complement the original one. This ability to shift, however, is temporal as well as spatial; using Augmented Reality devices, a twelfth-century castle’s dimensions and features throughout its history may be projected onto the actual view of it, including the peculiarities of the different cultures and the wishes of the various generations who have resided there. In this sense, the human being is not only an ‘animal of realities’ but also an ‘animal of times’. Naturally, we could think of this ability as being prior to Augmented Reality, for both the memory that attends conscious existence itself and the narrative of History — in books, films, art, and other formats — enable us to be conscious of different temporal realities. There is no doubt, however, that Augmented Reality can play a very important role with regard to the confluence of multimedia narratives and the actual physical presence of a natural or artistic object.

Another angle on this anthropological trait that is worth considering from a pedagogical standpoint is the spaces and times for education, in the institutional sense of the word — formal schooling, in other words. Cuendet et al. (2013) have sounded a warning about the restrictions placed on school spaces to accommodate Augmented Reality designs, recommending that these be tested in both a laboratory and in an actual school environment to ensure their effectiveness. It is also worth reflecting upon the opposite, however — that is, if a human being is an animal of different realities and times, and if modern technology like Augmented Reality exaggerates this trait, then there is the possibility of ubiquitous learning (Burbules 2012), and we would call into question the physical restrictions of formal schooling and, therefore, call attention to how this would effectively limit the development of a basic anthropological trait and the opportunities for human progress that technology offers.
2.4 Leisure as a non-vital human need

One dimension of the human being that is scarcely addressed in pedagogical anthropology but is of growing interest in today’s societies and closely associated with technology and with education is the human need for leisure. Heidegger has made us more aware of the fact that individuals are temporal beings whose existence is measured not only in terms of years, months, and days but also in terms of their activities. Since human beings have physical and mental limitations, work cannot take up all of their available time. So, they have free time, as well — periods when there are no obligations, no requirements, and no particular activity associated with it — in conjunction with which we have leisure, explained some years ago by Pedró (1984) as constituting a specific activity of an invigorating nature, with no financial, utilitarian, or proselytic aims, the purpose of which lies solely in happiness- and pleasure-oriented activities. This simple definition, however, places serious restrictions on activities that we routinely engage in but mistakenly think of as leisure. A weekend outing to the mountains, for example, could erroneously be considered leisure, if the goal is to recover physical or emotional strength after a stressful week. In this case, the rest or recuperation of energy is for the purpose of returning to work, which harks back to Marxist logic in which leisure is nothing more than the motor force of productivity. The wealth of examples of this type that we could mention should be cause for reflection — and such reflection should also be applied to the innumerable continuing education activities we undertake and categorize as leisure. The seemingly harmless confusion on this point highlights a characteristic of today’s society — it’s extreme utilitarianism, which has a major impact on how the human being is understood.

It appears that the human need for leisure and its relationship first to technique and later to technology have existed in most societies since prehistoric times. According to Pedró (1984), we have evidence of ludic activities in widely diverse cultures going back 6,000 years. However, it was not until the development of farming and ranching techniques — a major technical advancement — that a sedentary life was possible. Then, when some were producing more than they needed for themselves and others could spend less time working, leisure got a significant boost. This excess production of subsistence foods also led to the emergence of social classes, however, with a minority in possession of most of the goods contracting with the majority to perform the work. This pattern — a minority free to spend time on non-productive activities with a specific purpose, in and of itself, and no obligations attached — was destined to be repeated in many later eras. Starting with the Athenians’ array of recreational, philosophical, artistic, and sports activities that enjoyed the support of philosophers like
Aristotle, who viewed leisure as a superior activity, it continued with Rome, where the games democratized ludic activities, in a sense, but the elite still had a much more refined, much less cruel and bloody leisure than the Roman games, which were also critiqued by philosophers, like Seneca, for their political component and for being ‘bread and circuses’ entertainment for the masses. The Middle Ages and the Renaissance left a similar pattern, with various specificities; during the Industrial Revolution, working hours were established – quite lengthy at first and later reduced – which allowed the idea of free time to spread to the entire population and opened up opportunities for leisure.

Even though extending leisure to most of the population was a major innovation, leisure still retains some of its more negative features from previous periods in history that make it difficult to see it as such. First, the strong differentiation of social classes is also marked by leisure, which represents an inherent contradiction. Leisure activity, which has no purpose other than enjoyment, in and of itself, is used as a means of distinction and not as pure enjoyment. Second, the ‘escape’ nature of leisure is two-sided, in that it is for alleviating stress but would also be used, Roman-style, to escape social and political reality. The proliferation of low-cost leisure harks back to the free games in the Coliseum, as portrayed in The Hunger Games. Moreover, in this series of novels and films, the methods that make leisure possible are improved, thanks to technological advances and to the culture of spectacle – elements that are connected in that the latter feeds on the grandiose products of the former. Lastly, capitalist logic, rooted in infinite economic growth, has had a two-fold impact on leisure: a) it has integrated leisure into its structure, whether as rest that is absolutely necessary for the activity we were mentioning above or as activity that entails a financial cost – low, in some cases, but a cost that helps to sustain the mercantile system – and b) it has stretched the concept of usefulness to extraordinary limits, thus reducing the anthropological vision of the human being to its homo faber dimension.

In contrast, leisure supports a much more comprehensive vision of the human being (Dumazedier 1968) by reinforcing the concept of homo faber – not in the foregoing sense but in the sense of craftsmanship production. The final result of this may be thought of as a work in itself, where the singular contribution is observed and one is distracted from the feeling of being part of the mechanism of a system that Chaplin masterfully portrayed in Modern Times. It also strengthens the homo ludens dimension, alluding to play as a key but not unique aspect of leisure – and not limited to children but available to the entire population. Leisure also makes it possible to speak of an imaginary man as a sign of the present-day rationalist insufficiency and the need that humans have to spice up their monotonous existence by visualizing dreams. It brings
to life a dimension of *homo sapiens* that is related to accessing information for no reason other than a desire to know and the enjoyment of learning, and where the Internet and social networks play a vital role. Lastly, leisure allows us to speak of a *homo socius*, in that leisure has a significant social and community-oriented component.

Still, with human beings, leisure has a specific and even more profound role — wherein lies its primary educational benefit. This is revealed through a philosophical analysis addressing the concept of usefulness. Pieper (2006) noted this in a study of festivities as an element of leisure, recognizing festivities as a way to decompress from menial labor and an absence of the ‘for what’ or ‘for whom’ in this type of human activity that imparts meaning to a full life.

These reflections on leisure highlight its importance in today’s world that is striving to put into practice Nussbaum’s economic development model, in which autotelic activities are considered useless. Technological innovations can delve more deeply into this way of understanding reality while, at the same time, affording an opportunity to rethink leisure. Augmented Reality, in particular, should be viewed not just in terms of its role in education or instruction but also as a way to enjoy a properly-understood leisure. Bearing this in mind, Augmented Reality cannot be used simply as a self-paced method of accessing more information more quickly; rather, it should help one to experience reality in a more leisurely manner. Experiencing it this way has to do with contemplation, which involves a non-interventionist, non-manipulative, attentive attitude that enables one to acknowledge what is observed exactly as it is, with no intention of transforming it. Only in such tranquility can one discover the profound reality of things — the ontological knowledge we were mentioning in the previous section — and to move on from a relative vision to a broader, more general perspective (Pieper 2006); otherwise, augmenting reality could become just another pointless, superficial activity.

This does not contradict what has been said previously, when we were speaking of human initiative and the lack of instincts, where participation and interactivity were recognized as positive. On the contrary: in human beings, contemplation and intervention should be recognized as complementary activities. Moreover, this transforms leisure itself to an educational activity, given that education is the humanizing of the person, in Kant’s terms, and leisure allows that humanity to be made reality — which goes beyond financially-motivated production. In other words, education strengthens the idea of *person*, also part of Kant’s conception, which envisions the non-exploitable dimension of persons and calls for them to be treated not only as a means but also as an end in themselves.

As we have seen, technological advances made leisure possible at the beginning of human history and remain at its core today, for the majority of leisure
activities involve technology. There is one very important role that leisure plays in education, however, and it has to do with the individual’s ethics education. An anthropology that makes no reference to ethics is a half-baked anthropology (Millán-Puelles 2007); and, as Da Vinci wrote (1995, 264), “The man who does not control his instincts lowers himself to the level of beasts”. This is the reason for calling attention to the ethical potential of leisure, properly understood, for it facilitates integrating the non-exploitative treatment of other people into the understanding of reality. Individuals who are in pursuit of financial gain across their entire range of behavior will be capable of pursuing advantage only for themselves — not for other individuals around them. The contemplative aspect of leisure also allows other individuals to be recognized as reality, thus precluding manipulative attitudes. This means accepting others as something good, and this suppresses transformative attitudes destined, inevitably, to become actions (Thomas 1995).

One clarification should be made here, for education is usually understood — particularly by the socio-critical paradigm — as a tool for social transformation. Nothing can be built, however, without identifying something of value upon which to build. If hope is education’s engine, confidence is its indispensable ally.

Also, as Unamuno (1967, 73) showed, education is not just method, nor does it achieve its objective with “barometers, thermometers, rain gauges, wind gauges, dynamometers, maps, diagrams, telescopes, microscopes, spectrometers: for wherever you look, your eyes are steeped in science”. Education is also love, and love is an essential component of leisure, for without love neither contemplation nor enjoyment, in and of themselves, would make sense. In short, Augmented Reality designs can help to promote this ethical-educational concept of leisure, insofar as, technologically, they occupy a good portion of people’s free time. Schools and educators have a key role in this, consisting of not limiting its use in the natural sciences and also exploring the wide world of opportunities afforded by the social sciences and the humanities. This will also prevent another of the negative effects that have attended leisure throughout history: that it distinguishes social classes, with the lower classes of society being denied high culture. To be specific, some current studies have shown that there is a digital divide separating young people who are in social difficulty from other social groups and that it results from the former having no access to high-quality content and uses such as Augmented Reality (Melendro et al. 2016), their use of technology being extremely limited and of very little educational value. But if the educational system aspires to become society’s elevator, it must ensure that all students — especially those most vulnerable — have access to the highest forms of culture, which put us closer in touch with our most human side (Stein-
er/Lajdali 2006) and, in the words of Schopenhauer (2015), comfort, alleviate, and strengthen us, which may help us to transform Augmented Reality into cultivated reality. The ninth ability on the list suggested by Nussbaum (2011) names enjoyment and play as elements that impart value to a human life. Although none of the other abilities involve the use of technology, the author’s openness to updating makes it reasonable to suppose that an ability of that type will soon be added to the list. That would have some major ramifications for education, in that it is dependent upon the State as advocate for public policies.

3. Conclusions

The case of South African athlete Oscar Pistorius may cause us to reflect upon the paradox of human progress through technological advancement. While his prosthetic legs were evidence of achievements in the evolution of human thought in one of its dimensions, the fact that his fiancé Reeva was murdered by four shots fired in his own home shows that the concept of human improvement must go beyond the study of applied technology and is directly related to educational action, as a valid strategy for shaping the ethical aspect of the individual.

Like a general analysis of technology, a pedagogical analysis of Augmented Reality should lead us to consider whether using it will get the result that Kant attributed to education – humanization – particularly when some philosophers like Bostrom (2009, 551) are saying that, even beyond natural disasters, “[t]he most severe existential risks of this century derive from expected technological developments”.

In this chapter, we have attempted to contribute to these reflections beginning with four anthropological elements that are key to education: the lack of instincts and its impact on initiative, which plays a crucial role in the current technological model; human precariousness and the ability of humans to adapt the environment, which takes on a peculiar form in Augmented Reality, in that the environment is not substantially modified and offers a privileged perspective with feedback on intellectual capacity; the ontological knowledge of reality through information obtained and the opportunity for interaction and transmediation; and leisure, which maintains strong ties to technology, facilitates a comprehensive vision of the human being, and plays a major role in human ethical education – because of which it should be taken into account for Augmented Reality designs, especially those in the social sciences and the humanities.
The complexity of human beings and the importance of their relationship with technology are matters that call for ongoing, in-depth study exploring other significant anthropological traits. Among these, sociability stands out, for we have known since Aristotle’s day that humans need other people — not only to survive but also to live humanely. Likewise, as a cultural element, technology represents a joint endeavor. To be more specific, far from being limited to experiences afforded by visual devices for individual use — and in keeping with the social nature of the Internet — Augmented Reality is coming to be used more and more on a group and shared basis, which is of great educational value, as well.

As we educators and pedagogues tackle the challenges of using technology in our daily endeavors, there will be many questions we cannot avoid. Among them, and in connection with the subject of this chapter, the following seem pertinent to me: Are robotized human beings the anthropological ideal? Should education switch to mechanization as its path to human development? Could we stop using technology so that we can be technology? As on many occasions, literary and audiovisual narratives help to light the path to the answers. In a chapter of the series Black Mirror, certain issues are raised with regard to coexistence in a future when ocular implants enable us to record everything that passes before our eyes — thus tremendously expanding our memory capacity, along the lines of what some authors have suggested as a characteristic of post-humans. Pedagogical anthropology, along with philosophy and ethics, must address questions not only about the possibility of changing the term ‘human being’ but also about whether that would take us closer to what we wish to be as a species.

References


