The Drive Upwards
Technology as Being-In-the-Universe

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*They put us in sheets and took us. Where were we? My life slipped out of me and **down**,
when now the sun, my enemy, has baked up all the holes. I ask the rain to soften the earth so my life
may come back to me, **upwards**.*

Wolf-girl
(c. 1909 – c. 1936)
The Diary of the Wolf Girls of Midnapore by the reverend Joseph Singh[1]

Introduction (i)

To love is to return. It is to lie down because it is a homecoming. To love is to dissolve oneself into the primary universe life first knew; it is to enter the warm waters, again. Love is caring, it is going to a friendly sea, where one could stay forever. Why do these words sound us familiar? Because water, the source of life on earth, was once left behind and Man came into being, as a drive upwards, as a drive against earth's gravity. Why does upwards have a positive connotation? Upward, awake, happy, winning, out of bed *versus* downward, fall asleep, out of action, depressed, knocked down – why? Why is this – this paper suggests – the story we tell ourselves in-with-through language. Why, and how, does all of this relate to technology?

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[1] Two girls aged seven and two years old were found, suckling a wolf in a cave in West Bengal, India, by the reverend Joseph Singh, in 1916. The wolf was killed and the sisters were taken to Singh's orphanage, to be raised as "human beings again.". The younger one dies soon after that, the other lived close to twenty years more.

Introduction (ii)

Throughout our life and contrary to what it might seems, the most decisive are not the matters with which we get involved, reading or hearing about, but it rather is the mode, the way, sometimes not even clearly perceptible other times sudden and brutal, in which the issues at stake, the novelties and the details, come and shape us. Substantively, education is a qualification; a qualification of life as human. Learning as living, that is, education as the human terms, is the qualification of the caring life. Literally, that is, physically and spiritually, life rose up with Man, standing out there, coming into the open, noting that him or her noted and thus caring and loving.

Introduction (iii)

Let us ponder the picture below. The straight line represents the sea level on earth and the inclined line represents the land. Considering the sea, a river or a lake, the picture represents the joining of water and land at the surface of earth: land rises above the water level.
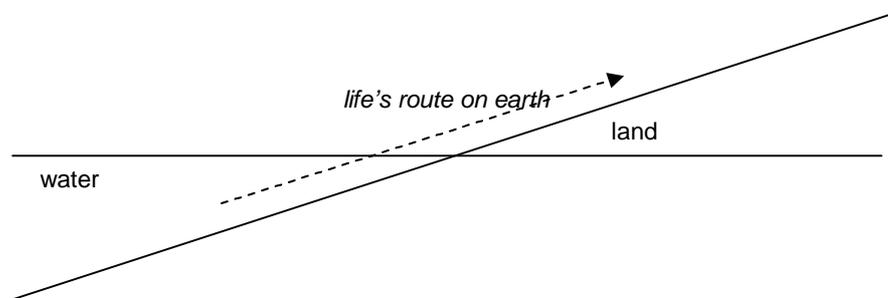

Figure 1 – **The origins of human life**

Now, this paper explores the upwardness of human life, literally and symbolically, in order to suggest some clues on the way in which technology is what it is in-the-world (Heidegger 1962). In a phenomenological manner, striving to get rid of assumptions or *a priori* notions about the phenomena under inquiry (e.g., see Husserl 1964, 1970, 1995; Spiegelberg 1994), this paper passes over the theoretical positions that address the cardinal issue of the nature of technology. This methodological turn implies nothing on the relevance of those theoretical positions. It rather is a way of trying to provide a new and useful contribution to the theme by exploring phenomenologically the rich and deep etymology of the word technology. In this paper we use etymology not as an end in itself but as a means devised to bring back the grounding signification around which the phenomenon under analysis, that is, the full notion of upwardness, unfolded through out history and was given names. To some degree, the meanings we try to grasp in here come out from the very abyss of meaninglessness, which sometimes, in this investigation, we felt to have approached.

Technology

Technology is an English word since 1859 (MW 2001). It has its roots in the ancient Greek words *technê* and *logos*. The ancient Greeks joined these two words in the then new word *technologia*, which meant the "systematic treatment" (Crane 2000)" or/and the "systematic

treatment of an art" (MW 2001). The ancient Greek word *logos,* at the roots of the English words ontology, phenomenology, technology and so forth, signified the *reason*, the ratio, that which the talk is about, the underlying subject-matter to which, according to Heidegger (1962:58), "one addresses oneself and which one discusses (…). It is thus the 'ground' or 'reason' for telling it" (Heidegger 1962:58 fn1). The *hidden meaning* of *logos*, in the heideggerian phenomenological sense, is the *decisiveness of grounding*, as we have content elsewhere.[2] Having said that, we turn now to focus the distinctive ancient Greek expression of the word technology, *techné*.

The Greek word *techné* was used since early Greek times by authors such as Homer (8th century BC) and Aeschylus (c.525-c.455 BC), Plato (e.g., *Phaedrus* 245a, 271c, *Phaedo 89e,* 90b, *Euthyd.* 282d, *Republica* 381b, *Ion* 532c)[3] and Aristotle (e.g., *Rethorics* 1354a11, a12, *Nicomachean Ethics* 1140a8).[4] Plato and Aristotle are the two of the ancient Greek authors whose known texts use most the word *techné* (Crane 2000).

The word *techné* was used to meant art, skill, cunning of hand (Crane 2000), an occupation or craft of the plastic art or of trade (GHDI 2001).[5] In Greece by the 4th-5th century BC, it received further meanings: "way, manner, or means whereby a thing is gained, (…) a set of rules, a system or method of making or doing, whether of the useful arts, or of the fine arts" (Crane 2000). One would evidently concede that all these meanings – systematic treatment, art, skill, cunning of hand, occupation, craft, way, manner, or means whereby a thing is gained, a set of rules, system or method of making or doing – are all still preserved to a great or less extent in the current English word technology. Heidegger (1977:13) noted that "techné is the name not only for the activities and skills of the craftsman, but also for the arts of the mind and the fine arts". This latter signification is the one identified in Crane (2000), referred to above.

Heidegger (1977:13) also pointed out that in the ancient Greece the word *techné* was linked with the word *episteme*,[6] which generally meant knowledge, acquaintance with a matter,

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[2] Ilharco (2002).

[3] Underlined are the translations of *techné*; *Phaedrus* 245a: "And a third kind of possession and madness comes from the Muses. This takes hold upon a gentle and pure soul, arouses it and inspires it to songs and other poetry, and thus by adorning countless deeds of the ancients educates later generations. But he who without the divine madness comes to the doors of the Muses, confident that he will be a good poet <u>by art</u>, meets with no success, and the poetry of the sane man vanishes into nothingness before that of the inspired madmen"; *Phaedrus* 271c: "or spoken with real art. But those whom you have heard, who write treatises on the <u>art of speech</u> nowadays, are deceivers and conceal the nature of the soul, though they know it very well. Until they write and speak by this method we cannot believe that they write <u>by the rules of art</u>"; *Phaedo* 90b: "said he, "that if there were to be a competition in rascality, those who excelled would be very few in that also?" / "Very likely," I replied / "Yes, very likely," he said, "But it is not in that respect that arguments are like men; I was merely following your lead in discussing that. The similarity lies in this: when a man without proper <u>knowledge concerning</u> arguments has confidence in the truth of an argument and afterwards thinks that it is false, whether it really is so or not, and this happens again and again; then you know, those men especially who."

[4] Underlined are the translations of *techné*; *Rethorics* 1354a11, a12: "Now, previous compilers of "Arts" of Rhetoric have provided us with only a small portion of <u>this art</u>, for proofs are the only things in it that come within the province <u>of art</u>"; *Nicomachean Ethics* 1140a8: "Now architectural skill, for instance, <u>is an art</u>, and it is also a rational quality concerned with making; nor is there <u>any art</u> which is not a rational quality concerned with making, nor any such quality which is not <u>an art</u>. It follows that <u>an art</u> is the same thing as a rational quality, concerned with making, that reasons truly."

[5] GHDI: *Greek and Hebrew Dictionary Index* (2001)

[6] According to Crane (2000) *epistêmê* is the word that in the ancient Greek texts regularly appears the most with the word *techné*.

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understanding, or skill. "Both words are names for knowing in the widest sense. They mean to be entirely at home in something, to understand and be expert in it. Such knowing provides an opening up" (Heidegger 1977:13). Would this opening up would be a knowing to which all the above referred meanings belong? An answer can be found, we content, by grasping the meanings from where the word *technê* comes and where to it evolved. Within this horizon we find two Greek words closely related to *technê*: *tikto* and *technêtos*. The latter a younger word than *technê*, the former an older one.

The word *technê* can be traced back to the word *tikto* (GHDI 2001; Heidegger 1977, 1993). *Tikto*, on its turn, is a strengthened form of a primary word *teko*, which meant "to bring forth, to bear, to produce (to produce "fruit from the seed") (GHDI 2001). The main significations of *tikto* were the bringing forth "of a woman giving birth", "of the earth bringing forth its fruits" (GHDI 2001). *Tikto* meant thus "to bring into the world; of the father, *to beget*, of the mother, *to bring forth*". *Ho tekôn* meant the father; *hê tekousa*, the mother; *etekon* was used of both parents; *tekontes* meant the parents (Crane 2000). The word *tikto* was used to refer to bear young, to breed of female animals (Crane 2000); "ôia tikto" (Herodotus) means *to lay eggs* (Crane 2000). Other meanings include "be delivered, be born, be in travail" (GHDI 2001). As to conclude, "to bring forth or to produce is *tikto*" (Heidegger 1993:361), is its fundamental meaning.

The word *tekos*, from which *tikto* is a derivation, meant the young (Crane 2000).[7] It also was a poetic form of the word *teknon*, which meant "that which is borne or born, a child, the young" (Crane 2000), the offspring, the children, a child, or a male child, a son (GHDI 2001). *Technon* was used to meant child or children, as a metaphor as well. The word *technon* was "transferred to that intimate and reciprocal relationship formed between men by the bonds of love, friendship, trust, just as between parents and children", such as "in affectionate address, such as patrons, helpers, teachers and the like employ: my child"; "in the New Testament, pupils or disciples are called children of their teachers, because the latter by their instruction nourish the minds of their pupils and mould their characters"; "children of God: in the Old Testament of "the people of Israel" as especially dear to God, in the New Testament, in Paul's writings, all who are led by the Spirit of God and thus closely related to God" (GHDI 2001).

Technon could be a metaphor as well "of anything who depends upon it, is possessed by a desire or affection for it, is addicted to it" or of "one who is liable to any fate (…) children of a city: it citizens and inhabitants", or "the votaries of wisdom, those souls who have, as it were, been nurtured and moulded by wisdom" (GHDI 2001). Thus, the bringing forth to which *tikto* refers has its origins in these realms of children and birth. This clue can be further clarified by proceeding into older roots of the word technology, the words from which *teknon* itself derived: *timoria*, *timoreo*, *time*, and *tino* (GHDI 2001).

The word *teknon* comes from *timoria*, which meant rendering help, assistance, vengeance, punishment, and penalty. *Timoria* in turn comes from *timoreo*, which meant to be a guardian or avenger of honour, to succour, to come to the help of, or to avenge, to take vengeance on one, to punish (GHDI 2001). The first word, *timoria*, focuses an action in itself – a help, a punishment. The second word, *timoreo*, focuses a conduct of a person – to be a guardian, to take vengeance. From different perspectives both words address the same issues: *timoria*, the deed; *timoreo*, the doer. Yet the matters at stake are not the same: to help and to punish. But are these two diverse matters or is this just one matter? Since the ancient Greek had just one

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[7] The word was often used by Homer (Ilyad 3.160, 5.71, 8.248, 9.437, 9.444, 12.222, 18.63, 24.36).

word—*timoria* derived from *timoreo*—for the meanings we are now referring, the matter at stake around which the word itself had its origins must be only one. Help and punish as one word, one meaning. *Timoreo/timoria* is the word. Thus, one must try to abandon the current meanings through which one appropriates the Greek word *timoreo/timoria* and try to capture the one significance that united the word as itself was in ancient Greece. Hence, we should ask: what is there common, as fundamental, in these two apparent lines of meaning of the Greek word *timoreo/timoria*? What is both present and fundamental in help and in punishment? What is both present and fundamental in 'being a guardian' and in 'taking vengeance'?

A further push will help us to answer these questions. The word *timoreo* has its origins in the word *ouros*, which meant guard and "by comparison" (GHDI 2001) in the word *time*, which meant "a valuing by which the price is fixed" or an "honour which belongs or is shown to one". This latter word in turn comes from the word *tino*, which could signify either to pay penalty or to recompense (GHDI 2001). Again we have to ask: what do these two meanings, pay penalty and to recompense, have in common and fundamental? A recompense or a penalty both addresses a previous conduct. There can only be a recompense or a penalty because he who recompenses or imposes a penalty refers to a past conduct, action, or comportment of another one. The one who is recompensed or pays penalty faces this recompense or penalty because he conducted, acted, or comported himself in a particular way. That way either is recompensed or punished. *Tino* is the word that refers the consequences of the *nature* of a comportment. These consequences, actions of men, are devised to influence the intended way, conduct, or mode of comportment. *Tino* still is a contemporary common word in the Portuguese language, meaning good sense, judgment (MVOI:300).

Now, can we answer the question of above: what is both present and fundamental in help and punish? The answer is this: a behaviour, a conduct, a mode of being. Not that one of the actions that help and punish, but that of a previous conduct or comportment toward which the help or the punishment is now directed. Yet, more decisively, why is there a help or a punishment? Why is it that an action, a conduct, or a comportment claims, deserves, calls, needs for help or for punishment? The answer is this: because we care. Man *cares*. Dasein's essence is care (Heidegger 1962). That which is matters to us and as such we, men, are not indifferent to the world in which we are. Our mode of being is a caring for our own mode of being. We help, we punish, we assist, we take vengeance, because we care. This care is ontological because it is decisive. This *decisiveness* is itself a *disclosure* of world because it opens a way of being. Punishing and helping show the way to be.

To punish means to censor, with particular emphasis, some specific comportment; it is a correction, a making an example of, a teaching someone a lesson (OPDT:605). To help means to show someone a way, to point and assist a specific comportment, it is a providing with means to what is needed or sought, a facilitation, a forward, a support, a guidance, a guide (OPDT:347). Both expressions – to punish, to help – *point the way to be*; both gain their primordial sense from the meaningfulness of a particular way of being; both are a showing of a mode of being.

Hence, thus, now, as a mode of being, *technê* is decisive because it grounds action. It is on this base, i.e., on the grounds of a mode of being, that the world as such is revealed. It is this ontological caring, this fundamental action that the word *teknon* takes to itself, shaping its meanings around the notions of children and offspring, as we observed above. The assistance,

the bringing forth, and rearing of a child by his or her parents embody our most fundamental caring as the being we ourselves are. *Tino*, being an appearance of all this, as a punishment or a help, shows what is appropriate to do. In its essential realm, *tino* addresses what it means to be human; in both ways, helping and punishing, it grounds action. The decisive argument that is running here, as shown by the linkage of the word *tino* to the notion of *caring* and by the evolution of the ancient Greek word *techné* to the realms of childhood, birth, and bringing forth, is that the ancient Greek word *tino* evidently had ontological contours. Caring, thus punishing and helping as well, are meaningful in that they are a *ground for action*, which is the very *hidden meaning* of any ontology.

It was these decisive contours that serve to shape the meaning of *teknon* around offspring and children; of *tekos*, as the young; of *tikto*, as to bring forth, to bring into the world, to bear, to produce; of *technê*, as art, skill, way, manner, means, set of rules, system or method of making or doing. Because *technê* has ontological contours the opening up that it provides is not a making, i.e., strictly a technique, but a bringing forth, "a letting appear" (Heidegger 1993:361). This *letting appear* bases itself in the freedom that grounds truth (Heidegger 1993:123), letting that which is to appear. *Technê* means "to make something appear, within what is present, as this or that, in this way or that way" (Heidegger 1993:361). Thus, *technê* is the revealing, the background against which what appears, appears. It is these ontological contours, this *decisiveness*, which unites the meanings from the word *tino,* to the word *technê*, and to the word technology.

Being ontological, the bringing forth of *tikto*, which lies hidden in *technê*, is more than a bringing forth. It "is a mode of *alêtheuein*", it is a revealing (Heidegger 1977:13). The character of this revealing of that which is and the manners and ways in which we, as the beings we ourselves are, are involved in it, is brought forward as we address another ancient Greek word, *technêtos*, which evolved from *technê*. This word *technêtos* was used late in the ancient Greece, namely by Plutarch (c. 50 - c. 125 AD), meaning *artificial* in opposition to *natural* (Crane 2000).[8] The suggestion is that this latter meaning is an evolution – one further signification – of something already hinted in the word *technê* itself. From an art or a set of rules to a system or method of making or doing, all the referred meanings of the word *technê* have in common a human bringing of something into being. This bringing-forth is the *poiêsis*, the arising, the revealing, to which *technê* belongs (Heidegger 1977:13). The word *technêtos*, meaning artificial, emphasised the human action of the bringing-forth that *technê*, in itself, already is. Hence, *technê*, all its meanings, belongs to the bringing-forth of that which, on its own, does not bring itself forth. This bringing-forth is the "opening up. As an opening up it is a revealing" (Heidegger 1977:13). In this ontological revealing, as it is suggested and emphasized in *technêtos*, Man is actively involved. Referring to modern technology, Heidegger questions who accomplish the setting-upon through which what we call the real is revealed? "Obviously, man", is Heidegger (1977:18) answer.

This phenomenological conception of the essential meanings of the Greek word *techné,* grounded on Heidegger's (1962, 1977) thought, is further strengthened by the fact that for the ancient Greek the word *philosophia* was a synonymous of *technologia*. *Philosophia* meant "love of knowledge, pursuit there of, speculation", "systematic, methodical treatment of a

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[8] In Plutarch (1916:Per.6:4): "And those who declare that the discovery of the cause, in any phenomenon, does away with the meaning, do not perceive that they are doing away not only with divine portents, but also with artificial [technêta] tokens, such as the ringing of gongs, the language of fire-signals, and the shadows of the pointers on sundials. Each of these has been made, through some causal adaptation, to have some meaning."

subject", "scientific treatment of argumentation", "the study of oratory" (Crane 2000). Thus, the realms from where *philosophia* and *technologia* evolved are the same. Although the evolution of both words up to date took distinct routes, the central question of *meaning*, the human *desire to know* (Aristotle 1998), the "thoroughgoing struggle of human existence with the darkness that can break out at any time in that existence" (Heidegger 1997:1), is the grounds both of *philosophia* and of *technologia*.

Summing up, the word technology has its origins in the ancient Greek word *technologia,* which came from the words *technê* and *logos*. We have concluded that the joining of *technê* and *logos*, *technologia*, signified an ontological revealing in which Man is actively involved. Because within ontological realms, this enunciation is grounding, thus it is decisive for Man, and as a mode of revealing *technologia* discloses the world – it is a *what-to-be*. Now, as we have pointed out, this *what-to-be* is a bringing forth, it is a shaping of human behaviour, it is the very rearing of children, it is education. Thus, we should question: what unites all of these phenomena? What unites them around the origins of *technê*?

Upwardness

The section above strictly focuses the origins and evolution of the distinctive element of the word technology, the ancient Greek word *techné*. Its origins were explored, related and connected so that it was shown that the bringing-forth of life, of a world, the necessity, possibility or desire of shaping human behaviour, namely the education and rearing of children, were the grounding meanings around which the word *techné* formed. Now, how are technology and the rearing of children related? That is, how can we understand technology *as* education?

Bringing-forth of life, shaping human behaviour, education and the rearing of children, all of these notions refer to human existence at a grounding level. Moreover, they refer to human existence as a particular kind of existence; the one that is a bringing forth of a woman giving birth, just as of the earth bringing forth its fruits – this is the bringing forth into the world. Thus, *techné* as education, as the rearing of children, introduces, brings them into the human world. *Techné* as bringing forth into the world raises children to exist in the human world, that is, to stand out as humans.

Heidegger (1962) recalls us that the etymological root of to exist, the ancient Greek word, *ek-sist,* means to stand out. Man *ek-sists* means that man stands out, projects above; it means that man is the standing out, the pure possibility of opening up. It stands out to the openness in the openness. Man does not stand out when he thinks of being or when he cares for other beings. Dasein is always and already standing out as a being-*ed* understanding of Being. This is what distinguishes Dasein as a *who*, not a *what,* a thing or an object (Heidegger 1962:73).

When my daughter Ana was 5 years old, back in 1997, I tried to interview her while video-recording. I asked her some philosophical questions (must be boring for so young a child…). When confronted with the question "Do you know you exist?", out of patience for that kind of conversation, she started to pretend to be playing like a… dog. Her reaction intuitively makes the question meaningless. It is sensible to consider that, in her humanness, she knows that the question would be meaningless if addressed to a dog – because a dog does not *exist* in the sense that human beings exist.

Existence means reality as opposed to appearance (Crane 2005). The word existent, for its turn, comes from the Latin word *exsistent-, exsistens,* the present participle of *exsistere,*

which is a form of *exsisto. Exsisto,* derived from *ek-sist*, means to step out, to come forth, to emerge, to appear (Crane 2005). The prefix *ek-* or *ex-,* in the word *ek-sist,* meant "from out of", "out from the interior of a thing" (Crane 2005), and the root *sist, sta, stit* meant to stand, as in persist, consist, insist, assist, circumstance, status, state, stable, substitute (Crane 2005; MSU 2005). Thus, now we turn to stand, the root meaning of *ek-sist*.

What does it mean to stand? The first definitions in the Merriam-Webster dictionary are "to support oneself on the feet in an erect position", "to be a specified height when fully erect", "to rise to an erect position" (MW 2005), that is, directed upward (Crane 2005). Erect, whose obsolete meanings include being alert and watchful (Crane 2005), in its turn, comes from the Latin word *erectus,* the past participle of *erigere*, from *e-* and *regere,* which meant to lead straight, to guide. The prefix *e-*, coming from the Greek *ek-*, meant out of, from, it indicates a transition, a change, an alteration, *from* one state or condition to another (Crane 2005). That is, being erected is a fundamental guiding or leading that comes out of something; for sure, it comes from out of not something not erected, i.e., it comes from being prone, horizontal, lying face down, from being a '*non-rational*' animal. Hence, literally and symbolically, man is the standing out, the being that *beings* by being there, the openness in the openness. Dasein's questioning upon himself, as a grounding and foundational questioning of its being, is mirrored in that it comes from and causes man's erectedness – that is, his/her hands and thus technology. All of these should not be understood historically but rather ontologically, as a whole, as foundational.

We return now to the word stand. It comes from the Old English *standan,* which is a word akin to Old High German *stantan, stän.* These words come from the Latin *stare* and the ancient Greek *histanai,* which meant to cause, to stand, to set. To exist is to stand and to stand is being erected. To stand as to cause or to set means to erect, being erected, sets upon something or causes something. What should it be? By being erected, standing there, life *exists* as a stepping out. Now, stepping out and standing out from what? What emerges out of what? What gets transformed? Into what? What stands out?

Before we answer these questions let us first conclude our analysis by exploring the other line of reasoning developed above: the education and the rearing of children as grounding meanings around which the word *techné* formed, that is, technology *as* education and education as technology, and both as the human bringing-forth.

Let us boldly enter the issue. Feodor Dostoyevsky (1821-1881) once wrote: "You are told a lot about your education, but some beautiful, sacred memory, preserved since childhood, is perhaps the best education of all. If a man carries many such memories into life with him, he is saved for the rest of his days."[9] Why is this so? It is so because the presence of what presences in us is what we are, each one of us is. Thus, life, as always *my* life, is always and already with a past, projecting towards the future. In this *mineness* that is projected and projecting, a word, a hand, a help, a suggestion in a situation where one expected nothing at all, might fulfil a life in ways that no one can explain. Explanations, analysis, theories, concepts and ideas always make sense for us on grounds of what we already are and are searching for. Thus, little things, a look or a smile, might endure a whole life. This is because the object of education, a we have referred to above, the matter in which its essence consists, is not the issue which we are speaking about, hearing or reading in any given moment, but on the contrary it is the mode in which we speak, hear and read; education is the way in which thinking proceeds, it is the path of distinctions in which we travel with others.

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[9] Dostoyevsky, *The Brothers Karamazov,* Vol. 2, "Epilogue," section 3, (1880)

In a profound meaning, that of letting the life of another to rise, education is the shaping of the culture we inhabit, of the values we embody, of the practices and the behaviour we accept. Education is at the same time the cause and the consequence of our society. To educate someone is just as to teach someone to walk or to speak. There is nothing metaphoric in this: to speak and to walk erected, vertical, are the most basic education of the way of being we are: the human being.

Maturana and Varela (1992:128-9) refer the case of the wolf girls found in the North of India in 1920s – refer to paper's opening quotation. Those two girls were "rescued (or snatched)" from a family of wolves with which they lived:

> "They had been reared in complete isolation from all human contact. One of the girls was eight years old and the other five. The younger one died a short time after being found; the other survived another ten years in the company of other orphans with whom she was brought up. At the time they were found, the girls did not know how **to walk on two feet**. They move about rapidly **on all fours**. Of course, they did not speak and have inexpressive faces. They wanted only raw meat and exhibited nocturnal habits. They rejected human contact and preferred the company of dogs or wolves. At the time they were found, they were in perfect health and showed no signs of mental retardation or malnutrition. Their separation from the wolf family caused a profound depression in them and brought them to the brink of death. The girl who survived for ten years eventually changed her dieting habits and her cycles of activity. She **learned to walk on two feet**, although she would go back to the running **on four feet under stress of urgency**. She never learned to speak properly, although she did use a few words. The family of the Anglican missionary who looked after her, as also the other person who came to know her closely, never felt that she was **completely human**" (Maturana and Varela 1992:128-9; ours bold print).

Several cases similar to this one have been deserving attention from the scientific community for decades. When found, these *savage* children obviously do not share human language whatsoever. They have inexpressive faces, walk on four – hands and feet on the ground – have nightly habits, do not dress or wash themselves up. People that took care of them said that they do not sense them as *really human...* This remark sounds us two times strange. Firstly, if we imagine experiencing being in the situation where one finds a feral child, we might indeed say that intuitively and instinctively they do not appear us within the human way of being – that is not the human *be-ing*; yet, and secondly, as the tradition in which we are – Western civilization, in particular – is grounded on the primacy of vision[10] over the other senses, we witness, right here in front of us, a being, which as seen by us, it is a human being... and yet it is not. Why? Because the human way of being is the result of being socialised into human practices. A human being "has grown up both into and in a tradition of interpreting itself: in terms of this it understands itself primarily" (Heidegger 1962:41).

Yet, we are not born in the human way of being, as the case referred to above clearly shows. We come to *exist* in the human way of being (e.g., Heidegger 1962, Bourdieu 1977, Dreyfus 1991, Polt 1999, Giddens 1993, Maturana and Varela 1992). We get into the world as an *in-the-world*, which we can never leave anymore. Research shows that the human way of being is acquired in the first few months of life by the beings who have the possibility of becoming human. Essentially, to speak, to read, to learn, to dominate arithmetic techniques, scientific knowledge and so forth are the same thing. All these aspects that involve us while adults are

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[10] Refer to, for example, Saint Augustin *The Confessions*, Heidegger (1962), McLuhan (1994)

distinctions within the fundamental process we are: one of raising and pulling out, one of showing possibilities and pointing out worlds.

In summary, to educate is to open to others the possibility of being human. What we fundamentally learn is *humanhood*. To educate is to let emerge, to let appear, to let erect the humanness of the being that has that possibility as its essence. Through this lenses, what most profoundly is at stake in education, is letting the being that has the possibility of being human to raise him or herself, literally, that is, physically, and spiritually, caring for him or herself, for others, the world and being itself (Heidegger 1962). This caring is the ontological one that we find at the etymological origins of education, the Latin verb *educo,* which meant to bring up, rear, train, educate (Crane 2005); quite close to the meanings at the origins of the ancient Greek word *techné*. The Latin word *educatio,* derived from *educo*, meant breeding, rearing, training, bringing up. Hence, education has as an original meaning the idea of bringing up, of being vertical, being erected. All of these significations of education show, jus like the origins of *techné*, an upward, positive direction: to breed, to rear, to bring up.

This rising, this upwardness, is Man itself. Being erected: literally equals physically equals symbolically.

Being-In-the-Universe

Upwards, thus. From water towards land. Existing as *ek-sist. Ek-sist* as emerging, stepping out from the oceans, emerging, coming forth into the open air. Noting, noting that one noted, erecting oneself to grasp it all, gaining one's hands, all of this against earth's gravity, towards the skies: upwards bears contours of being out of the earth, into the universe. Upwards, as education and technology, is being-in-the-world by being-in-the-universe. In its very simple and most decisive essence, upwardness is technology. Technology is the human essential *verticalisation* against earth gravity, towards the skies, into the universe. This is why the centre of the earth, New York (Baudrillard 2002:130), "the point where the curvature of the earth comes to an end (…) [is] the place where human technology and verticality have gone as far as they can go. (…) [giving] the impression of being on another planet" (Baudrillard 2002:130). Verticalisation, from earth's ground upwards into the stars, is the essential trace of a technology that is fundamentally enmeshed with human destiny. This is why September 11, 2001, is so odd: because, attacking and destroying the Twin Towers of Manhattan is questioning the very essence of a technology that in our era is what man is.

What contextualised 9/11 was the explosion of the technological understanding of being, grounded on the Internet and on CNN and other global television networks.[11] It was action turned global, background of human action, that globalises terror. Globalisation of terror means that terror now comes as if from space, instantaneously, everywhere on earth. This signification of globalisation draws heavily on the upwardness of technology. It was because man went upwards, out of the earth into the sky, that globalisation came into being.

The word globalisation derives from the verb to globalise, which means "to make global, to make worldwide in scope or application" (MW 2000). The word globalisation forms by joining the suffix -*ation* to the word global. The suffix -ation—which comes from the Latin -*ation*, -*atio*,—identifies a transformation, an action that transforms (transform + ation). This

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[11] … for now, what seems the only effective way to bring global terrorism to an end is to close down both the CNN and the Internet…

transformation pointed to by the suffix -ation, is one in accordance with the initial element of the expression, global. Monopolisation, for example, means becoming monopolised, an action that monopolises; globalisation, means becoming global, thus an action that globalises. Yet, while we know what monopoly stands for, what does global stand for? Since the word globalisation is a noun, the answer to this question must be found in the word itself. Thus, it must be action: *action* itself *turns global*. Globalisation is action, the human dwelling upon earth, being globalised. In globalisation all of our activities and involvement in-the-world make sense against a ready-to-hand globalised background. This signification was somehow captured forty years ago in McLuhan's (1995) expression 'global village'- the world is understood, taken, presupposed, absorbed, as one whole community in which distance and isolation have been dramatically reduced by information and communication technologies (McLuhan 1995); still, there is a difference in the distinction we are identifying: the global village is not anymore just a notion but it rather is a ready-to-hand entity.

A crucial way in which globalisation globalises is thus this substantive transformation of earth into the globe. The globe hanging suspended in space is nowadays the most common and ready-to-hand equipment of our daily coping. The globe is now part, a constitutive element, of being-in-the-world. As such it is an *a priori* present meaning of what we are. Wherever we look we find the picture of our age: on the TV channels' logos and news bulletins (e.g., CNN, BBC, CBS, ABC, TVE, TF1), on a significant percentage of the advertising material that runs in magazines and newspapers, in the material of international organisations (e.g., UN, OECD, WB, IMF, Greenpeace). Yet in this appearance of technology, it is not the picture as such, before our eyes, that is most relevant for us. What matters, because it is what changes our lives substantively, is the globe as background of our action in-the-world. What is at stake is not a picture, which, paradoxically, was only *naturally* seen by a very few men… , but the collective appropriation of the meaning of that image and perspective in human activities.

The human embodiment of the globe hanging suspended in space is what is ordinarily called globalisation. This decisive perspective began to come to actuality as its distinctive sign when the project of landing a man on the moon shows its factual possibility in the 1960s. By landing on the moon, it was the earth and not the moon that was mainly discovered in a new way. The pictures of the earth taken from the moon offer us a concrete push for the theme of the globe, which dates back to the Roman Empire and the ancient Greece, to enter its own epoch.

Arendt (1958) argues that modernity is founded, besides the discovery of America and the Reformation, on Galileo's invention of the telescope, which firstly made possible to consider the nature of the earth from the perspective of the universe. Our arguments in here are consistent with this view. Not only is technology fundamentally linked to the Renaissance and Enlightenment, but also the telescope might indeed be understood as an information and communication technological device, with all the features that characterise contemporary devices of that kind. Thus, man's landing on the moon might have not brought a new and fundamental perspective on human experience, but having relied on an opened perspective, to which Arendt claim the invention of the telescope belongs, it might have recovered and strengthened that same perspective, so that it is in our epoch what is more typical and decisive.

Hence, globalisation is not a phenomenon of the economy, of the markets, of politics, of culture, or of any other kind of human activity. Globalisation is an aspect of the unfolding of

the essence of technology, which as ontological has primacy over all the other aspects characteristic of the present epoch. Globalisation is how man is making sense of the world today, that is, from the perspective of the universe. It is this basic and fundamental perspective that brings nowadays new meanings to human activity. The global perspective, man as being-in-the-universe, is the background against which the traditional arenas of human activity are being addressed.

As the earth turns into a globe, and man assumes the role of the subject observing, analysing, and intervening upon this globe, everything is in the process of being globalised (e.g., Giddens 1999, Castells 1996, Beck 1992, Fukuyama 1992). September 11, 2001, is another example of the unfolding of this globalisation of everything. The underlying logic of that new kind of terror is imminently global. Its global operational reach is just a corollary of something more important and previous to it: the global perspective. Global terror is conceived and unleashed against a background in which human action, even when that action is inhuman, makes sense within this global ready-to-hand perspective.

The world is the globe, an object in space, an object identified, delimited, and isolated. This is clearly the application of the Cartesian paradigm to the whole world as such. The globe is the object, Man is the subject. Let us refer to CNN's globe (CNN 2001), the icon of the epoch. While many signs disclose the subjects in which CNN is involved, the globe provides the perspective in which those subjects are addressed: globally. To address an issue globally is to cover it anywhere on earth; it is to consider the whole earth, as if from out of space, as the relevant arena. CNN surveys the whole world and offers us the latest and the relevant news. Headline news, political news, financial news, sports news, cultural news, and so forth, are the issues that matter; global, is the perspective in which all of them matter. The global perspective under which CNN makes sense, turns the world into an object, and reveals itself as an always running information system.

Figure 2 - **The Globe Hanging Suspended in Space**
(from http://www.cnn.com/CNN, 17/04/2001)

The out of the world perspective is primordially a statement of the totality in which world makes sense today. The world is the globe. A globe is a "spherical object" (OPDT:319), as such it is something delimited—it is spherical—and objectified. "Consciousness does not begin to exist until it sets limits to an object" (Merleau-Ponty 1962:27). Moreover, the globe is an object because it was previously delimited. It matters the least if the world turned out to be a globe or a parallelepiped. That the world is delimited is what matters in here, because

only then does world/universe itself changes. Within this essential unfolding of technology, that is, replacing of man's roots, the world turns into an object surveyed, scrutinised, monitored, controlled, dominated by man. The totalising rationale of technology is fully disclosed in the global perspective. Constrained to this earth by our condition we have found a way of acting as if we had it at our disposition from the outside (Arendt 1958).

By revealing the world as an object man reserved for himself the role of the subject. Thus, in globalisation the Cartesian dualism is thriving. Yet, what holds correct is not that globalisation supports the dualist subject/object model, but rather the reverse. It is on account of the path that Cartesianism has had in the Western world for the last centuries that globalisation comes into presence. This quest that goes back to the Renaissance, to Enlightenment, and even to the Romans and ancient Greeks as well. It aimed at a clean, clear, conceptual knowledge unalloyed by subjective preconceptions, accepting nothing that the 'natural light' of reason could 'verify' through experiment. The verifying human reason becomes the final court of appeal, and all truth finds its validation in the reflexive operations of the human mind (Palmer 1969:243). This decisive epistemological stand was indeed an ontological one in that the way in which knowledge is supposed to be obtained was previously based on the assumptions that man is the *animal rational*—the being that has reason, that thinks, evaluates, decides, and acts. This conception in spite of relying for all of its validity on a method devised and applied by the subject claimed to be objective, which in fact inverted the original notions of objective and subjective. The subjective, that is, that which is dependent on the subject – on its structures and way of being – turned out to be the objective. The objective, that is, that which stands on its own as itself is, thus objecting to us, turned out to be the subjective (Heidegger 1978; Zimmerman 1986; Palmer 1969).

Grasping the Cartesian temper of globalisation, and stripping out the signs of the picture of the globe suspended in space, we can more rigorously access what is at stake in globalisation. Is the globe hanging suspended in space the full representation of globalisation? The answer is No.
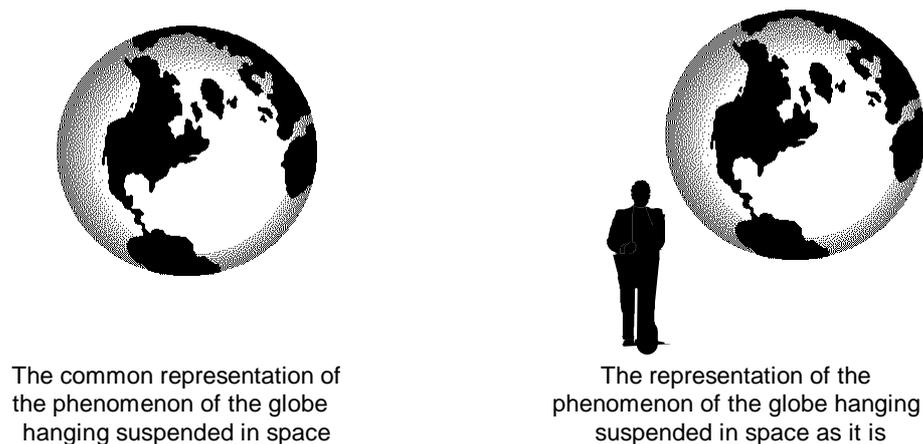

The common representation of
the phenomenon of the globe
hanging suspended in space

The representation of the
phenomenon of the globe hanging
suspended in space as it is

Figure 3 - **The Globe As It Is**

When putting man back into the picture the representation discloses quite easily the subject/object model, now transfigured by a primal appearance of Man as being-in-the-

universe. Globalisation thus relocates Man in the universe. This change of perspective, of destiny, of project, of future is an ontological change because it is a home movement, a new being that comes to precencing: Man as being-in-the-universe.

As being-in-the-universe, space shuttles are man's natural medium. This is the reason why, in essence, every new departure of a space shuttle is a return - "Shuttle returns to space" (CNN 2005). It is a return not because it simply is a repetition. Going again to space is a return because it is a homecoming. The space shuttle was devised from the beginning for, one day, departing from earth, to inhabit forever the skies of the universe. Space shuttles, space ships, any kind of space medium, as the name itself shows, essentially belong to space, to the universe, not to earth. Thus, it is by returning to space that the space shuttle fulfils its destiny.

These themes of technology development, of Man's verticality on earth, of space travel and universe exploration, according to Heim (1997), are the very base of the ex-USSR space program. The ideas that fuelled the early ex-USSR space explorers came from the Russian writer Nikolai Fedorovich Fedorov (1828-1903), who tried to understand how modernisation connects with tradition; "even the engineers of the Trans-Siberian Railway came often to sit at the feet of the famous sage" (Heim 1997:551):

> "Fedorov's strategy was to channel science and technology toward the reunion of all humanity. He decried the heartless positivism that builds on the sufferings and corpses of previous generations, instead seeking a purely idealistic motive. (…) Form him, and for the many Soviet scientists inspired by him, the ultimate aim of the space program was, quite literally, nothing less than resurrecting the dead. (…) The resurrection of all our dead ancestors, and it alone, provides a lofty enough ideal to mobilize humanity to explore the entire universe, including outer space" (Heim 1997:550-1).

Heim (1997:551) proceeds, referring that Fedorov found this thought in Christianity, according to which one day, on the day of the final judgement, the dead will rise again and Christ will redeem the world. This resurrection, for Fedorov, and according to Heim (1997), will be brought about by men themselves, carrying out the divine plan through science and technology – one day we will "eventually reconstitute the bodies of past human beings from their remaining physical particles still floating about in the universe" (Heim 1997:551).

Heim's investigations come in support of our arguments in this paper. Thus, we should say that the deeper meaning of technology is man's new roots: the universe, the stars, the infinite. This, actually, was *a contrario* hinted by Heidegger (1981) in the *Der Spiegel* interview[12] when he referred to the pictures of the earth taken from the moon: "I don't know if you were shocked, but [certainly] I was shocked when a short time ago I saw the pictures of the earth taken from the moon. We do not need atomic bombs at all [to uproot us]—the uprooting of man is already here. (...) It is no longer upon an earth that man lives today" (Heidegger 1981:56). *Ek-sisting*, standing out there in the open there is man: in-the-universe. Towards the big bang and the origins, towards God and the creation, towards it all and its verse, that is, the uni-verse. In the beginning God created the heavens and the earth (Genesis, first line). "Downward is earth, upward is heaven" (Bakhtin 1965:20).

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[12] The interview was done in 1966 and published in 1976, a week after Heidegger died.

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