

Intelligence Understood as the Agent of Human Life

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Abstract

Throughout history, humanity has sought security—first in submission to supernatural powers in preindustrial times, and later, in the pursuit of knowledge in modern times. Yet history, with all its suffering, has shown that both approaches are flawed. In this work, I argue that true security can only be ensured through the development of a healthy and creative intelligence, understood as an active agent of human life. Thus, intelligence, rather than knowledge, is fundamental. Intelligence is interactive; it develops through human interactions with one another and with nature. Instead of viewing intelligence as an individual attribute—particularly one reserved for elites—I emphasize its collective nature: everyone contributes to its development, for better or worse. As an agent of creative freedom, intelligence cannot be strictly defined—just like freedom itself. However, I characterize it through five constitutive creative powers (CCP) and three dimensions, all closely interdependent. Because of their strong interconnection, I refer to these five creative powers as “the creative hand,” with each power represented by a different finger: • The index finger symbolizes curiosity or the driving energy of intelligence. • The middle finger represents communication through structured signs. • The ring finger embodies subsidiary symbiosis, or the ability to coexist. • The pinkie finger stands for the spirit of inquiry and research. • The thumb represents freedom—the most distinct and powerful creative force of intelligence. Additionally, depending on which of these powers is prioritized, intelligence unfolds in three dimensions: 1) The functional dimension (the how), which has become dominant in modern times. 2) The axiological dimension (the what), concerned with meaning and values. 3) The liberating dimension, which embodies intelligence as an agent of freedom. The purpose of this article is not merely to expand the reader’s knowledge of human intelligence. Since intelligence is an active agent, what truly matters is correcting its current dysfunctions—inequalities, wars, ecological crises, and other social ills. Addressing these issues requires a sustained and attentive observation of how the creative hand and the three dimen-

sions of intelligence actually function, free from preconceived judgments. My hope is that this mature intelligence—through both observation and action—will lead to a socially healthy intelligence. Ultimately, the exercise of the creative hand and the three dimensions of intelligence in harmonic interdependence is the foundation of human wisdom.

Keywords

Human Intelligence, Functional, Axiological and Liberating, The Creative Hand, Interest in Reality, Semiotic Communication, Subsidiary Symbiosis, Generalised Research and Freedom

1. Intelligence Is What Really Matters

My several decades of research into artificial intelligence have given rise to two fundamental concerns. Firstly, an awareness of the increasing likelihood of a subtle and unacceptable but powerful digital dictatorship over humanity, powered by politics and the huge multinational corporations dominating our world (Zuboff, 2019). This dark foreboding cloud on the horizon is the culmination of a dominant power, which has ruled throughout the historical period of humanity. The second is a pressing need to gain a better understanding and social development of healthy human intelligence, the agent of human life. While dominant power has always played a prominent role in human history, we should not forget that the history of intelligence is the true social history of humanity. It is crucial for understanding ourselves from moment to moment, from day to day. And to act in the right way for each lived situation and be creative when faced with the unknown. Full awareness of human intelligence provides us with the opportunity for transformation and to create a better, sustainable future (Agusti-Cullell, 2021).

In this article I will expand further on my understanding of human collective intelligence, including a consideration of its five creative powers (interest in reality, communication, subsidiary symbiosis and freedom) and three dimensions (functional, axiological and liberating) as seen in next sections. The aim is to foster the awakening and cultivation of this intelligence, rather than to offer more knowledge *about* it (Legg, 2007). True intelligence lives in action, in what we do. Words and knowledge are means that relate to our needs and interests as created by intelligence, the agent of creative freedom. A free and creative intelligence is the innate and authentic power that belongs to all people, and as such it is a precondition for the existence of genuine democracy. Because intelligence is always in action, always in the present, it requires us to be constantly alert about its exercise and development. Human intelligence develops within the relationships between people and in those between people and nature. To live, in other words, is to *share* life. Human intelligence grows healthily and creatively when grounded in shared loving interest, communication, mutual caring and exploration of nature, as well as freedom from any enforced submission or fear.

Human intelligence is an embodiment of the intelligence of life (Di Paolo & Thompson, 2014) itself: this constitutes the very basis of our specific cultural intelligence. However, an ailing human culture has now cut the umbilical connection with the sentient intelligence of life. We have done something we should never do, forgetting our commonality with all forms of life. A consistent awareness of this commonality depends on the possibility of any kind of healthy culture. Our intelligence has become sick under the influence of individual and collective self-interest, both being forms of egoistic consciousness. In such a limited consciousness the three dimensions, functional, axiological and liberating, are out of balance and in need of healing. Without the full awareness and development of human intelligence's potential, it will progressively degrade under the widespread misuse of information technology (Tedmrk, 2017).

Collective Intelligence

I use the expression *cultural* or *collective intelligence* (Malone & Bernstein, 2022) to differentiate it from a naturalistic or individualistic view of intelligence. We are primarily a cultural species and our intelligence develops as together we create the culture in which we live. In other words, although human intelligence develops through the creative intra-actions between nature and culture (body and mind), the growth of culture lies essentially in the hands of each one of us – in our lifelong physical and mental education, always in intra-dependence. It is this process that can give rise to the healthy development of intelligence. And, vice versa, the development of intelligence continuously creates the culture in which we live. This sense of being co-creators of our culture brings deep feelings of both responsibility and joy.

Awareness of our cultural evolution is important, but even more so is an acknowledgement that it should always be at the service of the development of cultural intelligence. It is this that determines the quality of human action and of culture, as well as the other way round. Having a good cultural model of reality is not enough in itself; only intelligence can prevent its degeneration and ensure its renewal, as our cultural evolution has clearly demonstrated. Looking after the development of cultural intelligence with its five creative powers (interest in reality, semiotic communication, cooperative symbiosis, inquiry and freedom) is the way that we can most directly and effectively intervene in our own cultural evolution.

An example of such intervention in a specific area: it has been, and still is, the cultural creation and development of semiotic communication that has had an important, if not primary role in profoundly shaping the human brain and our cultural evolution. The research and guidance by axiological intelligence around information technologies' impact on semiotic communication deserves great attention and resources, given its key role in the development of a healthy intelligence. Here I give just an introduction to the subject which is developed in my other future books: *The Creative Hand* and *The Social Flourishing of Creative Intelligence*.

Intelligence is frequently characterised as the property of an individual, through which she or he is able to attain personal goals within a wide range of environments (Sternberg, 2018). As such, it is frequently measured using individual tests (Grégoire, 2024). It's not surprising then that many people mistakenly consider machines that are good at achieving specific goals as being intelligent. Behind this belief lies an exclusively functional and individualistic understanding of intelligence as data processing, at which computers are better than humans. But, to emphasise my previous point, true intelligence develops within the communication and cooperation between humans and with the natural world. It is within these intra-actions that we should study human intelligence rather than scrutinising some quality that individuals use to represent the world, solve problems and achieve goals.

Collective human intelligence displays a common sense that the individualistic approach to Artificial Intelligence cannot replicate in its machines (Agusti-Cullell & Schorlemmer, 2021). Human intelligence has grown over hundreds of thousands of years through the intra-actions between nature and culture. Intelligence resides not primarily in the necessary interactions within a brain but in the constitutive intra-actions between brains and with nature. It is there we can intervene. Understanding intelligence is the way to understanding the brain; it is not the other way around, as some scientists believe (McGilchrist, 2021). Cultural or collective intelligence (Enquist et al., 2023) is the decisive influence on how our biology manifests in our lives. Culture is what we have in our hands; it is our ability to influence nature. In particular, it is our capacity to nurture the healthy functioning of the human brain.

Of vital importance is the fact that the *known*, the *unknown* and the *unknowable* all meet in the intelligence, making it the creative agent that it vitally is. We must never forget that we are embodiments of universal intelligence (Agusti-Cullell, 2020), called to be in harmony with the intelligence of the Earth and in deep symbiosis with the intelligence of all Earth's life. Instead of this we have imagined ourselves as intelligences set apart, predated an Earth that we perceive as a mere resource, completely at our disposal. This is why it is so important to undertake research into the way these forms of intelligence work. Human intelligence has become sick because it doesn't know itself. Without its healing, nothing good can come.

This is why several factors are of supreme importance: the nature of family culture in the first years of life; non-dominant gender relations; plentiful opportunities to develop the mentioned constitutive creative powers (CCP) of human intelligence, most particularly the skills of dialogue and cooperation in the context of lifelong learning. From the perspective of the CCP, it is clear that the highest form of intelligence is that of teams collaborating in close intra-dependence between their autonomous members and networks of other teams. This seems to me the only manifestation of intelligence capable of engaging with the current problems of our highly complex world. Families are the basic and potentially most loving

form of teams. The relations within them and between them form a network of teams. This is one of our most precious resources and one that we must strive to protect. The truth of this should be at the heart of all forms of education.

From these propositions arises a key question that I will try to answer in my next book, *The Creative Hand*. What kind of socio-economic system helps children to develop (or prevents them from developing) their innate CCP, those creative powers that make us fully human? We need a new kind of education in which nothing is imposed on children, but where they are helped to develop and strengthen their natural intelligence. They are not entities to be stuffed full of information, turning them into repetitive, programmed such a burden, they will never be free of it and their creativity will be destroyed.

2. The Creative Hand

Given that intelligence is an agent of freedom and creativity, rather than trying to capture it in a definition, we will do better to clearly recognise, observe and develop this intelligence through its creative powers. In this way, by studying its actions and intra-actions, we can learn about intelligence *through what it creates*. Another way of putting this is that intelligence allows us to learn best by *doing*.

From a cultural point of view, intelligence can be characterised by the five constitutive creative powers (CCP): interest in reality, semiotic communication, subsidiary symbiosis, generalised research and freedom. These five fingers are the subject of *The Creative Hand*. Essentially it is a *model*, making no pretence of being able to *capture* reality. The intention is simply to inspire further discussion and research on the constitutive powers of human intelligence. This creative hand is held in common by humanity, it is where we the people can meet. In the same way that it is true of our bodily fingers, the fingers of the creative hand are a marvel of intra-dependent coordination. Despite this central truth, the CCP are usually treated as being completely separate. It is precisely this that makes it impossible to fully understand them, and so to understand intelligence itself. What follows is a brief introduction to these powers.

2.1. Interest in Reality

The index finger is the finger of *interest*, the one that orients human life by pointing to the needs and imperatives that motivate and guide our actions. It marks the direction that intelligence takes. It is also the finger of attention, the way we look at the world—an activity inseparable from where our interest lies. The part of intelligence that is the vital power of attention deserves particular care in the context of our current information societies where we are submitted to a continuous bombardment of information and distraction. Interest is the quiet and serene vector energy of sentient intelligence, having both magnitude and direction. Most particularly, it is the energy—or indeed courage—necessary for its creative activity.

Interest mobilizes all senses. It opens the heart, awakens intelligence to the constant newness of reality, and leads to action. When there is authentic interest, its

great energy, courage and openness to reality mean that no kind of imposed effort is necessary. This is the courage that leads to generosity.

The etymology of *interest* already denotes the primacy of the collective. It is from the Latin *interesse*, which in turn is composed of *inter* (between) and *esse* (to be). And so we see that interest is a shared sense of the importance of things and events.

Interest makes human intelligence more sensitive, more emotionally aware and more evaluative. To discover an appropriate interest in the world of common interests and values is of paramount importance for the development of intelligence. This is why helping people to discover their interest is fundamental to all forms of education. Relationships based in any way on fear and domination will always interfere with the healthy development of intrinsic interest (Renninger & Su, 2019).

Instincts are the primary form of interest, the most fundamental being the instinct for survival. Love is the most developed, necessary and beneficial form of interest, for humanity and for life in general. It is unconditional love (made possible by our conscious participation in the creative freedom of reality) that is distinctive of human beings. We have the potential to be not simply dominators of Earth, molding her to our will, but to be at the service of life, ensuring that it flourishes everywhere on the planet. Unfortunately, the attitude of domination and exploitation has been understood as “progress”—a terrible mistake, and one in which we continue to persist.

Interest is what drives us to learn and investigate everything in a creative way. It's essential that we recognise the presence of a primordial interest in reality itself. The foundation of this interest is *freedom*—the condition of not being enslaved by the ego and its memories, by acquired knowledge, desires, fears and expectations. It is this selfless interest in truth and beauty that is characteristic of liberating intelligence. As the ever-present basis of a multitude of diverse interests, it is what unites us in a profound interest *in reality*. This is in contrast with mere *curiosity*—a disengaged form of interest ready to serve the best bidder for good or bad; the same is true of courage when not motivated by love.

Interest makes the mind attentive and quiet, liberating it from the distracting flux of thought. Without interest, no useful skill would emerge. The creative power of interest is immense. When in the European Renaissance interest changed from pointing at the past to pointing to the future, it initiated the great mutation of humanity from pre-industrial to industrial cultures. Essential to the accomplishment of such a mutation is that interest should stop being *self-interest* and should point to reality itself, to its creative freedom and socially embodied intelligence.

I understand *self-interest* not as the set of interests the individual or collective happens to have (which at its best includes an enlightened interest in reality) but as interest in *oneself*; in the short-sighted interests of the ego, both individual and collective. This myopic self-interest, and the fear it brings, is the adversary of free-

dom and the development of common interest—the true and most beneficial interest necessary for the healthy development of the other constitutive creative powers, in particular the growth of cooperative symbiosis through the creation of powerful teams.

2.2. Semiotic Communication

The middle finger, or *mediator*, corresponds to semiotic communication. This is communication between humans by means of signs, including articulated sounds forming sentences filled with meaning and musicality (contributing to the enormous advancement of music itself). Such communication is the most evident creative power of human intelligence. The power to create new meanings or to give new meaning to existing words gives rise to the extraordinary power of human imagination and so, in turn, to creativity. We need to remain mindful that the meanings of words, rather than being exhaustive descriptions of reality, are *human creations*, and so can be changed in order to create new ones as and when the need emerges. Alongside this is the central fact that communication has the capacity to make us aware of our very existence and of our innate freedom, something unique and specific to humans.

Semiotic communication is the voice of intelligence calling us to create a good life in common with each other. The main goal of dialogue is to share meaning (Bohm, 1996). When this seems to prove impossible due to conflicts of interest, dialogue is able to create a new shared meaning, a new common interest that opens the door to a stronger symbiosis. The way of submission is replaced by the way of dialogue. The art of dialogue should be a universal process of lifelong learning, requiring the kind of deep and mutual listening that will free us from attachment to our ideas.

Reading and writing are two powerful means of communication which can and should be cultivated by everybody. Communication and symbiosis develop together as central creative powers of human survival; one cannot be understood without the other. When symbiosis is strong, human action has a communicative effect: *by their actions you will know them*. Although less evident, the other constitutive creative powers, interest, research and freedom, also developed in conjunction with communication and symbiosis. Most features of human intelligence (for instance, the identification of likeness and difference) are closely connected with, and even derive from, the power of communication.

Human speech is a cognitive revolution in the animal world. It is the most marvellous manifestation of universal creative intra-actions. Speech creates an immense web of relations between humans and with nature. Communication weaves the web of meaning. For that, we must tune into the deep connectivity of the cosmos. If you reflect for a moment, you see that there is nothing human outside of communication. The received wisdom is that speech expresses thought (Sfard, 2008); but for humans, thought, along with imagination and creativity, actually comes from the power to communicate by any means. The primary role of speech

is not to describe reality. Such an understanding overlooks the creative power of communication, in particular in its use of metaphor (Lakoff & Johnson, 1999). The truth is that speech is creative communication leading to a strong cooperative human symbiosis. There are non-descriptive forms of language such as symbolic language pointing to the ineffable, or the language of jokes, playing frequently with contradiction, but all such language *communicates*. Works of art, in particular, are beautiful forms of communication, the language of poetry being an outstanding example.

The *word* is primarily about conversation and dialogue; it opens the possibility of cooperation. It offers the pleasure of human conversation – simply for its own sake. So, properly understood, communication always involves the rest of the constitutive creative powers. This being the case, we can understand it as being much more than the mere utilitarian and commanding use of a language, with definitions of words for the sole purpose of information transfer. That is something machines can do. (And machines will come to replace those journalists that reduce communication to information transfer.)

Communication is metaphorical; in truth, it creates metaphors continually. It relates expressions of meaning to the experience of one domain and then translates them to other domains, demonstrating the unity of intelligence. (As an example: the word *close*, primarily used to describe spatial relations, is also applied to the domain of human relationships.)

As a general principle, it will help our understanding if we focus on *communication itself* rather than on the complex languages it creates. In certain societies, however, *language itself* has been prioritized and used for the purposes of domination: to indoctrinate, to transmit “knowledge”, and to produce propaganda rather than being the means of creative communication. We need to be aware that language originates from communication, not the other way round. In communication, speaker, listener, text, pretext and context are all inseparable; the meaning of the same sentence can change if one of these components changes.

A central point is this: that our freedom lies in the gift of semiotic communication. In itself it makes us aware of our freedom, and of sharing in the creative freedom of reality, our origin and our source. Speech frees us from the enslaving stimulus-response mechanism of animal life. Central to human communication is the fact that, between stimulus and response, humans interpose words and, in this way, share meanings and open the imagination. This is how we can be conscious, and most particularly, conscious of our freedom. The revelation is that words are not things. Speech remains the greatest creation of the intelligence of life, marking the beginning of *human* intelligence, liberating us from the prison of genetic programming and constituting us as a new cultural species.

Everything that affects communication transforms human life. This being the case, it is vital that we look closely at the current impact of information and communication technologies on human communication. Such communication is not the mere transfer of information. In reality it is face-to-face, with a pretext or in-

terest, an evaluative context and the texture of a culture all to be taken into account. The free, attentive, silent mind of the listener combining with the presence of the speaker is what makes for genuinely creative communication. Unlike AI tools, they do not speak and listen based simply on accumulated information, but out of—and with—freedom.

2.3. Subsidiary Symbiosis

The ring finger of life represents subsidiary symbiosis. It is the power of life held in common: cooperation, mutual service and care. The overall evolution of life is a clear example of the creative power of cooperative symbiosis (De Jaegher & Di Paolo, 2007). In particular, unlike most animals, humans cannot survive outside of a strong context of symbiosis. We develop primarily in the household, in neighbourhoods, and in local communities. (Hence the importance of their subsidiary autonomy. Human life is a synthesis of myriad relationships. The creative power of symbiosis is constitutive of all humans; it lies in the very roots of their origin, together with the power of speech. Early in their lives, for example, children have the need to look after dolls and pets. Only later comes the need for housing, transport and all the other associated activities. Symbiosis and communication play a fundamental role in the overall development of human intelligence, making it into a *collective* intelligence. The education and care of children's creative intelligence from birth is one of the most important activities in human life. It has enormous consequences for good or for bad. Humanity has not yet fully understood how important this is and consequently has not approached it in the most skilful way. The particular change needed in this area is the removal of submission and fear from the education of children. Together, those two are the great enemies blocking the growth of a free and creative intelligence.

Through the course of evolution the growth and deepening of human relations, and of the entire social fabric, along with the creation of all kinds of associations and institutions, starting with the family itself, have all played and continue to play a central role in the development of human intelligence. The family deserves special attention, given the importance of the first years of this developmental process. It is within the relationship with the parent that the child first learns what is considered to be normal or abnormal, possible or impossible, moral or immoral.

Simply put, in creative democracies it is *caring for others* that is the most highly rewarded and highly valued human activity. In other words, human life and happiness is not an individual and private affair, but is the result of subsidiary symbiosis. Subsidiary symbiosis, in close intra-dependence with the rest of the constitutive creative powers, is what has the potential to create a happy and fulfilling human life.

I choose to call it *subsidiary symbiosis* in order to make it clear that symbiosis can no longer be hierarchical. It must no longer be a function of *domination*, killing creativity, with power concentrated in the way that it has been in the past, and as it stubbornly continues to be. This force of domination is the great obstacle to

subsidiary symbiosis. A much better way of organising shared life is to allow the capacity to deal with issues and make decisions to reside within the lowest level of organisation at which it can be effectively handled. There I also explain the need for symbiosis to be *integral*: not only between humans but embracing all life on Earth. Each local collective or institution, whether it be social, political or economic, must have the maximum possible autonomy, enabling it to work in interdependence and mutual recognition with other institutions. Subsidiary symbiosis works on the human scale; it protects local autonomy; it is built around community bonds, empowered people and networks of local and global economics in interdependence. All this reflects the strong drive that humans have to delight in cooperating, helping and interacting with each other (Gosepaph, 2005).

The pairing of communication and symbiosis is at the very core of human relations. The healthy growth of intelligence depends on their full development, yet it has never received the attention it deserves. This is the reason why humans have not eradicated domination and the violence it brings to their shared lives. This violence is what now threatens our collective survival. The priority of a relationship with the material world over human relations, of the “it” over the “you”, is the great mistake of modernity. It is at the root of individualism and of the conflict and violence created by that great delusion.

Divisive individualism, the individual as a self-interested atom of society, has pervaded human language and so, in turn, mainstream economics, law, politics, and policy at all levels. It is characterised by calculation, opportunism, instrumental rationality and the following of self-serving goals within a society understood as a market for goods and services. It is a perversion of symbiosis brought about by the forces of modernity and it now threatens human survival.

What follows on from this individualism is division between groups, societies and states, all imbued with the instinct of domination and, inevitably, in need of armies in order to protect themselves from *the others*. Modernity has deliberately promoted this state of affairs—mainly through the workings of the state and the market. The division between rich and poor societies is the result of a sick Western culture, with its predatory global economy disguised as help for “the poor”. But poverty-blighted countries end up as net creditors to wealthier nations and the interest paid on the loans amounts to much more than the value of the help received. Underpinning all this is a damaging confusion between self-interested individualism and *individual autonomy*, the latter being an essential part of a healthy subsidiary symbiosis.

A high level of symbiosis, compassion and mutual care can be reached by humans. It is of a different order to that of other animals and can only be understood by taking into account the creative power of semiotic communication, a common interest beyond animal instincts, an attitude of inquiry, and liberation from pure animal self-interest. All these, taken together, provide the conditions for effective and free cooperation in strong teams. Without this kind of mutual care, the other constitutive creative powers tend to degrade and be corrupted.

In the past, symbiosis was hierarchical, based mainly on common religious beliefs and their corresponding values; later these were replaced by secular ideologies. In a new way of life based on creativity, symbiosis has to be understood as a creative power of intelligence in close intra-dependence with the other constitutive creative powers. Mediators, for instance, are agents who facilitate the exercise of this creative symbiosis, and as such should be educated accordingly. The failure to recognize the creative power of caring, starting in early childhood, has been a major obstacle to equitable, sustainable and healthy socio-economic development.

The power of cooperative symbiosis is at the heart of a wise little parable about heaven and hell. In hell, people find themselves in front of a table full of delicious food. However, the cutlery they have is far too long. They are unable to put the food into their own mouths, and so suffer an agonising and endless hunger. In heaven the situation is the same, but the vital difference is that, using the long spoons, people happily feed each other.

2.4. Generalised Research

The pinky, or little finger—the last to develop—stands for generalised research. I call it *generalised* because it is an attitude of enquiry that embraces all human life. It is an enquiry in which we personally engage, on our own or with others, seeking to discover what is of interest in the circumstances of our life, and how it is to be engaged with and realized.

In earlier societies, security was believed to lie in submission rather than in freedom and research. This latter attitude was not developed systematically until the European Renaissance. Research is the hallmark of *Homo quaerens*—the one who enquires in order to learn about and create his or her own life. Questioning the known within a spirit of freedom in order to truly understand and learn; being open to the unknown in order to create—this is the true dynamic of human creative intelligence. Here there is a healthy critical attitude, with no absolute authority whatsoever—not even the authority of established knowledge. Detachment from such knowledge is one of the conditions of full creativity, a condition unknown to “intelligent” machines.

Up to now, research has been the business of specialists in the laboratory or in the workshop. Today it is the concern of us all, (Dewey, 1938) in whatever activity we are engaged, if we are not to end up displaced by machines much more powerful than ourselves in the linear use of knowledge. Functional research within the techno-sciences has grabbed most of humanity’s attention and resources. Research into intelligence’s healthy development, in particular into the creative powers of interest, dialogue and cooperation, have not received the necessary attention in the fields of education and research. This despite them being the creative powers they are, utterly vital to human wellbeing.

In education close attention should be paid to the power of enquiry, foregrounding it by putting it into action in order to learn. This is how we can avoid creative intelligence being degraded to programmed intelligence. Also vital is the

undertaking of axiological research in order to raise awareness of the actual forms of interest that move individuals and societies. Research to improve social communication and to implement a subsidiary integral symbiosis is also essential for nurturing the possibility of a good life.

Most significantly, an attitude of research represents a break with programmed intelligences and the attachment to repetitive habits. The new is always a possibility, making us unpredictable and uncontrollable by the ever-watching algorithms of the internet. The fear of taking risks and of what will be said about over-hastiness or mistakes, these are always the primary obstacles to this vital attitude of research. We need a research culture where it is not only understandable to fail, but where failure is fully expected, and accepted, as part of the creative process. The best creations do not come from playing safe. Properly understood, research is the path we are obliged to follow if we are going to be truly creative, discovering new and authentic ways of life.

2.5. Freedom

The thumb of the human hand is liberation or freedom. Human freedom is participation in the creative freedom of reality. Liberation consists in being free from whatever imperatives the ego has internalised, made up of desires, expectations and fears. It is also the state of no longer being so firmly attached to emotions, knowledge and thoughts, all of which are so easily controlled by information technologies. Those who control our minds rule over us.

Freedom makes intelligence unpredictable; it is no longer at the mercy of technologies such as Big Data, machine learning and surveillance algorithms deployed by the powers of domination. In particular, freedom shows itself through the ending of fear, which is the great enemy of intelligence and the ally of domination. Fear paralyzes the proper exercise of the constitutive creative powers. In particular, the fear of making mistakes and having them judged by others is a great obstacle to the power of enquiry. Such enquiry is always risky but is also enjoyable, and necessary for societies in permanent change (Moshman, 2003).

Courage is frequently proposed as the way to overcome fear. Although courage *can* help in certain situations, nevertheless it continues to address fear as an *individual* emotion. And this is why it cannot eradicate fear, which is an illness of *collective* intelligence. The answer is not to control fear but to do away with it. Courage and other strategies involving knowledge and psychological care, although necessary and helpful in concrete situations, do not get to the root of fear: the state of not living in the freedom and creativity of reality. It is this reality that is our real collective home, not the fearful little ego formations (individual and collective) in which we continue to live as prisoners of our emotions.

Because domination and submission have until now been the two fundamental features of society, freedom has not flourished. As a result, individualism and self-interest have corrupted human intelligence. In reality, however, because intelligence mainly dwells in its intra-activity, its freedom can liberate us from the

prison of our egos. It allows full and healthy relationships between humans and with nature (a strong symbiosis) and, consequently, a fully developed collective intelligence.

When I was a child my family allowed me the freedom to create my own life – a very different experience from that of my parents and grandparents. Freedom is an important condition for a good education, one that helps children and young people to exercise it properly in the process of learning to create their own lives. Without this experience of freedom, the number of young people without any notion of what to do with their lives will only increase every day. What we need is a complete liberation from fear. This is what liberating intelligence (discussed later in this work) can achieve.

The intelligence of freedom is present in all of us, but is left too frequently dormant. It is certainly not awakened through our current form of education and, as a result, most of the population don't get a chance to cultivate it. This is one of the deep causes of the terrible sickness that afflicts our current society. Properly understood, freedom means ending our submission to the external mechanisms of domination that are everywhere in today's societies of propaganda and mass exploitation. Only the power of this deep freedom can avoid the establishing of digital dictatorships.

Freedom, this thumb of the creative hand, is the power most specific to human intelligence. More than any other of the animals, our species is the direct result of the exercise of freedom. It has become clear that our survival is now depending on freedom to put an end to a society of domination and exploitation. (Paradoxically, in the prevailing accounts of intelligence, freedom is the term least mentioned. It's easy to see, with the false attribution of intelligence to machines, how they have become humanity's competitors.)

Freedom as detachment is the basis of human intelligence's ability to abstract and generalise. We create abstract general principles and concepts from specific experiences, thus making human intelligence flexible, adaptable and creative. This is partly why supposedly intelligent machines (to which freedom is alien) have such difficulty, unlike humans with their functional intelligence, in reliably creating abstractions and generalisations. Machines struggle even more with metaphors.

Freedom is the central power of liberating intelligence. It puts us in immediate, silent contact not just with things relative to our needs and interests but with things as they actually are. It is this that allows the appropriate action of intelligence in every moment. It is the intelligence of reality's unity, truth and beauty; the intelligence of unconditional love and happiness, as I will continue to assert throughout these pages.

2.6. The Intra-Dependence of the Constitutive Creative Powers (CCPs)

The long intra-dependent and evolutionary creation of the CCPs is what gave rise

to the human species. The power of the creative hand is far greater than we can imagine. With sufficient trust, we can consciously live from and through it and, in the process, discover ourselves at the deepest level.

We cannot understand or properly exercise any of the five CCPs without being mindful of their intra-dependency, the contribution of the other CCPs to each of them. That is why they constitute a whole: the powerful creative hand of intelligence. Without interest, for example, the other CCPs would not have the energy to act. And without the proper functioning of the rest of the CCPs, especially research and liberation, interest is reduced to animal instincts: desires, expectations and fears. It becomes directed not towards reality but towards the ego. It becomes short-sighted and selfish, corrupting the rest of the CCPs. Under such circumstances, communication cannot be sincere, symbiosis becomes domination, research is placed at the service of the highest bidder and “liberation” makes us insatiable.

To understand how these creative powers work together is to understand humankind, its past, present and future, its unconscious and conscious creativity. To care for and nurture these powers is to care for and nurture creativity.

Each of these powers is present in some way in any form of intelligence, especially in the intelligence of life, albeit sometimes in a very primitive form. We are a part of the intelligence of life which displays many different forms of interest: perseverance in its own existence, communication, symbiosis, research and freedom, everything that invalidates any mechanical explanations of life’s evolution. Insect colonies, such as those of ants, bees and termites, are examples of collective animal programmed intelligence. They involve a very particular form and execution of interest, symbiosis and communication. In humans, these powers made a qualitative leap, empowering human intelligence to create our own dynamic cultures.

The body’s senses, the powers of the body’s intelligence, are basic, intra-related, constituents of living intelligence. In humans, all powers of intelligence have been transformed by the revolution brought about by the long process of language creation. In particular, communication has made us conscious of all the CCPs and the role each of them has in the creation of speech. Most particularly, we became conscious of the key role of strong human symbiosis, and of our liberation from the enslaving animal stimulus-response that speech has brought about. In this way, all of the powers could become highly creative and closely intra-dependent. If one finger is wounded, the rest also suffer, as does intelligence itself. If the expression of symbiosis is authoritarian and hierarchical in nature, the creative hand loses the thumb, its freedom, and thus its creative power. Without freedom, under self-interest, cooperation degrades to simply serving monopolies. This is when invading armies, terrorism and criminal gangs eagerly prosper.

Although the forms and ways of exercising these powers of intelligence are limitless, each of us has to discover his or her own unique way. Being in strong communication, and sharing meaning with others, for example, is a way to discover

our particular form of interest in reality. It should be the main task of education to help these CCPs emerge and develop (*educere* = to draw out). It's a serious failure of the education offered by the family, the school and by society in general when, at the end of high school, most students have not discovered their own particular interest. In great measure this is due to teachers and society being interested, from *memory*, in the "right" responses rather than helping students to find their answers through their own powers of interest and research *in the present*. Students' intelligence only grows when they have to find the answer by themselves.

It's important to note that unlike *knowledge*, which is a possession of *individuals*, the CCPs are *intra-active* powers, closely *intra-dependent*, working through interactions between humans and with nature (the intelligence of life). The constitutive creative powers should therefore be studied on the basis of this understanding, rather than separately and as individual possessions. In particular, instead of studying and developing our communicative symbiosis with nature, we have not only forgotten it but have replaced it with a damaging attitude and praxis of domination, continuing our predation of nature in an unsustainable way.

The power of genuine freedom is not a property of separate individuals. A mere individual "free will" is easy to manipulate. True freedom can only be exercised through the rest of the CCPs. Without interest in reality, the source of freedom, there is no real freedom, which shows itself in sincere communication, loving symbiosis and creative research.

A case in point is the fundamental error of seeing language as describing or representing a pre-given world rather than as a creation of the communication power, at the service of symbiosis and in close intra-dependency with the rest of powers. Both religion and scientism have fallen into this error of considering their texts as truth itself rather than as pointers to truth.

Continuing ecological crises make it clear that not only humanity's wellbeing depends on the healthy development and working of the CCPs, but so does that of life on Earth. No amount of international conferences will prevent unscrupulous people from ignoring all ecological warnings whenever short term advantages are to be had; nor will it affect any change in those who subscribe to the status quo plutocracy.

Vitality, the proper exercise of the CCPs is an essential element in developing a healthy brain, which in turn is one of the pillars of overall bodily health. In general, cultural health clearly lies in our creative hand and ought to be the first concern of all political endeavour. Two of these creative powers, semiotic communication and subsidiary symbiosis (the relationship between humans and that between humans and the Earth), are key to human wellbeing. What blocks and distorts them is the attitude of domination that is so firmly installed throughout many societies. Productivity, the food of domination, becomes the primordial reality. Caring activities, which are of immense importance for any healthy society, are dismissed and not rewarded. The centrality of education and care for children within the

family, with their enormous consequences for good and for bad, is not recognised and promoted. Stipends to help families care for children, to provide dignified elder care, to have generously paid parental leave, all tend to be characteristics of more developed societies such as those of the Nordic countries.

Generalised research and enquiry motivated by unselfish interest are vital if we are to live well in a world of constant change. More than any of the others, the most essential power of intelligence is freedom: not living in submission to any dominating power or to any model of reality, whether the internal ego or the external forces of plutocracy and imperialism. (It is essential to be aware that both domination powers, internal and external, necessarily go together; we cannot be liberated from just one of them). This freedom entails interest in reality and the attitude of research, which is the path to learning and creation. Both are key in a world that never stands still.

Freedom is the most universally misunderstood power, with a depth and creativity that is almost entirely overlooked, making us prisoners of the dominating models of reality where suffering is unavoidable. A central truth is that, through freedom, the powers of intelligence can attain their greatest potential. Interest can reach its highest degree, unconditional compassion and love; communication can be sincere and trusting to the point of silent communion; subsidiary symbiosis can become a union of love and service; research can reach the highest degree of collective creativity and be undertaken for the good of all humanity.

By contrast, a lack of freedom leads to the degradation of all the rest of the creative powers. Interest in reality becomes myopic self-interest. A fixation on personal success feeds into a self-centred and short-sighted view of reality, poisoning the brain and bringing with it the inevitable failure to attain a happy life.

The close intra-dependence between the CCPs within humanity's creative hand is still waiting to be realised as the great benefit it could be for all. We must empower the creative hand of every citizen; this is the foundation of the new societies that must be born: the Creative Democracies. Free, creative intelligence, and its nurturing through the permanent education of its constitutive creative powers, must take its place at the centre of human life. There is still much to do.

3. Two Levels of Intelligence

Human intelligence has two levels. These are two inseparable ways of accessing reality. Firstly, there is the busy intelligence of need that creates the necessary linguistic models of reality, or knowledge, necessary for our survival and for the creation of meaning. Secondly, there is a silent, peaceful, liberating intelligence – we might also call it the intelligence of freedom; it is in unity with universal intelligence and is characterised by unconditional love and happiness.

The first level of intelligence creates different cultures and different ways of thinking; the second is humanity's universally shared point of encounter. Traditionally these two ways of accessing reality—one relative to us, and the other free, absolute and non-relative—have been described as two forms of consciousness

relating to an external and an internal world. Superficially, the two levels of intelligence are apparently incompatible. In fact, they are intra-dependent aspects of the same intra-active intelligence; they develop in harmony and embrace all human life. The dominance of the first level of intelligence, driven by self-interest and a lack of attention to and care for the second, has led to the current confusion of humanity.

There can be no healthy, mature, and lovingly creative intelligence if liberating intelligence is dormant, ignored or dismissed. It is the intelligence of happiness (not to be confused with sensual pleasure) and as such its awakening and care should receive special attention. Without a deep sense of freedom the intelligence of need enslaves us; it is easily corrupted, and set to work for the powers of domination. Because the intelligence of need is our first encounter with intelligence in any form, it is the appropriate place for the liberating intelligence to work. This is the way that its corruption and recruitment for the purposes of domination can be avoided.

The intelligence of need itself has two dimensions or ways of working: the *abstract functional*, epitomized by techno-sciences, and the *sentient axiological*, creating meaning, systems of values and the beauty of artistic creation. A great error of modernity has been to separate these two dimensions of intelligence under the misleading headings of *techno-sciences* and *humanities*. The result has been an enforced separation between humans themselves and between humanity and “nature”. This is one defining aspect of the domination and exploitation model of reality, a model that is leading us to complete disaster.

The functional, the axiological and the liberating are three dimensions of a unique intelligence. They have their own level of autonomy but cannot, and must not be separated as each one needs the others. The confusion of priorities between the concrete axiological and the abstract functional—a colour taken as a light frequency, is the origin of many misunderstandings (Whitehead, 1925). Everything on Earth is treated as a mere resource—at our disposal, liable to be relentlessly appropriated and marketed. When separated in this way, rather than working in strong collaboration in order to serve the real needs of humanity, the techno-scientific intelligence inevitably falls under the control of domination powers. It is then at the service of plutocracy and imperialism. Intelligence is treated merely as a producer, downgraded to the level of machines. Indeed, it is in the end controlled by machines, rather than being recognised as the unique agent of a healthy and happy human life.

3.1. Intelligence of Need

Let us consider first of all the demanding intelligence of need, the intelligence which actively seeks to cater for our requirements and interests; this is the intelligence that belongs to the sphere of the economy. When it is healthily informed by the liberating intelligence it acts in a truly collective manner: people working-with-each-other-for-each-other in order that each secures their respective auton-

omy and the fulfilment of their needs. It is this that ensures not just individual but also *social* health. We care for our body-mind *together* through healthy eating, physical exercise and entirely gratuitous activities such as music and dance (Gardner, 2011). We pay attention to the proper development of the CCPs—our creative hand—and thus ensure our wellbeing. A healthy intelligence of need does not destroy the very basis of its own provision. When corrupted by individualism, the intelligence of need creates a world separated out into “I”, “you” and “it”. This is a world of subjective and objective *individual* experiences, where needy subjects or *individuals* confront the objects with which they intend to satisfy *individual* needs.

However, as we have seen, in humans this intelligence (unlike most animals) is a collective one. Our genetic programming is not enough to provide for our needs. We have met these through the creation of human culture, including our relationship with nature. Humans need to be properly educated throughout their lives in how such a culture works in a healthy and fruitful way, particularly now that a highly predatory culture brings accelerated change and threatens human survival. We should never forget that we live in a culture *that has been created by us*, that being the case, we are also fully responsible for—and capable of—healing its current illnesses. Indeed, this very capacity to *create* culture implies the presence of freedom, and so of liberating intelligence, in the working of the intelligence of need. It is something of which we are usually completely unaware. Both these forms (*liberating* and *need*) are necessary aspects of the one unique human intelligence.

The intelligence of need is the basis of individuation: the creation of individuals. It is the intelligence of purposive action, compartmentalizing reality in order to better understand and master it. When it is uppermost in human life, it uses the power of domination, and even aggression, to achieve its utilitarian goals. This form of intelligence throws itself into the adventure of gaining knowledge and the conquest of all the spaces and life of the Earth, becoming, if unchecked, its most dangerous predator (Adeline Du Toit, 2007).

We could characterise this intelligence of need as the rational, utilitarian, productive and dualistic intelligence of the *knowable* and the *valuable*. Its realm is that of possession, knowledge and values, regularity and regulation, laws and norms; of personal experience and memory, thinking based on accumulated experience and expectations about the future, of adopted ideologies and theories. It is the busy and self-centred intelligence of goals, doubts, triumph, pride and guilt. When the liberating intelligence is dormant it is prone to becoming primarily egoistic. It is the intelligence that turns work into toil and is preoccupied with birth and death, contingency and vulnerability, good and evil, the subjective and objective, hunger and thirst, pleasure and pain, means and ends, method and discipline, space and time, past and future, predicting and planning, cause and effect, evolution, desires, ambitions, expectations, fears and becoming. This is a collective (or symbiotic) cultural level of intelligence that is deeply conditioned by the experi-

ence of previous generations and by the effects of power and domination. It is polarizing and divisive when it operates separately from liberating intelligence. It can come to rule human life entirely, leading us far away from what is best in life: real freedom, unconditional love and the happiness it brings. It is all too easy to become addicted to food, mass media, smartphones, social networks and all the other “goods” we are sold, while remaining totally unaware of liberating intelligence.

It is not possible for humans to meet their needs entirely individually, as most animals do. We achieve it culturally, through our collective intelligence of need. Labour is much more than productivity. It is an important and extensive aspect of the intelligence of need, and as such should not be divorced from the constitutive creative powers that are at work in it.

The intelligence of need creates linguistic models of reality. These are a powerful and necessary constituent of the world; we continuously create them in order to satisfy our needs. The danger lies in our tendency to take them as the *only* reality. We then end up utterly attached to these models and, as a result, completely unaware of our potential for freedom and the joy it brings. We come to understand the intelligence of need, of knowledge and work as the only intelligence there is. From this place all we can do is to ask those in whom liberating intelligence has awakened to explain it to us. We want to *know* the unknowable, to hear a description of this freedom, this unconditional love and happiness.

But we cannot access liberating intelligence through the very knowledge and thought that is relative to our needs and interests. Liberating intelligence is an immediate living in reality: gratuitous, loving and joyful. We only really understand and are truly creative when we are aware, thanks to the liberating perception of reality, that knowledge is a model always under revision.

Every living species has its own model of reality depending on its senses. They are mainly genetically programmed, non-linguistic models. Any change in them is, therefore, necessarily very slow and requires a physiological transformation. The tick, for example, relies on only two senses to detect the heat and sweat of the mammals on which they can be parasitic. In contrast, our powerful linguistic knowledge models have been growing throughout human evolution, particularly so in the last few centuries. They have become increasingly complex, in a continuous process of growth and change, and yet remain always limited.

The most general model of reality is that which we have already looked at: the universal web of intra-actions from which emerge measurable space and time, the two basic variables in all models of reality. This web evolves dynamically and creatively, with every existence—past, present and future—leaving its mark and contributing to either the healthy development or the deterioration of intelligence. Our globalised world, a new responsibility for all of us, with all of its intra-dependent constituents is just one key part of such a web.

The actual creativity and quality of the intelligence of need, and so of its models, is relative to its intra-dependence with liberating intelligence. This is the central

fact that we have tended to ignore, meaning that our current intelligence of need (that of the senses and reason) has become hegemonic and individualistic (everyone out for themselves). It has, in short, been corrupted, and human activity has become destructive of nature's beauty, a despoiling of life's infinite gifts.

3.2. Liberating Intelligence

As well as experiencing life through the dual linguistic models of reality or knowledge, we can live *immediately* thanks to the selfless nature of liberating intelligence. This is intelligence of freedom, as inexplicable as freedom itself; it is also the intelligence of the unknowable but liveable, such as *truth* and *beauty*. Unlike the intelligence of need, it is not always looking for meaning; it is an unconditional level of intelligence, without the presence of the “me” with its restricting thoughts and conditioning. Thanks to the freedom that characterises liberating intelligence, the intelligence of need is free to create separate individuals who become defined by their “personhood”. Liberating intelligence, however, connects and reunifies all in love; it maintains both the plurality and the undivided nature of the universe. It belongs to nobody and can awaken in each of us when we are fully attentive. Its nature is to be completely free, selfless and uncontrollable. Its interest is unconditional love; in it communication and symbiosis become loving communion; research is free, silent and selfless meditation—all of them made possible by the presence of freedom (Agustí-Cullell, 2019).

Chapter Six of the *Lankavatara-Sutra*—a central text in Mahayana Buddhism, concerns what is there called *the transcendental intelligence*: “Transcendental Intelligence is not subject to birth or destruction; it has nothing to do with combination or agreement; lacking attachment and accumulation, she transcends all dualistic concepts”. It's a description that bears all the hallmarks of what I have called *liberating intelligence*—a name that I believe speaks more clearly to our times.

Liberating intelligence does not come as a result of effort or willpower. It is not an *experience*, even less a *subjective* experience (from *ex*, “out of” + *peritus*, “testing” or “trial”). Experience is characteristic of the intelligence of need. We awaken to the creative power of liberating intelligence—the greatest human power there is—when we understand our conditioning and so learn to approach things without a conditioning “me”. At that point nothing is wanted, nor is anything wanting. When the ego is set aside, silencing the mind, allowing truth, beauty and love to be present, then the liberating intelligence operates through the intelligence of need. When the intelligence of need is still and silent, it is not thinking of a problem or trying to reach a goal, and so it opens, inevitably, to liberating intelligence. When I want something, even just to relax, I am in the intelligence of need; when there is no “I” to want something, the liberating intelligence is operating.

I wrote a birthday song for my granddaughter Caterina, telling her that happiness is the present that life makes to those that want nothing, even happiness or wisdom. We become immersed in it through our participatory consent, by emptying ourselves of all attachments, in particular to the ego, and so freeing ourselves

from the lasting effect of the emotional hurt that human relationships inevitably bring. It is a sensitive intelligence, cleansing our perception and allowing us to see clearly. It enables us to notice unique, subtle but important details, nuances and small acts of love that the dominant intelligence of need may easily miss.

It is the only way we can live life holistically. It happens when the brain is quiet: without thought but fully alert. Liberating intelligence is full of beauty and truth, freed from time, from the weight of the past, from expectations and fears about the future. It is clear insight and spontaneous right action here and now; not connected to the knower's needs or self-interest, it is the thought-free enjoyment of life. It liberates us from the dominion of our various models of reality, constructed out of thought and thoughts about time. And so we are released from the fear of death, be it personal or the end of the universe as predicted by the scientific models of reality. The insight into reality that liberating intelligence affords us, freed from the conditioning of past experience, has the power to bring peace, happiness and love to our violent and suffering brains.

Liberating intelligence is the specific agent of the creative freedom of reality itself. Remember that intelligence is an agent present in every intra-action. In this way it is different from mere consciousness specifically related to the content of individuals' experience. Its way of working is selfless, sensitive and non-dual: it makes no divisions. It acts in complete silence, free from any power of domination, whether it be that of the ego, plutocracy or imperialism. It does not divide between observer and observed, subject and object, past and future: it is always acting *here and now*. Liberating intelligence is also the perception of, and the capacity to identify with wholeness. When it guides the intelligence of need, it sets it free, allowing it to be peaceful and creative, avoiding the perversions of egoic self-interest, greediness, domination and violence. It is much as Francis of Assisi encourages us: "Start by doing what's necessary; then do what's possible; and suddenly you're doing the impossible."

This intelligence makes us aware of reality's creative advance towards newness, awakening us to the marvels of reality (always and only in the present) where nothing is completely repeated. Life never does this: it is always fresh, always new, always growing, always exploring, always moving into new adventures. The collective awakening of liberating intelligence not only provides the basis for a happy life in a world of oppression but also exemplifies the way that it is possible for all to live within creative democracies.

The liberating intelligence and the intelligence of need are two intra-dependent ways in which a single unique intelligence works at the service of human life. When we are walking in a forest, for example, we can see it through both levels of intelligence. The intelligence of need, concerned as it is with survival, wants to get something valuable from it: wood, fruit, mushrooms, whatever can be hunted. Beyond that, it wants more knowledge about the forest in the shortest time possible. We might also want to make use of it in order to take physical exercise or simply to relax. The liberating intelligence, the intelligence of happiness, wants nothing.

Its regard is a selfless gaze on the forest's complete reality, its truth and its beauty. It is a free and loving observation, in meditative silence, without observer and without time.

We can start with the first level of intelligence and pass on to the second. This is the healthy activity of a harmonised intelligence, when our *needs* are not the foremost reality. This is not something to reach or acquire once and for all; it is the continuous concern of living, the joyful task of every moment.

The proper function of the intelligence of need is to be at the service of the liberating intelligence. In simple terms, this means that the economy, for example, should be directed towards affording human beings an enjoyable life, one that is free and creative for everybody, rather than one that enslaves us. Yet our current unsustainable macroeconomic goals are higher growth, lower taxes, more consumption, and greater financialisation of all economic policies and outcomes. The Greek word at the root of *economy* refers to the management of the household (*oikos*), but economics has now become the study of wealth accumulation. Which is a misunderstanding of wealth itself: a community working to support everyone's unhindered sanity is real wealth. Even more importantly, the economy should be embedded within nature, rather than being extrinsic to it and so – inevitably, unsustainable. The harmonisation of these two faces of a unique intelligence is the peak of human wisdom. It is the fundamental source of all happiness, allowing the evolution of a non-consumerist, simpler and sustainable economy that is not obsessed with constant growth. This wisdom is best cultivated and put into practice by teams and networks of teams.

Modernity, seduced by the allure of instrumental knowledge or information that is characteristic of the intelligence of need and its drive to control and dominate, has largely overlooked liberating intelligence, which does not belong to the domain of knowledge. This ignorance has led us to become enslaved and dominated by the intelligence of need. Without the clear and enlightening insight of liberating intelligence, human intelligence degrades, becomes insatiable and is finally corrupted. War is the strongest evidence of this tragic tendency.

I have tried to represent what lies at the heart of the reality that liberating intelligence with its power of research opens up to us with the expression “creative freedom”. This is a reality symbolised by many different words in the religious languages of humanity: God, Yahweh, Allah, Brahman, Tao, each one adding its own particular signature, characteristic of the wisdom tradition from which it arises. However, we must no longer (mis)understand these words and symbols as powers of domination. Positing a supreme Lord to whose supposed will we must submit in order to gain enlightenment or access to Heaven may have worked in the pre-industrial past but cannot play any role in a new way of life based on creativity. A renewed understanding is that the symbol of “divinity” represents unconditional love with its creative power of unbounded freedom and the unity of all. These last two are the appropriate symbols for our time, but symbols to *live* rather than simply to *know*. It's worth emphasising again that these words are not

simply descriptions; they are foundational symbols, appropriate for our present moment. They can provide the basis for a creative and happy way of life for all.

The completely gratuitous way that we experience the deep beauty of any phenomena is one of the most obvious examples of the liberating power of reality, the work of liberating intelligence. The other is gratuitous or selfless action. Liberating intelligence reveals itself in any deeply free action such as the silent contemplation of truth and beauty or any act of gratuitous love. When I first saw this happening it was a wonderful revelation to me. It still informs my life as *the* great possibility, an encouragement to be free, to feel one with the world and to act creatively by opening pathways to love. This is the way that each of us can contribute to the eradication of the greed, domination and violence that are the fundamental enemies of social and ecological justice.

4. Two Dimensions of the Intelligence of Need

The intelligence of need itself exhibits two intra-dependent dimensions, or ways of working: the functional and the axiological intelligence. Each uses the constitutive creative powers of intelligence in different ways, as we shall later see when we look at the conflict between science and religion. The functional is the intelligence of *how* things work, while the axiological is the intelligence of actual human needs, of *what* is important in terms of values and within the arts. The first is the engine, the second the rudder which navigates us through the ocean of human life. To work well, the intelligence of need requires close collaboration between both dimensions. However, as we shall see, that has not been the case in the past, nor is it in our present moment of continuing crisis.

4.1. Functional Intelligence

Always asking the question, “How can it be done?” functional intelligence is epitomized by the techno-sciences, particularly as showcased in the new liberal economies. This is the form of intelligence that began its systematic rise in the European Renaissance and went on to bring about the scientific and industrial revolutions. Thanks to human intelligence’s freedom – its most actively creative dimension – it achieved hegemony in the course of the twentieth century. The functional intelligence is characterised by abstract thinking that is concerned with the way the world works and with the prediction of phenomena through the measurement, control and manipulation of experiments. It is mainly an analytic or instrumental intelligence of means and mechanisms. As an abstract intelligence, its main language is mathematics. From observed regularities in selected and measured phenomena or magnitudes, it creates laws, principles and patterns of behaviour: functional models of reality, expressed usually in mathematical language. It is a divisive intelligence, particularly characteristic of science (the word “science” deriving from the Latin *scire*, the root meaning of which is to *cut* or *divide*). Consequently, the kind of research that science undertakes tends to be predominantly methodical and specialised (Whitehead, 1925).

Because of the highly focused nature of its interest and curiosity, along with its readiness to discard what is not “of interest”, functional intelligence’s primary characteristic is abstraction. As part of its methodology it discounts the many considerations of value involved in any meaningful assessment of technology’s impact on society. There is, of course, an inner logic to this, given that such values could “interfere” with the efficient working of functional intelligence. However, detached from the guidance of axiological intelligence and a conscious awareness of the liberating intelligence, techno-science is all too readily dominated by a materialist ideology. We end up with a techno-science that can both cure cancer *and* create the atomic bomb. A techno-scientist deeply immersed in a specialism, but ignorant of the possible social impact of the research, is easily manipulated by the powers of domination. The result is the existence of sophisticated weapons created by a functional intelligence not guided by axiological intelligence.

In functional terms, space and time are quantitative, devoid of the kind of qualities associated with axiological intelligence: a square metre of desert and a square metre of garden are both just a square metre; an hour of joy or of pain are both just an hour. However, the freedom necessary for abstraction, and above all for creativity, tells us that liberating intelligence, the intelligence of freedom and creativity, is at work within the functional and in the techno-sciences. All too often, though, the scientists themselves are completely unaware of it.

When quantum physicists work with elementary particles, or geneticists with gene mutations, functional intelligence encounters the inexplicable and irreducibly creative freedom of reality (without which it cannot exist). In the face of this they typically do not recognise *freedom* as such, calling it rather “randomness” or “chance”. (Encouragingly though, some more recent researchers have described the relationship between gene and organism as a dynamic, circular flow of creative interaction, rather than one that is merely deterministic.)

Committing now, clearly and seriously, to the close intra-dependence between functional, axiological and liberating intelligence – ideally through working together in teams – would be hugely beneficial for all of humanity. The result would be the nurturing of a powerful and healthy intelligence that would protect the future development of techno-science from the forces of plutocracy and imperialism.

Because of the presence of liberating intelligence, the functional has the ability to detach from its own existing models; it can improve them, creating new ones when needed, while at the same time going beyond the mere satisfaction of human needs, extending its curiosity to the creation of functional models of the whole universe. Without liberating intelligence, techno-sciences would not be possible. Yet without a creative axiological intelligence in close collaboration with their functional aspects, techno-sciences are inevitably dominated by the powers of plutocracy and imperialism.

To sum up: rather than controlling the value conditions that techno-scientific knowledge has to fulfil, my proposal is the development of techno-sciences in

teams where there is a close and harmonious intra-dependence of functional, axiological and liberating intelligence. It is the quality of the *agent*, its creative freedom, that we should care about. From this, beneficial creations will emerge. Such an approach is easier, within the reach of everybody and much more effective than trying to control the quality of knowledge, products and services.

4.2. Axiological Intelligence

Central to human life is the axiological intelligence: a sentient, responsible and wider-spectrum intelligence than the functional, based as it is on the experience of being alive in community. In its religious manifestation this intelligence was hegemonic; in pre-industrial times it took on a hierarchical and authoritarian form. In this area as well, attention has been mistakenly focused on established values and morals rather than on the axiological intelligence that itself continuously creates and activates those values that meet our authentic, human, existential and immediate needs. It is the free and creative axiological intelligence that gives rise to value and that recognises and brings forth beauty in the world. Values are alive in actions rather than trapped in mere knowledge. This is the intelligence that checks and operationalizes existing values (Corbí, 2016).

In general, axiological intelligence is obedient to social needs and interests; it doesn't neglect the contributions of elite groupings. It allows all of our senses to work together in conjunction, embracing the creation of collective value systems and works of art. It is the intelligence of *interest*, of what is important and good. It prioritises mutual interest, shared meaning and common purposes, everything that relates to the satisfaction of needs, the avoidance of existing and future dangers, the possibility of a *good life*, and it does this primarily through dialogue and cooperation.

When founded on liberating intelligence, which is egoless, the axiological becomes life's unerring guide and unconditional love informs all our actions. If functional intelligence can be thought of as the intelligence of the head and of analytical reasoning's *how*? Then axiological intelligence is the intelligence of the heart, of the *why*? It is a sentient, feeling intelligence. It creates or adapts the values appropriate to each situation. These values, such as honesty taking precedence over dishonesty, are realised in *actions*, not just in thought. The axiological embraces the entire universal web of intra-actions, especially those between humans and those between humans and the Earth. Values are culturally diverse but the axiological intelligence is common to all humanity. It is a meeting point, rather than the locus of merely individual feeling. Each epoch, culture and society face its different needs and interests with different value systems or evaluative models of reality. However, in a globalized world, rather than an ethics or value system of global citizenship, we now need a highly creative axiological intelligence which will adapt and create new values in keeping with the pace of intercultural encounters. Accordingly, the urgent priority in education, research and employment is the development and application of a mature and creative axiological intelligence.

The language of this intelligence, referring to qualities, values and the arts, is one shared by, and accessible to many. In contrast, that is, with the abstract quantitative language of functional intelligence. Human relations, dialogue, cooperation, subsidiary integral symbiosis (mutual care, tenderness, cordiality and conviviality between humans and with nature) are at its core. The current poverty of axiological intelligence is underlined by the overall lack of such qualities. Primarily, axiological research is about self-knowledge, both individual and collective, but its role is also to inform and guide the development of techno-sciences for the common good. Taking risks might, in a pre-industrial society, be a counter-value; in a changing society it is utterly vital in the field of research. Existing value systems and cultural narratives are the carriers of axiological intelligence, but in an ever-changing society we need something different: the axiological research and creativity that liberating intelligence makes possible. It is only deep freedom, through creating new meaning and values, that can prevent the malign development and abuse of genetic manipulation or artificial intelligence. The AI obsession with creating self-sufficient, all-powerful machines is a significant counter-value which must be opposed by an adequate value: machines as tools at the service of human intelligence. The quality of any value system depends on the quality of axiological intelligence, which in turn depends on liberating intelligence, which renders the axiological creative and free.

Individualism, the domination and exploitation of humans and nature, the degradation of symbiosis, are all the result of the poor creativity of axiological intelligence from modernity onwards. This has been the period when, more than ever, its close working with functional intelligence was vital in order to guide the development of the techno-sciences and to ensure a life for humanity that was fulfilling and in harmony with nature. However, because of this axiological poverty, techno-science has been controlled by plutocracy and imperialism from its very beginnings.

Axiological intelligence does not work through conceptual and abstract reasoning as functional intelligence does. It is sensitive to the contrasts through which our senses operate (light/darkness) and to values and counter-values (good/bad). The world is full of ineffective declarations of value. A good way that axiological intelligence makes a value such as *attention* effective is by confronting its counter-value: *distraction*. Its very nature and the tricks it plays (indolence, negligence, self-concern) are acknowledged and examined. The same is true of *selfishness* or *violence* as counter-values. Faced by the complexity of current society and its enslaving consumption, axiological intelligence discovers the value of simplicity. In general terms, seeing that which is false, bad, illusory or stupid marks the awakening of axiological intelligence. This enables the full development of our intrinsic sense of *the good*. We can more readily identify those tendencies that work against it: the instinct of domination, the corruption of interest, the energy of intelligence turning into egoic self-interest. Martin Luther King Jr. described this process with great clarity, insisting that to realize justice in human affairs, “injustice must be

exposed... before it can be cured.” However, the powerful machinery of propaganda prevents us from seeing and acknowledging many counter-values, in particular that with the most devastating implications of all: the global warming caused by the emission of greenhouse gases. In just the three years following the signing of the Paris accords in 2016, five of the largest fossil fuel companies spent over \$1bn on communications and lobbying. They sought to persuade the global public that they can't be sure that the climate crisis is real or human-made or all that serious. Their efforts have been hugely effective.

Values are created to face our needs in every particular situation. If tolerance was a counter-value in authoritarian pre-industrial societies, the new needs of techno-scientific societies needs have turned it into a *value*. This is where axiological and liberating intelligence reinforce each other. The intelligence of the heart is a transforming dynamic: drink in misery and it is transformed into freedom and joy.

In general, through attentive observation rather than through judgements on a current counter-value, or through making guesses about potential new ones, a value is created and embraced without the need for it to be imposed. Such impositions, common enough as they are, rarely work. This is of central importance within the education of children. In creative democracies, there is no need for external values to be imposed on its members by any central “authority”. Rather than imposing a “good” use of candy, show them the effects of its abuse. The education of axiological intelligence takes place through the practice of this creative process, by paying attention rather than creating fear, the enemy of intelligence.

Conflict mediation is a central activity of axiological intelligence, putting into practice all the constitutive creative powers (CCP) of intelligence. It allows the creation of a shared world, including that of each of its constituent parts. Creative axiological intelligence identifies and faces conflict as a counter-value. It demonstrates its origin in division and domination while exposing the negative consequences of the resultant violence and loss. From this understanding, new values and techniques are created such as those of dialogue, silent listening, context evaluation and intercultural sensibility. All such practices make for a better exercising of the CCP, in particular for the enhancement of communication and cooperation, thus making a greater reality of human symbiosis. The same applies to the great challenge of facing illness: accepting, observing and compassionately inquiring into it as an opportunity to deepen into life, discovering where its true values and happiness lie. It helped me to discover, much more clearly, the ego as a source of suffering and so offered an opportunity of liberation from its tyranny.

Axiological intelligence includes emotional intelligence, the management of emotions in our relationships. However, my overall aim is to focus attention on the *collective* intelligence rather than in its manifestation in individuals for the achieving of goals and the solving of problems. In general, although the nurturing of emotional intelligence is necessary to avoid our manipulation by propaganda, it is the full axiological intelligence in close intra-dependence with the functional

and liberating that really matters for human wellbeing.

Axiological intelligence's main activity is to create collective meaning and values in relation to what is important in each society: its ends, needs and interests. Information technologies, for instance, can enhance the development of mutual care in community *and* they are also capable of degrading communication, reducing it to mere information exchange. There is consequently a clear need for a strong axiological intelligence, with well-developed powers of communication and subsidiary symbiosis, to guide the use of these technologies. Sadly, many families are unaware of the possible mental health problems resulting from the abuse of such technologies by their children (and the abuse of their children by technologies). No one is exempt from the danger they present. The Stanford Persuasive Technology Lab (now renamed the Stanford Behaviour Design Lab) seeks to activate brief hits of dopamine in our brains, deepening our addiction to our screens.

In all human activity, axiological intelligence inquiries into how the creative powers of intelligence are exercised, resulting in the dynamic creation of meaning and values in each situation. This is particularly important in the world of work where the pure economic benefit has an excessive, even hegemonic significance. Workers seek ever higher pay and the owners ever greater profits, distracting from proper attention being given to the conditions of work that would allow the creativity from which all might benefit. To establish and defend fixed codes of norms or declarations of values is not enough in a changing society. What is now clearly needed is the lifelong development of a creative axiological intelligence by all members of society. In terms of the education of such an intelligence, we only have to look at the social impact of Artificial Intelligence to see that there is no lack of counter-values to be creatively confronted. Most significantly, though, it is the very inability of humanity to contemplate the path we have taken towards our own destruction that blocks the development of axiological intelligence and the creation of the values we urgently need if we are to avoid that fate.

Politicians, if they are to be effective and respected, must cultivate the axiological intelligence rather than relying on divisive and adversarial ideologies; these are far too inflexible to face the current dynamism of life. An axiological intelligence based on liberating intelligence allows the axiological to be selfless, fresh, flexible and creative. It becomes the appropriate agent of interest in reality, dialogue and cooperation, as well as of research in teams and creative freedom. An axiological intelligence informed in this way reveals counter-values naturally, immediately and with such clarity that we are freed from them. It happens without effort, without creating a duality of any kind. Rather, there is an embrace without opposition, avoiding any form of conflict between the value and the counter-value, between what is and what should be.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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