



## Managing Uncertainty – A Challenge for Contemporary Society\*

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### Abstract

*The certainty-uncertainty binomial expressed across history is the contradictory human nature and its struggles. Totalitarian systems have exaggerated the value of certainty. Dictators have gained power by promising safety and have remained in power in the name of law and order, while revolutions broke out where immobility became unbearable for the human need for change. Although uncertainty may prove difficult to eliminate or to rule out, it should not be demonized. The best option would be to manage it in an acceptable manner, but for doing this one must first understand it. In terms of both science and art, uncertainty can get a double valence: it is either a catalyst for scientific research and artistic performance or a real danger in promoting authentic values. The difficulty of separating these two perspectives is a great challenge for the contemporary society. The essential difference between political systems is noticed in the way they manage uncertainty. Do these systems acknowledge uncertainty and try to find solutions through dialogue? Or do they try to eliminate uncertainty through the dictate of religions or ideologies? Democratic culture does not deny uncertainty. It helps us ask questions and use dialogue to support human progress. Democratic institutions are founded on the idea that there is no absolute truth and no single answer to any problem. The management of uncertainty is fundamentally related to the essence of life in an open society. Unlike totalitarian regimes that demonize it, democracy can turn uncertainty into progress. This progress is defined by the human aspiration for freedom, solidarity, respect and tolerance. Only dialogue, and not force, could help us manage uncertainty. Faced with uncertainty, risk would be reduced by diversity rather than by uniformity. Calls for ethnic or religious purity are creating major risks, rather than reducing them. The restoration of a relative balance between uncertainty and certainty can only come from an open education based on fundamental human values.*

The second decade of a new century and a new millennium is about to come to an end, and no new and resounding events have occurred in the fields of culture, arts or science, nor is there any indication that they will occur in the near future. This holds true as long as the knowledge society remains a mere theoretical construct for the use of European Union's bureaucracy.

Modernity and postmodernity, which have shaped the evolution of the 20<sup>th</sup> century, regardless of our viewing them as being in opposition or in continuity, gain a defining phenomenological meaning in contemporary society.

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The end of the 20<sup>th</sup> century was stirred by a new relationship between technology and economy, one that has created two shocks: globalization and the explosion of knowledge. Both have brutally amplified the feeling of uncertainty. Those of us who lived for half a century in a world governed by the “logic” of the Cold War can perhaps more clearly perceive the lack of logic in contemporary threats: the proliferation of weapons of mass destruction, international terrorism, the energy crisis, or the global economic crisis, phenomena which are hard to control and which increase the uncertainty that is casting a shadow over the 21<sup>st</sup> century. Robert Cooper<sup>1</sup> warns that in the century we have just entered, the world is at risk of being once more hijacked by chaos and technology. History’s two great destroyers could support each other. And there is sufficient potential for decimation left over from previous centuries, in national, ideological, or religious form, to an extent that could once more create the context for destruction.

Overcoming the conventional barriers of a new millennium that is marked by increasingly acute uncertainty serves to remind us that, due to the impact of technological and scientific development and the First World War, the modern mindset has renounced its certainty-creating fundamentals, the very ones upon which two millennia of European culture and civilization were built.

Aristotelian logic, Euclidian geometry, anthropocentric aesthetics, symmetry in art and architecture, drama, metaphysics, Roman law, Christian moral code, have created images of order, thereby organizing chaos, securing a space for argumentation and rational dialogue.

The Italian Renaissance, Cartesian rationalism, German philosophy, Newtonian physics, Darwinian Enlightenment, Baroque music, neoclassical architecture gave new dimensions to the values of European civilization. It is just as true that, for 2000 years, the model of European civilization did not manage to stand in the way of wars and revolutions, injustices and crimes, but it has encouraged the construction of social and political systems which assured the progress of mankind for a prolonged period of its history.

The certainty-uncertainty dichotomy has traversed all of history, voicing the contradictory nature of Man and his turmoils. Totalitarian systems have exaggerated the value of certainty. Dictators obtained power by promising safety, and have remained in power in the name of order, while revolutions have erupted where immobility became unbearable for Man’s need for change.

Uncertainty cannot be eliminated, nor stifled, but it should also not be demonized. What is desired is for it to be acceptably managed, but, in order to do that, one must first understand it.

What happened to uncertainty throughout the history of humankind? How will it influence our life in the future? These are questions that science, economy, politics, and education have been confronted with, questions which they are under pressure to answer swiftly.

This made me ponder over the relation between “modernity-postmodernity” and “uncertainty”.

What is uncertainty? Uncertainty is, above all, an idea. It is born out of wonder and from curiosity about that which we cannot know and experience directly. Is it synonymous with doubt, or is it more than that? Does uncertainty indicate a sense of insecurity about a problem, or the impossibility to overcome it? Is it an attitude that generates skepticism, or

a mere natural manifestation of the human mind? These are just a few questions, amongst many others, which contribute to an effort to define that which is essentially undefinable—simply because it lacks a *genus proximum* and is surprisingly quick in developing specific differences.

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From this dilemma came an approach that is as expansive as it is surprising: to capitalize the moral value of uncertainty. The first dilemma is our own being and existence. Who am I, and where did I come from? Our bewilderment is so great because, throughout time, Man was only capable of deciphering pieces of the great *puzzle*, but never managed to complete it. The natural questions are: who am I, as a person? What truly defines me? A doctor will offer an anatomical description of the human body, the physicist will analyze man based on his actions and his relation to other realities, the biologist will emphasize the privileged position man holds in the animal world, but they can all offer but a partial answer about **what** man is, and not **who** he is.

In one of Blaise Pascal’s writings we can find a certain gradation that must be carefully investigated, in order to understand not only the philosophical development of the idea of uncertainty, but also the way the human intellect chooses to relate to this reality. Pascal was not shy to manifest radical skepticism, with a possible solution only in the space of inevitable death:

*“I know not who put me into the world, nor what the world is, nor what I myself am. I am in terrible ignorance of everything. I know not what my body is, nor my senses, nor my soul, not even that part of me which thinks what I say, which reflects on all and on itself, and knows itself no more than the rest. (...) All I know is that I must soon die, but what I know least is this very death which I cannot escape.”*

Uncertainty grows with our awareness of the place humans occupy in the world. If Man cannot be defined in his intimate structure, can we define the world that holds him? The question is natural, for the world which can contain the human mystery becomes party to it. A mystery is not defined, but is experienced, felt, owned up to. I can know a part of this mystery, the aspects that directly include me, but I cannot know everything about this relation. “I open the book: the book cries / I’m searching for time: time flies / I could sing: I sing not, but I am / It is as though I am, but then I’m not / Whose thought is my thought? / From which story, which idea? / Do I possibly remember / That I was once part of it all?” confessed the Romanian poet Tudor Arghezi in a poem called “Uncertainty”<sup>\*</sup>.

The drive to find uncertainty at the very core of modernism and post-modernism paradoxically came not from philosophy or metaphysics, but from the world of science. This

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<sup>\*</sup> Tudor Arghezi, *Opere*, Academia Română, București

made it necessary to approach this subject in the methodology of scientific research. This new way of philosophising about Man was born in tight connection with the rest of the exact sciences, especially mathematics and physics. Consequently, the fundamentally severe attitude of the scientific researcher became the ideal for the researcher of philosophy, while the attitude of the philosopher of yore was more akin to that of a poet's. This new attitude transformed not only the style, the manner of thinking, but also the way objectives were set; there is no longer an individual approach to build a bold and lasting philosophical edifice—rather, each individual examines one aspect of the phenomenon within a specific domain. The dilemma of uncertainty thus becomes a matter of mathematics, an equation determined by the relation between a set of observed conditions and a series of solutions. Establishing a certain constant does not necessarily involve obtaining a correct solution, but, rather, finding a valid and applicable answer. For a long time, the scientific approach was predominantly cumulative, focused on gathering information and data about reality, structured into classes and categories, according to the domain of research. The scientific researcher collected all this information, structuring it almost exclusively based on its tolerance for proof. Such an approach developed into two independent and, unfortunately, incompatible directions: the reality of fact, of movement, of reactions, of a phenomenon is validated by its provability; any phenomenon that is incompatible with the concept of provability is excluded from the scientific realm and, implicitly, from the realm of the truth. The argumentative system based on essential scientific proof enjoyed a long period of glory.

At the beginning of the 20<sup>th</sup> century, Bertrand Russell and Alfred North Whitehead's<sup>2</sup> monumental *Principia Mathematica* proposed proof and definition as the only method to describe mathematical truth. However, shortly after, Kurt Gödel, one of the distinguished members of the Vienna Circle, used this “universal” principle to prove that “provability is a notion weaker than truth, no matter which axiomatic system is involved” or, in other words, “not everything that is true can be proved true”. Faced with a scientific community determined on eliminating it, uncertainty once more revealed its extraordinary ability to survive. It is surprising that this battle transformed the reality of uncertainty into a manner of investigating reality. It suffices to mention the theory of uncertainty that was developed by Werner Heisenberg, Erwin Schrödinger and Paul Dirac. The principle of uncertainty marked the end of the theory of determinism and ended the dream of finding a model of the completely deterministic universe, because we cannot precisely predict future events if we are unable to precisely measure the current state of the Universe. This new theory became widely popular and became the fundament of quantum mechanics. At the same time, it received several critiques, especially due to its manner of scientifically managing the reality of uncertainty. It is not a mere accident that Albert Einstein rejected the idea of a Universe governed by chance, affirming that “God does not play dice”.

In the fields of literature, art, music, architecture, this new opening was as violent and provocative as it was flourishing. The Avant-garde, despite all its shortcomings, generated an explosion of creativity which revealed a new side of Man.\*

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\* Romanian representatives have played a key part in building western modernity: Tristan Tzara and Marcel Iancu, the initiators of the Dada movement, Eugen Ionescu for the theater of the absurd, Brâncuși for modern sculpture, Mircea Eliade in the philosophy of religions, George Enescu with the monumental *Oedipus* in modern music; in science: Odobleja, the creator of Consonant Psychology with an important contribution to the creation of cybernetic science; Gogu Constantinescu, the inventor of sonicity; Nicolae Paulescu, the discoverer of the antidiabetic hormone released by the pancreas, later called insulin; George Roengen, the father of bioeconomic theory, author of the fundamental work *The Entropy Law and the Economic Process*; Nobel laureate George Palade, for micromolecular biology, to list just a few of the names that come up in the works dedicated to the culture and science of the 20<sup>th</sup> century.

Disputes in the areas of mathematics, physics, logic, literature, and art remained without echo in the ethics of the modern and postmodern world. The new vision of the world, the radical split between the immanent and transcendent, going so far as to exclude the latter totally, have imposed a series of attitudes that are provocative in their very nature. For many, the laws of chance have become the governing principle of their very existence, transforming a mathematical reality into an existential relativity. Underneath this conceptualized uncertainty one can increasingly sense a depersonalization, a transformation of Man into a mere individual within a species, who can be the object of any scientific experiment, without moral implications. Deciphering the human genetic code has led to the unprecedented development of genetic engineering, with implications which are difficult to foresee. Ideas such as assisted social control, genetic selection and eugenics are about to become applicable, but losing control over them can have devastating effects. Despite his evolution, Man has become increasingly insecure, his place slowly being taken over by machines, which are themselves governed by uncertainty. Moreover, human society has taken on the shape of the machine, becoming, in fact, a mega-machine run by technocracy. This universal machine can give Man a real feeling of inferiority, of “promethean shame”. If human existence is not perfectly put together, not easy to calculate to the smallest detail, Man becomes a mere servant of the machinery world. According to Günter Anders, one of the prominent philosophers of the 20<sup>th</sup> Century, “ever since God has been dead, ever since there is nobody outside of this world who can know about it, the world itself has become anonymous. Thus, it resembles an island in the ocean, never discovered, never mentioned by anyone. It is of no use that the island is populated by natives, because we, the natives, who know the island, are all anonymous to each other.”<sup>3</sup> This imagery offered by the German philosopher is much like the Hollywood-produced representation presented in *Apocalypse Now*. As a paradox, preserving uncertainty has become the principal responsibility of contemporary man, specifically in order to avoid an apocalyptic solution to this state. Uncertainty becomes a necessity, and registering reality becomes a true *modus vivendi*, leaving room for new interpretations.

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Postmodernity seems to reflect intensely upon this problem. Its structure is essentially uncertain due simply to the fact that its governing criterion is the lack of any criteria. The critique of modernity, obstinately insisted upon, only confirms that ontological uncertainty has an extraordinary ability to create. The principle of uncertainty is fundamental not only for quantum mechanics, but also for the entire structure of human society. For the first time in human history, postmodern man can adapt this principle to his own horizon, and, in other words, has chosen to question and doubt his own prospects. Such an approach has implicitly led to a severe identity crisis, due to the fact that man can only be aware of his own autistic existence. Everything develops in a horizontal, bleak manner, deprived of the past’s inheritance and of the future’s outlook, the only reality being in the form of the present, dominated by fundamental autism. Society relies almost entirely on the supposed efficiency of the new order of uncertainty, but fails to take into account that this approach does not distinguish between what is and what is not truly valid and viable.

Uncertainty has been conceptualized by the fields of science and philosophy, but it was art that gave it its face, or, better still, its *faces*, that it uses to show itself to humankind. Be it literature, painting, music, sculpture, architecture, dance or cinematography, during the current century uncertainty appears to be the preferred subject for artists. A fundamental role in choosing such a unique theme was the transformation that modernity and postmodernity underwent regarding what constitutes art and what is beautiful. If for Antiquity beauty had, first and foremost, ethical connotations, for modernity this has become a fundamental concept of aesthetics, finally being replaced with the denial of beauty. Essentially, the negation of beauty can produce art, understood as a manifestation of certain realities. According to Paul Klee, “Art does not reproduce what we see; rather, it makes us see”. In other words, an artistic representation is not a mirror-image, but a profound creative act that can transform our vision. Contemporary art thus becomes an instrument for deciphering reality, using its aesthetic and conceptual arsenal.

At the same time as these changes in aesthetic concepts occurred, there was a strong current aimed at rejecting everything that fits into the old canons of an artwork. The limits have been extended to the extremes, in some cases even negating the artistic manifestation. Terms like “beauty” and “ugly” have become extremely relative and easy to adapt to the most diverse contexts—sadly becoming increasingly foreign from what we still consider to be art. The precarity of such a situation has offered an occasion for pseudo-artistic representations, promoting kitsch and “popular” and “vulgar” themes. It is ironic that nowadays the very manifestations that were previously artistically condemned have now become extremely sought out by the general public.

Contemporary art does not seem to be part of the process of cyclicity, but is, rather, a new body, with its own identity, without a past, and with a multitude of options regarding its future, including the possibility of cancelling itself out. These conceptual representations confirm Paul Klee’s opinion, but they reintroduce a notion that seemed to be forgotten: art cannot be objective for the sole reason that it does not intend to, but it is creatively subjective, offering a large variety of sequences of reality. In this context, uncertainty can act as an accelerator, stepping up the ability to express creative feeling and guaranteeing the public’s positive perception. Music and painting are also experiencing this cone of uncertainty. Artistic canons have been eliminated, and replaced with innovation. Sometimes this is taken to the extreme where lack of talent is concealed by surprising sound editing techniques and by appealing to the right to free artistic expression. Codoban goes one step further, accusing the postmodern generation of corrupting evil by not refusing it, such as the case of using kitsch against kitsch (say, the music of Erik Satie).

A less discussed aspect of the relation between art and uncertainty is the fact that strictly aesthetic boundaries are now being challenged, and art has fused with domains that it appears to be incompatible with, such as science. In the excellent film “Pi” (1998) directed by Darren Aronofsky and Sean Gullette, the main character, Max Cohen, a gifted mathematician, is trying to solve his daily problems, including his acute migraines, with the help of numbers. In an obscure atmosphere, a true mathematical carousel is set in place, whose ultimate relevance is not certainty, but uncertainty. The film does not have a *happy end* in a classical sense of the term but, rather, it offers a possible answer to the great dilemma of humanity: who am I and what is the world I am living in? The answer the two directors offer is to not push the limits

of our knowledge and understanding. You can enjoy your existence without giving in to the migraines of reason, simply by enjoying the immediate surrounding reality. Uncertainty can be beneficial as long as it is not a verdict about the relations in the world around us. However, accepting it as the only condition presents the risk of alienation.

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From the perspective of both science and art, uncertainty can have a double role, either as an accelerator of scientific research and artistic manifestation, or as a real danger for promoting authentic values. The difficulty in dissociating the two is a great challenge for contemporary society. We need uncertainty to act as an answer to a far too complicated present, but what are the prospects of this uncertainty? Will God’s death be followed by Man’s death, captive in the cage of endless contradictions? Can we come out of an identity crisis that the postmodern condition has magnified? Marcel Malanca<sup>4</sup> describes three ways in which Man relates to the past and the future: “those who are looking towards the past, turning their backs on the future—the fundamentalists; those who are looking towards the future, turning their backs on the past—the postmodernists; and those who have a two-dimensional view of the past and future, including the man who is set to create value, the man who does not deny himself and does not throw himself readily into chaos”. One way of escaping this trap is to harmonize our thinking with our own life experience. Basarab Nicolescu calls this action **transpolitics**—based on the undeniable right of every human being to have a harmonious balance between their private and social life.

According to Gustav Le Bon<sup>5</sup>, the postmodern condition brings about the fall of nation-states, which are replaced with “psychological crowds”, focused on a single issue. The postmodern condition at the beginning of the 21<sup>st</sup> century is characterized by a lack of unity, by differences that are identified and proclaimed through autonomy and by an independence that has magnified our power lust. In order to find our own place in the modern world it is necessary to find new and lasting social ties. They will be discoverable if we look for common grounds that unite the different domains of knowledge, and the different beings that constitute the collective.

The essential difference between political systems is in the way they manage uncertainty. Do they own up to it, trying to find solutions through dialogue? Or are we trying to eliminate uncertainty through the dictatorial rule of religions and ideologies? Democratic culture does not deny uncertainty. It helps us to ask the right questions and to use dialogue in order to maintain human progress. Democratic institutions are based on the idea that there is no absolute truth and no one answer to any given problem.

Managing uncertainty is connected to the very essence of life in an open society. As opposed to communism, which demonized uncertainty, democracy can transform it into a factor of progress. It is Man’s aspirations for freedom, solidarity, respect, and tolerance that can define this progress. Only dialogue, and certainly not displays of power, can help

us to manage uncertainty. When confronted with uncertainties we will notice that diversity, rather than homogeneity, has the power of reducing risk. An appeal towards ethnic or religious purity creates major risks, instead of reducing them. Reestablishing a relative balance between uncertainty and certainty can only stem from an open process of education, based on the fundamental values of humanity.

The modern mindset has wanted to remain indifferent in the face of history, but history is not indifferent to it.

A great revolution of the 21<sup>st</sup> century can only be one of the mind, believes Basarab Nicolescu, one that will transform individual and social life into an aesthetic and ethical act<sup>6</sup>. Postmodernism has fragmented knowledge, causing an identity crisis. Understanding our current-day world involves the reunification of knowledge. Scientists have had the wisdom to raise our awareness that quantum and Newtonian mechanics apply to different realities and are not mutually exclusive. In the field of art, despite thundering manifestations, avant-garde works coexist in museums with classical masterpieces. Despite the appearance of chaos, modernity can help bring cultures closer together. Socially, postmodernism has led to undeniable progresses in terms of promoting the rights of racial, national, ethnic and sexual minorities. It has taught us to respect differences. The current identity crisis calls for unity of human beings and the world. To build a strategy for hope, before asking what type of a world we want to live in, we must ask ourselves who WE are. The more as we share common values and accept reasonable divergence, the more chances we will have for peace and progress.

We can thus proclaim that the 21<sup>st</sup> century will be a century of synthesis and solidarity, or it will not be at all.

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#### **Notes**

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2. Bertrand Russell and Alfred North Whitehead, *Principia Mathematica*, Cambridge University Press, 1997
3. Günter Anders, *Die Antiquiertheit des Menschen*, vol. 1, München, 1983
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5. Gustav Le Bon, *Psychologie des foules*, Alcan, 1895, published in Romanian at Antet publishing house.
6. Basarab Nicolescu, *From Modernity to Cosmodernity – Science, Culture, and Spirituality*, Suny Press, New York, 2014.

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