

WHAT GAVE YOU THAT IDEA?

REDISCOVERING THE DEVELOPMENT
OF OUR WORLDVIEWS

GEORGES KASSABGI

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I

The Divide

We know a great deal about how the world around us has developed. But we differ widely on where and how it began, and speculate about its future. We thus maintain many worldviews: ways of interpreting our perceptions as well as identifying how best to interact with our environment in its diverse manifestations. Each worldview is right...up to a point.

Having adopted or inherited a worldview, we learn, discover, and improve with hope or capricious aims, but we also tend to reject different positions, even if they could prevent disruption or conflict among us. Is this aversion to change an inherent feature beyond our reach? Is it linked to our brain and mental capabilities? Is it the result of one or more chance events in our evolution by natural selection? Or does it arise from some distant ancestors' guidance, which ended up becoming a hindrance to later generations?

Diversity is part of the natural environment. But why do we use different timelines from one worldview to another? One person's history starts earlier than another's, or later. In one philosopher's view, all begins with ancient China or Greece since, for him, this is the dawn of civilization. A wise, religious woman demands to know exactly what the philosopher means

by “civilization,” and for her, Point Zero on the timeline is Adam and Eve, though she can’t say nowadays if their coming to life was thousands of years ago or millions. On the other hand, she agrees with many others that life has gained in form and significance thanks to the sacred texts of each religion. The two scientists, who live in the house next to hers, are confident that it all started with the gene. They also talk about the big bang theory, despite disagreement with colleagues on exactly what it means, let alone whether or not it has actually occurred. Their twin daughters’ view is that there’s no point in even speculating, because—they say—our way of outlining time is a human construct, something artificial and arbitrary, dreamed up in the early days of our era or a little bit earlier. Their history professor adds that our progress is not a linear succession of achievements, and that mentioning a point in time as *the* reference for a current event may be misleading. And these two university students have learned, from the numerous books on the most recent findings in neuroscience, free will, and brain functions that we may have the wrong idea about the thought process itself, and when and in what form it began.

To sum it up, we seem to agree that the universe consists of both the material and the nonmaterial while we deal with a variety of starting points, each of which may be dictated by practical necessity: it may happen to be the most accessible source of what we want to investigate/resolve, or *Homo sapiens*, or the human genome, or a sacred text, or an individual/universal soul, or some other corporeal/transcendent source that our ancestors chose for their stories. But why do we neglect the events preceding these arbitrary starting points? More to the point, what if we have not yet taken into account the key that

would allow us to imagine, study, and define our worldviews as having a less variable foundation than what philosophy, religious systems, and the scientific method have been able to provide so far?

I posit that we should adopt a single, non-variable foundation based on the earliest conceivable starting point which, when adopted, will provide a common thread to all worldviews. This starting point corresponds to a time when elementary particles or energies existed in configurations and densities beyond our current grasp.

I moreover posit that such a common foundation encompasses nonmaterial-bound primal interactions: the bearers of what we refer to as spirituality, consciousness, and, more generally, non-materiality. These primal interactions exist in a yet-to-be-studied association, or rather integration, with the material basis scientists (and most thinkers) currently agree on when they talk about atoms and their components, universal constants, and related laws.

We assume this or that when tackling a difficult problem for the first time, whenever confronted with mysteries or unknowns. But there are assumptions that get embedded in a cultural legacy, and end up being seen as *facts*, when what they really represent is a particular response to a particular circumstance—the result of past human endeavor under what were then local, favorable conditions. Moreover, the acceptance

of each worldview beyond the pioneering group that developed it was often gained by the agency of generations; in some cases, it required tough decisions by successive leaders.

In contrast, consider the initial explorers who had to fight against some of their political or religious leaders' firm beliefs. These adventurers relied on their imagination. Their trust in an unusual view, supported by thorough preparation and bold acts, ought to inspire us.

My intent in this essay is to suggest new ideas as "inputs" to current work dedicated to our individual and societal well-being, or, more generally, aimed at a better coping with the universal unknowns. At the very least, some readers may eventually derive from this text a clearer sense of the obstacles toward the wonderful, ultimate goals inherent in their worldview. These idea-inputs have arisen out of my pondering about our collective, inherited beliefs—how they were initially proposed but then successively improved upon by numerous thinkers of the past and present, and what their long-term implications might be.

In the following pages, I imagine several conversations (Parts II and III) centered on old and new assumptions, starting points, and non-materiality, thus examining anew the basis of our many worldviews (Part IV). The preliminary facets of a new approach—not a new theory, let alone one against what we are familiar with, and not another standardization attempt—are introduced, throughout the text, to possibly enlighten, or bring some harmony to, our disparate ways of discussing origins of life on Earth or handling of critical questions. The long-term objective—not within the scope of this essay—is enormously challenging. More precisely, it is achievable only

with the help of front-end multidisciplinary research projects: it could increase, in certain cases, the effectiveness of our efforts in improving health, education, justice, politics, and more. And maybe help us come closer to identifying what it means to be human while securing a stable resolution to most conflicts.

The two most popular worldviews are: (a) the abstract-fascinated, with roots in ancient philosophy and religions, for which life on planet Earth has a purpose; and (b) the concrete-focused, with its reliance on the scientific empiricism, for which the universe's foundation is matter with its physical laws, evolution by natural selection, and chance. A long-standing divide, indeed. Most people like to think that their worldview is unique in at least one respect, but on balance it belongs to one or other of these two camps.

A first idea-input: The earliest conceivable starting point has the potential of becoming a common thread through all our many worldviews. The mystery of our absolute origin—the end of universal nothingness—remains *to all* an elusive fact despite claims by a few in both camps that they “know” something about it. This is what we may call the Level 0 of complexity. The Level 1, we can rationally imagine, corresponds to the time when the universe consisted of all the foundational elementary particles or energies. According to accepted mathematical extrapolations, such an era ought to have existed between thirteen and fourteen billion years ago. Many in the concrete-focused camp consider it as the period with the birth date of the physical processes leading to our galaxies.

From that earliest conceivable starting point, the cloud of foundational elements or energies went through increasingly complex combinations of particles, atoms, molecules, cells,

organs, etc., as well as of their nonmaterial foundational interactions. An atom is an ensemble of (or structure composed of) elementary particles. A molecule or a group of molecules is an ensemble of atoms and elementary particles (or structure of structures). A cell is an ensemble of molecules and atoms (or similar to a superstructure). And so on. How the relative importance of each part, material and nonmaterial, plays out is partly unknown. Chance and luck are inevitable as the structural complexity increases in a dynamic environment, and at times their influence on the course of events may be quite significant. Properties emerge, with quite a few accessible to our senses (or measuring apparatus)—such as mass, light, and thermodynamics—while others are largely imperceptible, though some may consider them part of the material context, within which we obtain, *inter alia*, the proto-versions of coordination, communication, tolerance, information, and memory. These functions or properties lead to stable or unstable functional combinations which grow, eventually, into what we see, touch, hear, taste, measure, accept, and reject, and, under favorable circumstances, into the proto-processes for life. The main point here is that the forms and behaviors—the underlying movements, the transformative processes, and the emerging properties—are at each juncture a result of material specificity, as well as *all* the primal interactions—within and outside the ensemble under consideration.

As already noted, we have a plethora of convenient starting points. And there is a good reason for that. So, while we introduce the earliest conceivable starting point as the guiding reference common to all worldviews, we also ought to recognize that *earlier practical* starting points will be required as well.

What about these associated/integrated nonmaterial-bound primal interactions? The move from the original chaos of elementary particles into the (at least) partly non-accidental orderliness and patterns we experience every day must have required some form of intrinsic, organizational capability. In other words, what underlies basic processes might be more complex than what philosophers, theologians, and scientists have hypothesized so far. If your worldview is the abstract-fascinated, built on the belief in a creation with purpose and destiny, the orderliness is a given and does not need explanation. If instead you are in the other camp, you'll be in favor of emerging physical or psychological properties thanks to an inherent material self-organizing capability—without the intervention of any outside agent. These emergent phenomena, however, show aggregate properties that cannot be predicted entirely from the features of their components. Each combination (or junction) leads to the emergence of a “new” property. And predicting the result gets more challenging as we move to higher levels of complexity. For instance, consider the significant case of neurons in extra-large numbers leading to minds and multiple thought processes in turn leading to political or economic systems.

A second idea-input: The non-materiality, as an integral part of the earliest conceivable starting point, has elemental origins, though this is not, strictly speaking, a reductionist view which states that macroscopic features depend only on their microscopic components. Non-materiality goes through stages of composition as if in cooperative interaction with the development of the material world in its successive combinations. This is in contrast with the established view that our innermost self or spirit or soul or intellect or consciousness

exists only at the higher levels of material complexity. The door may thus open for a fresh debate about the human adventure.

A third idea-input: We have four integrated nonmaterial-bound primal interactions. I suggest we should identify them with *-fer*: *Ensemblifer*, *Expandifer*, *Prudentifer*, and *Acceptifer*. These are arbitrary names for the most ancient precursors—the *bearers*—of the non-materiality-to-be. The follow-on infinite combinations helped co-transform and co-produce what we refer to as emotions, feelings, knowing that we know what's happening to us, intellect, thought process, psychology, spirit, consciousness, and cultural phenomena along with—actually, supported by—the physiological assemblies and their related processes.

Imagine any organism. We can observe, *inter alia*, genetic replication, growth, metabolism, neuronal activity, and death. The integrated nonmaterial-bound primal interactions are a part of the physical ensemble, though we have not yet learned about their transformation from original stages to the nonmaterial manifestations we perceive. More precisely, despite the progress achieved in microbiology and neuroscience, we do not know much about how the nonmaterial evolution interacts with other processes, why its manifestation seems to be carried by nerve cells, how it interacts with genes, and where the passage from physical to phenomenal life occurs. But we do know that a physical impairment can inhibit an emotion or a feeling: consider the case of a partly damaged brain which causes consciousness to be suppressed; and think again about certain experiences throughout development and adulthood becoming able to modify the activity of our genes but without any impact on the genetic code.

We could nevertheless venture with the following: A strong, physically-supported, current of one type of nonmaterial-bound interaction might overpower the others at some stage and lead to the formation of a particular stable component. For instance, a negative or positive behavior might be the result. More often than not, we will have an interwoven, changing mix of underlying movements and, therefore, a more difficult sorting out of details, let alone comprehending the best course of supportive or corrective actions.

As a theoretical example, an Ensemblifer-led movement will likely result in a working ensemble; if indeed it remains the prevailing movement, it may help achieve the capability of internal equilibrium and, eventually, an extraordinary harmony among the parts in that ensemble—the building block upon which health, stability, and strength are dependent. An Expandifer-led movement will likely result in an enlarged ensemble; it may in some extreme cases become the relevant factor behind a determination to win or to possess at any cost. A Prudentifer-led movement is at the heart of a negative reaction to an external condition; it may provide a resistance to an impending change to the structure's current status; or, in extreme cases, it may result in a pathological fear of loss. An Acceptifer-led movement is at the heart of a positive reaction to an external structural condition; it may participate in the building of the structure's status-to-come; or it may, in extreme cases, lead to giving in to the new development regardless of the negative consequences.

We have often remarked that the wholeness of any natural ensemble is greater than the sum of its parts. But what if studying anew all the interactions at the lowest levels of complexity, as

well as the composition patterns of the nonmaterial-bound primal interactions, leads us to a better understanding of the relation between parts and sum?

Take good and evil, for example: they are perceived as parts of human nature. But is that the whole story? Does evil inevitably mean war? Take our eternal search for the *whole* truth: do we not venture into it with an arbitrary starting point and almost neglecting the assumptions embedded in our thought processes?

The idea-inputs in this essay will likely need adjustments and improvements. We'll need to probe them time and time again. An open-minded collaboration, coupled with independent analysis and tests, cannot but help us become more effective in the crossing of our divide.

Did I hear you say, "Why would anyone believe a new approach will give us a better world?" or, more bluntly, "So what?"

* * *

Consider the physicists who in the past century studied the details in the atomic structure and thus expanded our understanding of matter beyond what chemists had done earlier on with their focus on chemical reactions among substances (structures of atomic structures). Why, therefore, should we accept that our non-materiality as expressed in behavior, consciousness, and thought process, as well as what underlies shape development, is merely about emerging properties thanks to an auto-organization which arises out of the increased complexity, or as the outcome of random mutations along evolution?

Think about the law of evolution by natural selection. We have empirical data to confirm its validity to an impressive extent from unicellular organisms up to humans. Outside that range, though, doubts persist. Could it help to go deeper and clarify how this law came to be? Modern genetics, with DNA as the starting point instead of the cell, is about genetic drift, and gene flow, but still falls short. Researchers are now focused on the interactions among genes and might further expand our knowledge of the processes that control organic developments—what we cannot perceive. In other words, we learn more about matter and non-materiality if we study—with an open mind—their composition and underlying movements at the deepest layers, and, if applicable, revise the assumptions without forgetting the starting point.

Erwin Schrödinger (1887–1961), recipient of the 1933 Nobel Prize in physics, in his book *What is Life?* (1944), discussed the changing human body, with the constant renewal of its cells as distinct from the spirituality—the non-materiality—which is a continuum. This is one aspect of the so-called mind-body problem. Depending on your worldview, that material/nonmaterial discrepancy may be of no concern to you. But the mystery remains. In an interview published in *The Wall Street Journal–Millennium Edition: Futurology* (January 2000), Edward O. Wilson (b. 1929), research professor in entomology at Harvard University (“Dr. Ant”), and the founder of sociobiology (which argues that animal, and human, social behavior is genetically based), says that “the search for spirituality is going to be one of the major historical episodes of the twenty-first century,” and adds that “we are going to have to be proactive in seeking it and defining instead of reactive in the

traditional manner of taking the sacred texts and beliefs handed down to us and trying to adapt them to an evolving culture. That's just not working anymore.... There is a wonderful range of opportunities for major thinkers of the future in re-examining the human condition in the real world.”

One of these major thinkers is David Chalmers (b. 1966), professor of philosophy and Director of the Centre for Consciousness at the Australian National University. In a paper published in 2004, “Consciousness and its Place in Nature,” Chalmers suggests that the laws of physics are not enough to explain the organic world. His claim goes against what many biologists and geneticists are convinced of; that is, understanding cells and creatures composed of cells has no room for new laws outside chemistry and biology. Chalmers’s recommendation is that we need to take into account the possibility of “psychophysical principles.”

By the same token, it is interesting to note that Alfred Russel Wallace (1823–1913), who identified the law of evolution by natural selection independently of Charles Darwin (1809–1882) thought that some of the brain’s capabilities might have been due to a divine intervention. Darwin disagreed: His own view was that organic structures might develop functions in addition to those for which they had originally evolved thanks to natural selection. The adaptability of the human brain is indeed a testament to Darwin’s insight (his starting point was a unicellular organism). More recently, scientists have determined that nerve cells from two species (to be precise, an insect’s nervous system and the human brain) are made up of look-alike building blocks. It follows, according to their report, that the higher quantity of nerve cells in the human brain makes the

difference that distinguishes us from the insects. But how did the researchers determine that the manifestations of our non-materiality might not be influenced by more factors than the number of neurons? Do they have some evidence for that? A debate with these researchers, as well as Edward O. Wilson and David Chalmers, about the Darwin-versus-Wallace approaches would likely be filled with arguments either pro or con the “new opportunities in spirituality,” “psychoanalytic principles,” and the proposition that “quantity takes care of quality.”

With my idea-inputs, we might start the discussion with a question such as: What if we first establish the same earliest conceivable starting point in all worldviews? We could then study and test and improve the hypothesis of additional/integrated nonmaterial-bound interactions, and thus have a common guiding light for all cultures and societies with their distinctive qualities. What may ensue is a more effective effort toward a better understanding of the mind-body problem. That’s my first answer to the “So what?” question. The research work can bring together experts with diverse opinions and be more successful in dealing with many more cases than with current approaches.

* * *

Here is a second way of handling the “So what?” question. Let us consider the story of a woman with a great soprano voice. Experts will in time probably attribute her fame as a singer to her training, her agent, a supreme guidance, and/or the genes in her family. Past events are quickly forgotten; in particular, that one of her faraway ancestors encouraged all the children of the tribe to sing with him each morning. We can imagine

it became a tradition in subsequent generations, and that a significant number of descendants turned out to be talented musicians, singers, or composers. As it happens, the discipline's results encouraged the development of the top capability in each individual, and it was so well assimilated into the fabric of the community that it opened the way to excellence in teaching and, later on, science. With the introduction of new assumptions and the adoption of the earliest conceivable starting point, we should be able to say that the ancestor, given particular circumstances in his day, left a stable benefit to a large number of the descendants instead of merely claiming that the extended family is *gifted* with exceptional qualities. We'll gain a better understanding of the advanced, or progressive, versus the anemic, or truncated, developments in different parts of the world. We may also prevent conflicts that might arise out of the perception by those who feel marginalized because of others. With an adjusted worldview, they will eventually be encouraged to improve upon the lesson, which is what a new approach should support.

* * *

A third and last example in response to the "So what?" question is about the distinction between natural and artificial. This is not always easy. So let's go to central Siberia some 50,000 years ago. A group of *Homo sapiens* have set up camp. Generations come and go. At one point, the young guide of the group takes steps to reinforce his hierarchical position, as recommended by his father, who has become paralyzed. The relatively unprepared leader learns fast about the effectiveness of daily rituals as a way of furthering his objective. He then

encourages faster growth of the population so as to compensate for the loss of lives during the harsh winters. Several generations later, a new chief seeks additional powers; an encounter with a passing tribe shows him how to affirm his ascendancy with gifts and to increase the frequency of ceremonies even if that causes him to somewhat neglect his responsibilities in the day-to-day activities. Many generations later, the now enlarged family finds it perfectly “natural” to be devoted and obedient to, and have faith in, messages coming from the top.

But are these behavioral traits not the result of artificial selection in the broadest sense of the term? On one hand, order and peace have been achieved in the particular community. On the other hand, such an ideal situation only lasts until a new settlement appears not far from theirs. The newcomers have different rules; for example, whoever does what is most needed for the tribe (fishing, repairing, wood splitting, etc.) becomes the commander for the time assigned to complete the task. Contacts between the two groups are initially cordial, but the relationship eventually deteriorates and a conflict arises. History books can tell us a lot about what actually happened. *We do not* know what kind of an outcome we would have—we have never dared try—if the negotiation got going on the basis of more realistic assumptions including the earliest conceivable starting point (that is to say, one that can be adopted as common to both groups’ views).

The well-established schools of thought and worldviews represent an intellectual treasure but may gain a lot with a minor face-lift. In addition to my questioning anew some of their assumptions when we think about *natural* versus *artificial*, or *nature* versus *nurture*, we ought to highlight the earliest

conceivable starting point; select the effective earlier practical starting point(s) for the project at hand; include in the discussion all that contributes to our behavior; and keep in mind that we behave in certain ways also *because* of the way unknowns have been dealt with by our ancestors. In other words, with a revised approach along the suggested idea-inputs in this essay, we might have more successful negotiations in order to prevent a conflict from arising.

* * *

Michel de Montaigne (1533–1592) saw the human psyche as a dark, unfathomable maze. And he chose as his personal motto *Que sais-je?*—What do I know? His humility in dealing with what may be behind our reality is commendable and worthy of emulation, though we should not be discouraged from entering the labyrinth by a sense of futility. His question inspires ours; we carry on his legacy of opening our minds to challenges, and looking for a new approach.

We will never know, of course, how any of the great minds would have reacted to the tentative ideas I am proposing. At best, some of these thinkers would have considered it a rather odd personal initiative. On the other hand, many expressed doubts about conclusions reached by other thinkers on some of the fundamental questions; they came up with their own assumptions or introduced their own guidelines, though maintaining the advent of humanity as the (practical) starting point. In other words, they observed and studied the human condition at its highest level of complexity—the human body and spirit. Their insights and contributions are influential works, despite the riddles of human existence left unexplained. But we

have accumulated more knowledge since their days. Above all, we ought to acknowledge that self-organization perceived in an organism depends to a great extent on the intrinsic properties of its components. These, in turn, ought to be looked at as the bearers of what gets transformed into underlying movements and self-organizing features.

As a follow-up to a series of broadened discussions and research projects, with special attention to the additional/integrated nonmaterial-bound primal interactions, we should apply these new ideas in light of one or more difficult societal challenges in health, politics, longstanding conflicts, education, justice, and more. One example of interesting study with new inputs: if medicine's goal is to make people feel better, why do we mostly talk about genetics, microbiology, pharmaceuticals, and surgery? Isn't it true that illness can be affected by the relationship between patient and practitioner—or a dear friend? In fact, the placebo effect and various relaxation/meditation methods are under renewed study; I dare say, researchers might improve their reach with the proposed idea-inputs, and further promote an integrated, cost-effective health-care system. Another case is about the numerous declarations that all wars can be ended though we also know that the road to such an ideal is endless—that is, under current assumptions. Opportunities abound.

Future work from diverse experts might recommend a reinvigorated set of assumptions; maybe, accompanied by more helpful guidelines, with different additional/integrated primal interactions, and actually revise their number...from the suggested four to a bigger or smaller number. An effective diagnosis is critical to getting the right treatment. It may be

better at inspiring the holders of our many worldviews to accept the idea of a common thread through all worldviews, and thus embark on a road along which we learn to accept the unknown with equanimity; we open-mindedly discuss what is said to be fundamental or axiomatic; we focus on better understanding rather than increasing our possessions; we have disagreements without final judgments; we see evil not as a fundamental part of being human but as a consequence of artificial selections made around our nature; we know when/how to stop; and we acknowledge that we are not supreme beings, but are dependent on the life process on Earth—as is all organic life.

* * *

Yes, it is a tall order. Each worldview has embedded in its origins, and as part of its unique development, a different version of our common story—starting points and other assumptions along the same timeline. I suggest this is at the heart of why proponents and opponents talk about the need to narrow the divide so as to prevent the clash of worldviews. Again, each is right...up to a point. More precisely, to talk about narrowing the divide without at least rediscovering—and consequently readjusting—the timeline and assumptions does not go far enough. A common thread to all worldviews could, I think, open the way to a better outcome.

Let us roll up our sleeves and proceed slowly, with humility. In advance, I offer thanks for all readers' contributions—whether in resonance with or in resistance to mine.