

Enlightenment and the Evolution of the Material World

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Abstract: What is the evolutionary significance of enlightenment? To what extent are capacities that are enabled by enlightenment essential to the evolutionary survival and flourishing of humanity into the future? This article argues that key capacities associated with enlightenment are of critical importance: they can significantly increase the ability of human individuals and societies to adapt and evolve. Two of these capacities are: (i) *self-evolution*: the ability of an organism or organisation to free itself from the biological and cultural dictates of its evolutionary past so that it can choose to evolve in whatever directions are necessary to benefit its evolutionary future; and (ii) *meta-systemic wisdom*: the capacity of an organism or organisation to develop mental models of interactions between itself and its complex environment and to use these models to identify actions that will serve its evolutionary future. The development of these two capacities is essential if the living processes that emerge on any planet are to participate successfully in the future evolution of life in the universe. Humanity is rapidly approaching circumstances that are demanding the development of these capacities individually and collectively. Fortunately, the world's religious and spiritual traditions possess much of the knowledge and techniques needed to develop these abilities.

Introduction

What is the significance of individual and collective enlightenment to the future evolution of humanity on this planet and in the universe more generally? How important are capacities enabled by enlightenment to the evolutionary survivability and success of humanity? Will the processes of cultural evolution in the material world drive the development and spread of enlightenment and associated capacities amongst humans in the future? (This article is premised on the obvious point that if enlightenment is to develop and spread, it will be through cultural evolutionary processes, not through gene-based biological processes.)

To date, states and experiences associated with enlightenment seem to have emerged in very many human cultures¹. However, in any given culture, very few individuals have had these experiences. Furthermore, in the limited cases where enlightenment has emerged, it does not appear to have had significant adaptive or evolutionary consequences. But is this likely to change as the evolution of

humanity and life continues to unfold on this planet? Will capacities enabled by enlightenment eventually produce major adaptive advantages for individuals and organisations?

In order to answer this question, it is first necessary to develop a clearer understanding of the nature of enlightenment and its potential to enable superior adaptive capacities. This is not a simple task because experiences associated with enlightenment have been described and interpreted very differently across cultures and religious groupings. Humans have demonstrated an almost unlimited capacity to devise different religious and supernatural explanations of spiritual phenomenon, and many religious and spiritual traditions seem to have developed a different interpretation of enlightenment and related phenomena. Many of these contradict each other. However, despite the enormous diversity of these explanations of enlightenment, it is possible to find deeper commonalities. Although the interpretations differ, it is clear that the actual experiences underlying the disparate interpretations are very similar². It is these deeper commonalities amongst experiences of enlightenment that I will examine in this article.

I will focus on two capacities that many religious and spiritual traditions seem to be pointing to when they are attempting to describe enlightenment experiences. The first is a capacity to free oneself from the dictates of one's biological and cultural past, including from one's up-bringing³. This includes the freedom to act contrary to one's instincts and other hereditary pre-dispositions as well as contrary to one's social and cultural conditioning (including pre-dispositions that are shaped by a combination of these factors). Most religious and spiritual traditions promote the acquisition of capacities that provide a degree of freedom from an individual's biological and cultural past, although they don't describe or interpret the capacities in those particular terms. Examples include the ability to 'resist temptation' and 'turn the other cheek' (Christianity), to free oneself from all desires (Buddhism), to experience equanimity in the face of pleasure or pain (Hinduism), and to transcend the self-centred desires and grasping that underpin ego. I will refer to this general capacity to free oneself from one's desires and motivations as 'self-evolution'. This is because it frees an individual to change their goals so that they are aligned with future evolutionary success.

The second capacity I will examine is the ability to develop mental models of one's interactions with complex environments, and to use these models to identify the particular actions that will be most advantageous in evolutionary terms. Such an ability to foresee the complex social and environmental consequences of alternative actions is often referred to as wisdom. The spiritual and religious traditions commonly associate enlightenment with a capacity for deep wisdom, particularly in relation to complex social and environmental systems. I will refer to this capacity as 'meta-systemic wisdom'⁴.

The nature of enlightenment

Before I move on to identify the adaptive significance of these two capacities, I will briefly show how they are consistent with a general understanding of enlightenment. I will show that this is the case from the perspective of modern developmental psychology as well as from the perspective of the religious and spiritual traditions. Most traditions seem to agree that in the enlightened state, all contents of consciousness arise as what I will refer to as *objects* in consciousness (contents of consciousness include thoughts, images, emotions, feelings, desires, sensations, etc.). Contents that arise as *objects* in consciousness are experienced in the way we currently experience many objects in the external world—i.e. we are free to move attention to them or away from them at any time, and they do not control or dictate our behaviours⁵. The traditions have used various terms to describe conscious contents which are experienced as objects in the sense I am using here. For

example, they may say that at enlightenment, there is no attachment to, identification with, embeddedness in, or absorption in any of the contents of consciousness⁶. When a tradition states that an individual is not attached to a particular feeling, they are pointing to a feeling that I am referring to as an object.

It is of great significance that conscious contents that are objects of consciousness do not automatically control our behaviour. For example, if an emotion arises that we are not identified with or attached to, the emotion does not dictate our behaviour. It can arise, be noticed, and then dissipate without influencing our actions, if we so choose. We can freely choose to act in ways that are wiser and more appropriate than if the emotion dictated our behaviour. In contrast, if we are attached to or identified with an emotion that arises, it will influence our behaviour and we will not have a capacity to act more wisely.

An individual has the potential to use any of the resources of mind to evaluate the relevance of objects of consciousness when choosing between behavioural alternatives. This includes recruiting various mental, emotional, intuition and other resources, irrespective of where they are located in the brain (according to the most widely accepted model of how consciousness functions [Global Workspace Theory], the central function of consciousness is this ability to recruit relevant resources from throughout the brain⁷).

While they are held in awareness as objects that we are not identified with, contents of consciousness are given only ‘bare attention’. As a consequence, they use little of the very restricted ‘band width’ of consciousness (despite how we sometimes interpret our subjective experience, consciousness has been shown to have limited capacity [it processes contents serially and relatively slowly⁸]. Its capacity can, for example, be fully loaded for an extended period by a single sequence of thoughts. This is consistent with common experience: when we think deeply about a particular issue, the rest of the world disappears from conscious awareness).

Bringing these key elements together, it is easy to see the significance of non-attachment and non-identification in relation to the contents of consciousness. Firstly, these ‘techniques’ are ways of ‘working around’ the limited capacity of consciousness: they enable a much greater range of representations to be held in bare attention and to be used in the recruitment of relevant resources when it is adaptively advantageous to do so⁹. As a consequence, the ‘spaciousness’ of awareness is a key characteristic of the enlightened experience.

Secondly, and more importantly in the context of self-evolution, objects of consciousness do not dictate our behaviour. Non-identification enables radical psychological freedom. It gives us some psychological distance from our thoughts, motivations, emotions and other objects of consciousness, and enables us to move at right angles to them. Objects of consciousness are not experienced as elements of one’s subject that control the subject¹⁰.

As developmental psychologists have pointed out, when individuals grow and develop, more becomes an object of consciousness, and less becomes part of the subject. As psychologist Robert Kegan has shown, key steps in vertical development occur when elements that were part of the subject at an earlier stage in development become object to a new subject at the next developmental stage¹¹. For example, at later stages of development, an individual *has* emotions, while at earlier stages the emotions *have* the individual. Emotions and other pre-dispositions that previously dictated behaviour no longer do so, enabling us to choose to act differently where this is appropriate.

This movement from subject to object during the development of individuals also applies during the evolution of humanity. As humans have evolved, more and more has become object. As a consequence, humans have increasingly achieved greater psychological freedom. But this trend is far from complete. The movement from subject to object will end when the distinction between subject and object breaks down because all can be experienced as object. In this state, objects within consciousness are no longer experienced as if by a subject who has a specific location or perspective. Elements that might previously have been experienced as part of the self are not experienced differently to other objects any longer, and vice versa. In such a state, individuals will not experience their self as the origin or source of consciousness. For example, it might not be immediately obvious to an individual in this state whether she is looking at the knobs on a chest of drawers or vice versa. These observations are consistent with the central descriptions of the enlightened experience given by the traditions: all is experienced as one; there is no distinction between subject or objects. It is also consistent with the model of the enlightened state sketched by philosopher Thomas Metzinger: he suggests that the contents of consciousness are no longer experienced from a specific perspective once the individual can dis-identify with what he calls the Phenomenal Model of the Intentionality Relation (PMIR) and the Phenomenal Self-Model (PSM)¹².

The key features of enlightenment that I have sketched here are capable of enabling the development of the two capacities that are the focus of this article. The movement of emotions and other predispositions from subject to object and the individual's dis-identification from them can free the individual from their dictates, and enable the individual to choose to move at right angles to them. Furthermore, the ability to treat thought as object and to freely disengage attention from it enables the individual to free herself from the limitations of logical, analytical, linear thinking. It enables her to direct attention to aspects of reality that are generally missed by such thought. This in turn enables the individual to build and use mental models that include the aspects that are not adequately modelled by analytical/rational thinking.

The evolutionary significance of self-evolution

How significant are these two capacities to the future evolutionary success of humans and collectives of humans? What evolutionary advantages can they provide? I will begin by considering the capacity for self-evolution. Human emotions, desires and other pre-dispositions establish the goals of human behaviour. These pre-dispositions were initially established and shaped by gene-based evolutionary processes. In essence, humans were programmed by these processes to pursue internal rewards (and avoid internal 'punishment') so that they behaved in ways that were successful in the evolutionary environments that they encountered¹³. Learning and culture have since become far more significant in shaping the nature of the particular behaviours that humans adopt to satisfy their internal reward system. And Pavlovian classical conditioning can extend particular emotional responses to circumstances that would not have originally elicited them. But humans still have little capacity to consciously and intentionally change the nature of their internal reward system. They do not choose the specific things that they like or what they dislike. For example, many individuals have a limited ability to choose whether they will crave fatty foods. Nor can they choose to feel motivated and energized to take particular actions merely because the actions are likely to benefit the future evolution of humanity. Cross-culturally, humans tend to pursue the same kinds of goals shaped by their internal reward system, even though the actual behaviours they use to achieve their goals may differ widely. Whatever our cultural background, and irrespective of whether we were born 30,000 years ago or this century, we spend our lives chasing the positive feelings produced by popularity, self-esteem, sex, feelings of uniqueness,

power, food, and social status. And we strive to avoid the negative feelings that go with experiences such as stress, guilt, depression, loneliness, hunger, and shame. It is clear that individuals currently do not have the same capacity to change their internal reward and emotional system as they have to change their actions and behaviours.

The substantial evolutionary advantages that can accrue to individuals who are able to self-adapt and self-evolve their internal reward system are obvious: unlike individuals without this capacity whose reward system has been shaped by past evolutionary needs, they can choose to align their reward system with current and future needs¹⁴. Where circumstances have changed, there is no guarantee that what worked during our evolutionary past will also be optimal for our evolutionary future. For example, the circumstances faced by human tribal systems 30,000 years ago are vastly different to those facing modern civilizations. For this reason, it is very common to find miss-matches between the behaviours rewarded by our emotional systems and the behaviours that are optimal for the future success of humanity. What is needed to rectify these miss-matches is a capacity to align one's internal reward system with what is required for our current and future survival and evolutionary success. This would ensure that whatever is demanded by our evolutionary future will be satisfying and motivating to the individual. A capacity for self-evolution would be clearly superior in evolutionary terms. Individuals who have an enlightenment-enabled capacity for self-evolution can be expected to contribute substantially more to the evolutionary success of humanity than those who do not.

The same applies to collectives of humans, including societies. In order to achieve future evolutionary success, they too need to be self-evolving. They need to ensure that whatever their members need to do for the evolutionary success of the society is rewarded and motivated appropriately. This will align the interests of all members of the society (including any instances of artificial life and other technology) with the interests of the society as a whole. This in turn will ensure that all participants in the society (including individuals, firms, corporations, political groups and governments) will, when they follow their own immediate interests, also act in the interests of the society¹⁵. The presence of self-evolving individuals in a society will be critically important if such self-evolving societies are to be organised and emerge. This is because individuals who are able to align their reward system with the future evolutionary needs of their society are likely to be motivated to establish self-evolving societies, and those who are unable to are not. Of course, self-evolving individuals will need to gain sufficient power within the society if they are to re-organise it into a self-evolving society. We will return to this issue below.

Of course, individuals and societies that have transcended their evolutionary past are free to choose to align their internal reward system with goals that will not lead to the evolutionary success of humanity. However, there are strong reasons why they will tend to choose to align with evolutionary goals. This is because evolutionary goals are those that are needed to guarantee continued survival of humanity indefinitely into the future. If humanity is 'selected-out' of existence by larger scale evolutionary processes at any time in the future, all the actions of human individuals and societies up to that point will have come to nothing. They will be rendered irrelevant, futile and without meaning. The only chance that an individual or society has to contribute to something that can survive and thrive into the future is by aligning their goals with evolutionary goals. This issue is considered in much greater detail in *The Evolutionary Manifesto*¹⁶.

The evolutionary significance of meta-systemic wisdom

The evolutionary advantages of what I have referred to as meta-systemic wisdom are equally significant. If individuals and organisations are to achieve evolutionary success, appropriate goals are not enough. They also need intelligence—i.e. they need to be able work out what particular actions and behaviours will be needed to achieve their evolutionary goals. As we shall see, the current highest level of cognitive intelligence that is relatively common amongst humans is not very effective for this purpose. This level (which I shall refer to here as ‘analytical/rational thinking’) first began to spread amongst significant numbers of humans with the emergence of the European Enlightenment about 400 years ago. Analytical/rational thinking was a major advance beyond previous kinds of human thought. It enabled the emergence of science, machines and other technologies, systematic planning and strategic thinking. It fundamentally changed the nature of the human-built world.

Broadly, analytical/rational thought attempts to model a particular phenomenon by reducing it to the interaction of a number of objects. The objects are each assumed to have fixed attributes and interact according to defined rules (laws). The collection of objects comprises a closed system that is largely unaffected by events outside it. If these conditions are met, logical thought can predict how the system will unfold by using the rules to calculate the outcomes of sequences of interactions.

This approach to modeling reality can be very effective for understanding those parts of the world that happen to work like the model. It is successful for phenomena that can be adequately represented by such simple, mechanistic models. Once the laws or rules of interaction have been discovered and the relevant objects and their attributes identified, analytical/rational thinking can predict how these parts of the world will unfold. And it can tell us how those parts of the world can be re-arranged in ways that help us to achieve our goals.

However, it is easy to see where this logical, analytical thinking will fail to model complex aspects of reality. In order to find parts of the world which are simple enough for it to model, analytical thinking generally has to focus down on particular isolated phenomena, and ignore the complex, multi-layered context in which all phenomena are embedded. It then has to attempt to represent the phenomena by building a simple, mechanistic, reductionist model that linear thought is capable of ‘thinking through’ and tracking. The more complex the system of objects and their interactions, the harder it is for analytical thought to keep track of all the sequences of interactions. Difficulty turns into impossibility for systems where circular chains of cause and effect are common i.e. where the effects of an object on other objects eventually feedback to impact on the original object itself.

As a consequence, analytical/rational thinking enables us to understand and manipulate only those aspects of reality that are mechanistic and relatively simple. Unfortunately, most of the natural world is not simple and analysable. As a consequence, mental models built with analytical/rational thinking cannot adequately reflect most of reality, the majority of which is complex and ceaselessly changing¹⁷.

Consistent with these limitations, science based on analytical/rational thinking has been very poor at understanding our complex social and economic systems and enabling us to manage them effectively. Scientific psychology has provided only simple and trivial insights into how our minds actually work. And the mismatch between linear, scientific thinking and the complex ecosystems

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that constitute our natural environment is threatening our existence: scientific ecology has proven unable to understand and predict the complex impacts of our actions on the natural world.

The first major step towards building complex mental models that can handle the complexity of much of the real world is to be able to dis-engage from analytical/rational thinking and see it as object. This in turn enables an individual to see the limitations of analytic thinking and how they can be overcome. It enables the identification of those aspects of reality that are left out by reductionist, linear thought. Individuals can then freely move dis-engaged attention to aspects of reality that are missed by analytical thought, thereby enabling the recruitment of resources to build mental models of those aspects¹⁸.

Furthermore, complex thinking requires access to pattern-recognition capacities and intuitional resources that are capable of building mental representations of complex processes. The ability to dis-engage from analytical/rational thinking is also the first step towards developing this capacity. It enables an individual mentally to stand outside their thinking, and give their thinking only bare attention. This in turn frees the limited bandwidth of conscious attention to recruit other resources that are more effective for building mental models of complex reality. These include intuition and pattern-recognition capabilities¹⁹.

Meta-systemic wisdom is far more effective than analytical thinking at achieving goals in complex circumstances in all areas of human existence, including family relations, politics, social issues, environmental challenges, economic crises, and so on. However, it is the advantages that it provides to business executives which are likely to be a major factor in spreading the capacity rapidly across modern societies. Any innovation that provides a competitive edge for business will rapidly attract interest, resources and funding. For all its failings, our economic system can be very effective at finding and amplifying innovations that assist corporations and other businesses to achieve their goals. And it is clear that meta-systemic wisdom can provide a strong competitive advantage: the business conditions encountered by senior executives in major corporations are already demanding that they develop effective mental models of their complex, ever-changing business environments. Very few executives can yet meet these demands. Nearly all are floundering and failing. They are flying by the seats of their pants and pretending that they know what they are doing. In these circumstances, once some businesses discover that their executives can be trained and coached in complex thinking, their competitors will have to quickly follow suit or be left behind. In this way our economic system can drive the spread of the new level of thinking that is needed to overcome the problems that the economic system has helped create and has often exacerbated.

If human societies are also to be capable of building models that they can use to identify the actions that will enable them to achieve evolutionary goals, they too will need to develop a capacity for meta-systemic wisdom. In order to do this, they will need to contain sufficient numbers of individuals and artificial intelligences that have this capacity. Once humanity forms a unified and cooperative global society, these meta-systemic thinkers will operate collectively as a global consciousness. Metaphorically, enlightened individuals who have developed a capacity for meta-systemic wisdom can become cells in the brain of the planetary society²⁰.

Once sufficient numbers of these advanced individuals have emerged to control the planetary society, they will propel the society into an extensive period of self-development and individuation²¹. To guide its development, the global society will build models of its future evolutionary potentials. It will develop the capacity to use these models to adapt itself both

internally and externally. And in order to implement the actions and plans identified by its models, the global society will develop the ability to adapt coherently as a whole.

In particular the global society will develop the capacity to move, to expand its scale to that of the solar system and then to the galaxy and beyond, to remodel its physical environment, to have physical impacts on events outside itself, to form intentions, to establish projects and long-term objectives for the organization, to communicate and interact with any other living processes that it encounters, to amalgamate with other societies of living processes to form larger-scale cooperative organizations, and to do any other thing that might advance the evolutionary process in the future.

The development by the global society of a capacity to act, adapt and relate as a coherent whole would be a very significant step in the evolution of life on this planet. It would mean that life on Earth could speak with one voice. For the first time, there will be an entity that is at the same level as other planetary and trans-planetary societies. At last an entity will exist that other planetary societies can relate to without fear of distorting our development.

If life on Earth develops itself to this level, the universe will benefit from the unique perspectives, passions and talents that Earth life can bring to it. Just as each of us has the potential to be a cell in the brain of the planet, humanity can become a cell in the brain of the universe. A whole new universe of possibilities will open up to humanity.

Conclusion

The acquisition of capacities enabled by enlightenment such as self-evolution and meta-systemic wisdom is likely to be critically important for all sentient organisms and their organizations wherever they evolve in the universe. All sentient organisms will need to free themselves from the constraints of their biological and social past so that they can serve the interests of current and future evolution. They will need to be able to self-evolve so that they can re-make and adapt all psychological and other aspects of themselves as external evolutionary circumstances change. And as sentient organisms develop higher intelligence, they will need to use it to revise and enhance their existing adaptations that were originally developed with lower levels of intelligence. All sentient organisms will also need to overcome the limitations of analytical/rational thought (analytical thinking is always likely to emerge first before more complex forms of thought because of its relative simplicity). This is because the overwhelmingly majority of naturally occurring phenomenon are complex and cannot be modelled adequately by analytical/rational thinking. Many of the structures and processes on this planet that are mechanistic enough to be understood by analytical/rational thinking have been constructed and designed by humans who are limited to analytical/rational thought.

Fortunately for life on this planet, the religious and spiritual traditions contain extensive knowledge about enlightenment. The traditions have passed down across many generations various practices and other techniques that individuals can use to work on themselves to attain enlightenment (arguably the story of Noah's Ark can be seen as an allegory about passing on these techniques through isolated monasteries [Arks] in the face of almost continual warfare [the deluge])²². Many of the practices developed by the traditions use techniques such as meditation which typically incorporate a common process: they require the individual to practice dis-engaging from and letting go of thoughts and emotions so that they can become objects of consciousness²³.

However, it is worth emphasizing here that the attainment of 'classical' enlightenment alone does not provide an individual with the capacities for self-evolution and meta-systemic wisdom. It

greatly facilitates their development, but is not itself sufficient to establish them. Nearly all approaches to attaining enlightenment include techniques for the development of capacities for dis-identification and for freedom from control by thought, emotions and desires. But few go on to provide detailed guidance about how these capacities can be used to re-make one's self psychologically in order to be more effective in the material world. They rarely focus on the development of self-mastery for the specific purpose of enhancing an individual's capacities to actively intervene in human affairs in order to control them. The emphasis of the traditions is mostly on communion rather than agency, and their ultimate goals are often 'other worldly'. Furthermore, no traditions that I know of go on to advocate that individuals should remake themselves psychologically for the specific purpose of aligning their goals with the evolutionary interests of humanity. Classical enlightenment is an important step towards the development of capacities that are needed to actively advance the evolutionary process. But from an evolutionary perspective, classical enlightenment is a means to an end, not an end in itself²⁴.

It is clear why the versions of enlightenment that have survived until the present are not ones that promote the development of self-mastery and its use to influence worldly affairs. Versions that produced enlightened self-mastery would be likely to be a threat to ruling powers and would be suppressed by rulers who did not have access to them. And the strategy of aligning with a winning side would be unlikely to work in a world where every habitable area has been regularly subject to war and where ruling powers regularly come and go. This points to a critically-important challenge for individuals who intentionally want to contribute to advancing the evolutionary process in relation to this issue at this time. The practices used by the religious and spiritual traditions need to be adapted and modified in order to develop techniques that produce enlightened self-mastery. This will include stripping from these practices their supernatural, non-scientific, and mystical content. The result will be techniques and practices that are primarily science based.

In comparison to the knowledge that humanity has accumulated about how to develop enlightenment in individuals, humanity has significantly less knowledge about how to organise a planetary society that will be self-evolving and capable of meta-systemic wisdom. But as mentioned above, a first step towards such a society would be to develop these capacities amongst sufficient numbers of individuals and ensure they have the power to shape the future evolution of the society. This would enable these individuals to promote the continued development and individuation of a global society. The processes needed to produce an enlightened global society have some similarities to the processes that are necessary to re-organise the human mind to produce individual enlightenment. As Marvin Minsky pointed out, our mind is actually a large society of simpler processes that each undertakes specialized tasks.²⁵ In terms of his model, practices that produce individual enlightenment re-organise the individual's society of mind. The practices create and empower elements within an individual's mind that can contribute cooperatively to the emergence of dis-identification, mindfulness and related capacities. A planetary society will also need to be re-organised to create and empower individuals and organisations who can cooperatively enable self-evolution, meta-systemic wisdom and related capacities. As below, also above. At all levels, enlightenment is a collective, cooperative process.

¹ Wilber 1989, *The spectrum of consciousness*.

- ² Wilber 2007, *Integral spirituality*.
³ Stewart 2000, *Evolution's Arrow*.
⁴ Stewart and Wilding 2013, *Materials and Practices for Developing Higher Psychological Capacities*.
⁵ Kegan, 1989, *The Evolving Self*.
⁶ Stewart 2007, *The Future Evolution of Consciousness*.
⁷ Baars 1997, *Inside the Theatre of Consciousness*.
⁸ Miller 1956, *The magical number seven, plus or minus two*.
⁹ Stewart 2007, *op. cit.*
¹⁰ Kegan 1989, *op. cit.*
¹¹ Kegan 1989, *op. cit.*
¹² Metzinger 2006, *Being no one*.
¹³ Frank 1988, *Passions Within Reason*.
¹⁴ Stewart 2001, *Future Psychological Evolution*.
¹⁵ Stewart 2000, *op. cit.*
¹⁶ Stewart 2008, *The Evolutionary Manifesto*.
¹⁷ Laske 2008, *Measuring hidden dimensions of human systems*.
¹⁸ Stewart 2016, *Review of Book: Dialectical Thinking for Integral Leaders*.
¹⁹ Stewart 2016, *op. cit.*
²⁰ Russell 1982, *The Awakening Earth*.
²¹ Stewart 2008, *op. cit.*
²² Nicoll 1956, *Psychological Commentaries on the Teachings of Gurdjieff and Ouspensky Volume 5*.
²³ Stewart 2007, *op. cit.*
²⁴ Stewart 2007, *op. cit.*
²⁵ Minsky 1986, *The Society of Mind*.

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Biography

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