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The illustrations on pages 13, 32 and 48:

Figure. 1: The drawings from Joseph E. Bogen, "The Other Side of the Brain, I," *Bulletin of the Los Angeles Neurological Societies* 34, no. 3 (July 1969).

Figure. 2: The images of the "Sorcerer" taken from publicly available and open resources.

Figure. 3: The three stages of altered consciousness: possible examples that might be experienced by a Westerner. This image taken from *The Shamans of Prehistory: Trance and Magic in the Painted Caves* by Jean Clottes and David Lewis-Williams, Harry N. Abrams, Inc., 1996, p. 14.

INTRODUCTION

Originally you were clay. From being mineral, you became vegetable. From vegetable, you became animal, and from animal, man. During these periods man did not know where he was going, but he was being taken on a long journey nonetheless. And you have to go through a hundred different worlds yet. There are a thousand forms of mind.¹

— JALALUDDIN RUMI*

For scores of millennia, human beings have tried to transcend normal existence in search of answers to our perennial questions about the meaning of life and death. In every society we looked at, we found that people have been, and still are, interested in altered states of consciousness and transcendence — sometimes described as “self-transcendence” — most in the hope of a clearer understanding and connection to our purpose on this planet.

*Born in Balkh (present-day Afghanistan) in the 13th century, Rumi was a Sufi mystic and poet. His *Masnavi-i-Manawi* (Spiritual Couplets) is considered one of the greatest poems of the Persian language.

Our normal consciousness is just a narrow range of our ability to be alert and aware. Geared to survival, it demands a level of awareness of the external and internal world that allows us to respond rapidly, taking the shortest route to survive physically and do well in the world.

But whenever we've wanted to get outside this narrow range to reach an altered state of consciousness, we've had to disconnect from our normal consciousness. To do this, it appears that we've had either to overload the brain with rituals, marching, dancing, drumming, drugs, extreme physical effort and suffering, etc., or reduce the load on the brain through meditation or sensory deprivations such as prolonged sitting in dark caves.

We now know and use many of these activities, not as a trance mechanism in our search for meaning, but for emotional satisfaction, pleasure or entertainment. Taken up in this way, these methods no longer work for us as tools for understanding our place in the world. As the well-known historian of world religions Karen Armstrong emphasizes, "...the truths of religion require the disciplined cultivation of a different mode of consciousness." She goes on to note that "Human beings are so constituted that periodically they seek out *ekstasis*, a 'stepping outside' the norm. Today people who no longer find it in a religious setting resort to other outlets: music, dance, art, sex, drugs, or sport."²

Our search for meaning has continuously needed revision to make it viable, for over time avenues to the deautomization of consciousness have been blocked or become deteriorated by erroneous descriptions and excessive use of techniques. The word "spiritual" today is often confused with "deep feeling." But it originally meant "of the spirit or soul," an alternate awareness or perceptive capacity — the sense that we use here.

Metaphorically, we live from day to day under a cloudy sky that interferes with our seeing the subtle signals that can guide us

— like the stars in our everyday world, which have guided people across the Earth and enabled us to settle everywhere. Initially, our priority was to harmonize and maintain a balance between the spirit world and our world, and thus to ensure survival; but as populations increased, control by the few over the many became imperative. Consequently, almost all societies fell to prematurely organizing those “points of light,” creating percepts such as the Mayan Corn God, who wants you to sacrifice the people you have captured; or the Christian God, whose representative on earth (the Pope) commands that you go on a crusade to free the holy city from the infidels.

The first part of this book deals with how people have achieved changes of consciousness to connect with the “other” worlds — from the shamans to the prophets, from the Paleolithic era to the Axial Age, and to the latest manifestations of the major monotheistic religions that many of us have been brought up on. It includes a look at how our search for meaning has repeatedly been derailed, and for what reasons.

Throughout this book we will frequently refer to Sufism, which is an extraordinary and quite important approach to the problem of understanding and developing human consciousness. Sufism describes the experience of life through an alternative higher perception — in *God 4.0* we have termed this higher consciousness.* As one Sufi master said, “Sufism is truth without form,”³ thus it has no historical beginning but represents the

*Note that by “higher” or “raised” consciousness, we are not referring to the ordinary sense of “consciousness raising,” as in raising awareness about something or elevating it in our minds’ queue, for example, about social injustice or racism. We are talking about change in the structure of consciousness itself, its becoming “raised” or “higher” in the sense of encompassing more — the activation of a latent state of perception in which formerly unseen connections are perceptible, as when looking down on a scene from a higher place.

continuous line of transmission of the inner Truth of every religion. The contemporary Sufi educator and scholar Idries Shah writes, “The Sufis claim that a certain kind of mental and other activity can produce, under special conditions and with particular efforts, what is termed a higher working of the mind leading to special perceptions whose apparatus is latent in the ordinary man. Sufism is therefore the transcending of ordinary limitations.”⁴ It is not a body of thought in which you believe certain things and don’t believe other things. It is an experience that has to be provoked in a person, and once provoked it accesses an intuitive skill, rather as a person masters an art.

Neither of us claims any authority or exclusivity in presenting this approach. We simply offer a short perspective on its role in the Middle Ages, thoughts from some of its outstanding exemplars, and ideas and methods that might be useful.

As we’ll describe later, there are certain identifiable brain processes that are activated when people are experiencing altered states of consciousness. Shamans travel outside their bodies; seers, prophets and saints — from Zoroaster, Isaiah and Muhammad to St. Paul, Teresa of Avila and Joan of Arc — are all reported to have had celestial visions. The Old Testament acknowledges this: *“If there be a prophet among you, I the Lord will make myself known unto him in a vision, and will speak unto him in a dream.”* (Numbers 12:6, King James Version [KJV])

In order to begin to get beyond our normal consciousness toward a greater understanding, we need to distinguish the experience of higher consciousness that results from directed study and disciplined effort from the kind of hasty organization into “God” that people have employed and later codified into religion. We have to distinguish between people who really have developed a stable higher consciousness* and have attained transcendence, and those experiencing temporary “mystical” states — some of

whom have become part of the hierarchy of an organization, with communities who follow them.

Many of the techniques used to develop an alternate higher consciousness are those that involve the diminution of the self. Qualities such as generosity, humility, gratitude and, above all, service to others are emphasized in almost all traditions. The Gospel of Mark says “. . . *whoever wants to become great among you must be your servant, and whoever wants to be first must be slave of all.*” (Mark 10:43-45, New International Version [NIV]) In a similar statement, Tirmizi, a Sufi of the 8th century said, “*He who does not know about service knows even less about Mastership.*”⁵ Mark’s gospel text goes on to remind the followers of Jesus: “*For even the Son of Man did not come to be served, but to serve, and to give his life as a ransom for many.*” The Prophet Muhammad is quoted as saying “*Do you love your Creator? Love your fellow beings first.*” Saadi, a 13th-century Sufi and one of the major Persian poets, wrote that “*The Path is none other than service of the people.*”⁶ We will reflect on and explicate virtue, not only about its possible function in society, but particularly in its role in the enlargement of an individual’s consciousness. From a psychological point of view, “service” directs attention away from the individual, and that again moves consciousness away from the self to experience the unity of the world and, at the same time, to understand one’s place in it.

In order to know the relationship between the drop and the Sea, we have to cease thinking of what we take to be the interests of the drop.

— HAJI BHAUDIN, DERVISH OF BOKHARA⁷

SECTION ONE:

*Why “God 4.0”?
An Overview*

1

*A New Beginning**The Second Network*

There's a new understanding about how human beings have been trying to "seek God" from the time of the Paleolithic to now, from Boston to Tasmania.

Countless research findings reveal the existence of a second network of cognition that transcends everyday consciousness. It is what people have tried to activate, from the earliest shaman-sages to Moses 3,500 years ago, to Jesus 2,000 years ago, to Muhammad 1,400 years ago, all the way up to the myriad of contemporary seekers.

To understand when, how and why this activation can happen, we begin with what humanity was doing during all this time, and coalesce findings on the origins of humanity, the ancient temples, the Neolithic revolution and the origins of our modern religions. We consider how people have achieved these changes of consciousness over three historical phases that we call God 1.0, God 2.0 and God 3.0 — from the shamans to the prophets, from the Paleolithic era to the Axial

Age and to the origins of the major monotheistic religions. These religions have, as is the way of all institutions, changed very much from their inception, so we are not presenting a portrait of contemporary Christianity or Islam, but — as near as possible — of the original spiritual experiences and insights and the ways those insights have been misinterpreted and have led to their current manifestations.

What has been thought of traditionally and described metaphorically as “knowing God” is a special mode of perception, a development of cognition that opens an extra dimension usually dormant in consciousness. Unfortunately, the heritage of this “second network” activation is more than a bit muddled, as our society is left with the followers of the original sages who through countless generations, have interpreted, reinterpreted, distorted and even replaced the prophets’ transcendent insights with sets of rules made up in the cultures of many different eras. As a result, dogma and bureaucracy have replaced the original innovation and insight. This has created needless conflict and destructive hostility between different sects, and between “science” (even its modern developments) and “spirituality.”

Our ancestors lacked the accurate understanding of human nature, human cognition and physiology, so they did not have the knowledge base or the language to describe their experiences or attribute them correctly. Instead, religions and spiritual groups have used metaphors, as we do when we link stars together into a pattern, even though one star may be thousands or even millions of light-years from another. Although we see Orion as “the hunter,” this is an illusion on many levels. For one thing, Orion’s stars range from 243 to 1,360 light-years away from us, but we see them on a single plane, joined together as a unit. Other cultures see other forms in this constellation; for instance, the Lakota of North America see an outstretched hand, the Aboriginals of Western Australia’s Great Victoria Desert see a different hunter, Nyeeruna, pursuing the Yugarilya

(sisters of the Pleiades) but prevented from reaching them by their eldest sister, Kambugudha (the Hyades).

Identifying the experience some have called “God” as a conscious perception should not be understood as a reduction of “heavenly” experiences, but as a deflation of a fantasy (as is our imagination of the stars’ arrangements). It is a correction of the many literal interpretations of metaphors that have dragged on for millennia, taking us along as passengers. It corrects our understanding of terms that have come down to us, such as “angels,” “Heaven and Hell” and “Son of God,” themselves metaphors based upon other metaphors.

Why a new version of God — that is, why God 4.0?

The transcendent experience has been misunderstood, mistreated and, very often, deliberately misconstrued for social and even sexual control, and for political ends. We simply have not had the framework to understand it until now, and whole societies have grown up around this fundamental lack.

Fortunately, since the end of World War II, we’ve gained a revolutionary amount of scientific understanding about our place in the universe, about our brains and minds, how they operate, and about our potential.

We now know how our “everyday” mind works as a device for selecting just a few parts of the outside reality that are important for our survival. We don’t experience the world as it is, but as a virtual reality — a small, limited system that has evolved to keep us safe and ensure our survival. This small everyday world is what the prophets and teachers throughout history have advised us “to shun” — to go beyond.

There’s always some skepticism surrounding the assertion that personal experience is central to knowledge. And there are also thoughtful, though mistaken, interpretations as to what the personal experience means. The studious but extreme religious conservative literalist, *New York Times* columnist Ross Douthat feels that “. . . the Gnostic/God within [point of view]

. . . make[s] every individual into his own Chosen Person, with his own private Yahweh somewhere deep inside.”¹

What, one wonders, would he say to someone who said that “the kingdom of God is within you.”? (Luke 17:21 [KIV])

Douthat mischaracterizes what an authentic experience of conscious connectedness would offer. While of course there are some who are like his characterization of self-ish superiority, the genuine experience is the development of a self-less consciousness of the unity of life. The result is connection and solidarity with others — not an elitist “Chosen People” or egocentric monomania. It is not about possessing a personal Godlet or Godlette within, *but perceiving the without within*.

This is something different, and it is why we need the fresh start.

In fact, there is evidence that this sense of connectedness is the wellspring of human solidarity and of civilization as we know it. The knowledge gained from an extended “higher” perception (a “God within”) is central. It is not the result of deduction, research and reason. It is not obtained from a neo-medieval doctrine that is taught to be memorized, recited or sung weekly, or from a dogma with which one is inculcated. Nor does it come from feeling deeply or emotionally what is really true. *It is what one perceives*.

Finding and knowing, rather than absorbing dictums, is what “deeper understanding” is. It is a conscious and direct perception of the unity of life, a removal of the mind’s internal barriers to direct understanding and knowledge, and “seeing” truth on another level.

These concerns have all become almost hopelessly confused and, through the ages, have become bureaucracies and agents of privilege and domination. Douthat himself presents a myriad of examples of the contradictory and dismaying aspects of contemporary Christianity, which he rightly decries.² To help clear away the driftwood, we need to understand how and why

we have the beliefs and traditions we have today. We need to distinguish between the original conscious experience of unity and connectedness by a great prophet, and the way it is then almost always altered or misunderstood by devoted followers, their descendants and the hangers-on.

So we'll trace some of the history and evolution of this quest to "seek God," and the attempts to answer such questions as "why," "how" and "when" it all started. Then we'll review what psychology, neuroscience and genetics now tell us in answer to these same questions.

It is time now to look forward to a new understanding that unites the recent scientific and the "sacred," to see what we've lost and how we lost it, and where we might go from here.

The Turn in Science: What We Didn't Know

What we consider "modern" religions developed five to 1.5 millennia ago, when the principals didn't know about weather systems or cosmology — what was in the sky — or the geologic age of the Earth. They didn't know that the brain is involved in thought and the control of the body, or that genes influence our development. What happened in the world was a great mystery.

For instance, one spectacular event, the Vela supernova, lit up the sky for months about 11,000 or 12,000 years ago. We now know that the source of that illumination was a star's explosion that took place 800 or so light-years away, but how could our ancestors understand that? With all we know today, it's still difficult to comprehend light traveling at the speed it would take to circle the Earth about seven times in one second — and sustaining that velocity for 800 years!

Two millennia ago, we didn't know the causes inside us of dreams, epilepsy or psychosis; or outside us, of cataclysmic lightning storms, meteors, fires, earthquakes or floods. Our ancestors back then did not understand our evolutionary

history, our deep biological connection with other animals and our close similarity to apes.

It is no wonder, then, that our predecessors expressed what they could not understand in metaphorical terms — as the actions or influence of spirits, gods, angels, jinn, demons and so on.

A New Spirit of Science/A New Science of Spirit

A bit of long history. For more than 1,000 years, it was accepted by all Western philosophers and scientists that Ptolemy's sphere-based model of the universe was correct. There were spheres of earth, air, water and fire, with the Earth at the center of all; and Human Beings, considered to be God's Special Creations, were at the Center of the Universe. This concept informed our idea of our place in the larger scheme of things — that, in essence, the world, *everything*, literally revolves around humanity.

Since then, there has been a long process of what's called "decentration": the loss of humanity's self-assured, special, central position in the world. Considerations of humanity's place in the scheme of things had traditionally been the province of religion and of "spiritual" thinkers, priests and clerics who maintained that humans were the special creations of God. But for approximately the last 600 years, advances in science have encroached continually upon the realm of religion and have challenged the understanding of our essential and central role in the universe. Nicolaus Copernicus' demonstration that the Earth and the other planets orbit the Sun finished off the Ptolemaic universe. Galileo and Newton followed with a more precise explanation of its mechanical workings. Earth was just one of many planets, and the movement of these "heavenly bodies" was due solely to physical forces. Newton's mechanics also showed that inanimate objects move on their own according to physical laws, and are not "moved" by an "unmoved mover."

Biological and psychological discoveries also make us less unique creatures: Darwin's brilliant insight into how organisms could change over time* connected human life to the rest of nature; Freud demonstrated some of the "unconscious" determinants of thought and behavior; and Einstein showed the relativity of our understanding of space and time. And now we know that the "world" isn't just the Roman Empire and Asia, and that we live in one of at least two trillion galaxies in the Universe.

Human beings could no longer be seen as so special and central to the universe or the animal world — or even to the management, understanding and control of their own minds. This loss of specialness set off a loss of faith and put the two worldviews into incessant conflict.

This idea of decentration permeated the culture. For instance, Michael Pollan writes about Martin Amis's 1995 novel, *The Information*, which includes a character who aspires to write "The History of Increasing Humiliation," chronicling the overthrow of humanity from its position at the center of the universe.³

"Every century we get smaller,' Amis writes. Next came Darwin, who brought the humbling news that we are the product of the same natural laws that created animals. In the last century, the formerly sharp lines separating humans from animals — our monopolies on language, reason, toolmaking, culture, even self-consciousness — have been blurred, one after another, as science has granted these capabilities to other animals."⁴

*He said it was through a process of random generation by the organism (although Darwin did not know of genetics) and selective retention by the environment; i.e., changes in an organism that, then, aided its reproducing and so were "selected" for the next generation, similar to the way animal breeders work.

Of course, nobody was really humiliated; this was just an exaggerated but fun dyspeptic view of the process. Now we understand how close we are to other animals, especially the great apes, in empathy, compassion, social organization and even learning (different chimpanzee groups in Africa have even passed down different techniques for getting food). At the same time we also know more about our uniqueness. The information we humans pass down is hundreds of thousands times greater in sophistication than that passed down by chimps. Their language isn't close to a human three-year-old's, let alone a writer's.

One can take a newborn human and place him or her high up in Chile's Atacama Desert at an elevation of approximately 13,000 feet or at sea-level in Bangladesh — or near the North Pole or somewhere on the Equator. In each case, the person (if given appropriate care) will learn a language and customs, adapt to the altitude and temperature, and survive. We human beings may not be the center of the universe at all, but we are not humiliated — funny as Amis' notion is. We are an extraordinary animal, one who routinely goes beyond its biological inheritance to create its own world. No other animal on Earth does that.

While science may have taken away some of our traditional religious beliefs about the centrality of humans, it has also given us new insights into the experiences of our ancestors, the evolution of consciousness and our essential connection to the world around us.

Discoveries in just the last century and a half have changed our view of human history and biology, and the rate of discovery has accelerated since the Second World War. As we'll see, the new knowledge about the human brain's workings and our biological and social inheritance contains the beginning of the resolution to the quandary and conflict between religion and science.

One major line of revolutionary evidence began in 1879 when a young girl, María Sanz de Sautuola, while exploring the back of the Altamira cave near Santander, Spain, called out to

her father, "Papá, look at the painted bulls!" She had discovered Paleolithic drawings of animals she recognized as bulls on the cave's walls.

The idea that early humans could actually paint recognizable animals tens of thousands of years ago was so outrageous to the church-dominated worldview of the time that the girl's father, Marcelino Sanz de Sautuola, who owned the land where the cave was situated, was ridiculed for suggesting such a thing, and pilloried at scientific meetings for his assertions. He died in 1888 a discredited and broken man, but soon after his death, more Paleolithic paintings were found at two important sites in France: Les Combarelles and Font-de-Gaume. Paleolithic parietal art is sophisticated enough for the great 20th-century painter Pablo Picasso reportedly to note after visiting the caves at Lascaux "We have invented nothing."

Another line of evidence had a similarly mundane origin when, in 1945, a Bedouin named Mohammad Ali, searching in the Egyptian desert for gold, came upon some old amphorae (ancient clay jars). They held a cache of papyri containing more than 50 texts, including a complete copy of the Gospel of Thomas, the Gospel of Philip and the Gospel of the Egyptians, previously lost writings that date from the early days of Christianity and that offer expanded insights into the original teachings of Jesus.

In East Africa in the early 1960s, members of the Leakey family discovered ancient bones that pushed back by millions of years our understanding of the time when our first direct ancestors emerged. Louis Leakey, the patriarch of the family, encouraged the young Jane Goodall to study chimpanzees in the wild, and her research revealed many striking similarities to human life and behavior. In the 1990s, scientists in Italy saw that cells in a monkey's brain respond to other monkeys' intentions and movements.

Over the past several decades, the ability to analyze ancient DNA has allowed us to track our evolution from ape to *Homo sapiens*, and to map biological, physiological and behavioral changes more accurately than ever before.

When the surgeon Joseph Bogen divided the brain hemispheres of an epileptic patient in 1962, the way was opened to understanding different modes of consciousness in the brain and the special role of the right hemisphere. There have been many new discoveries since that address the real nature, working and function of the brain, leading to a deeper understanding of consciousness and spirituality, formerly the exclusive domain of religion.

Consciousness of Connection – the Roots of Human Solidarity

Suppose that you are examining a multitiered animal, one that can, immediately after its birth, recognize the facial expressions of its parents and mimic them. It's an animal with separate mind/brain systems to detect the details of close events and to gain an overall view from a higher perspective; and it has special brain cells that respond to and connect with other animals of its kind.

This animal can form flexible connections with other such animals to accomplish things that no single one could do on its own; as a consequence, it has become the dominant animal on Earth. Animals of this species can unite to work together in ever-changing groups of different sizes, and for different purposes. How do they do this? It is a matter of an inherent and embryonic cognitive ability, one that can be developed further.

It is this cognitive process that gets enhanced in spiritual thinkers. The process is not like memorizing information in books and not like intellectual learning, nor does it involve

deepening an emotional feeling. It is a change of conscious perception toward a higher organization, seeing things that seem separate as together — a “higher” (if you will) perspective in which happenings that seem disconnected “down low” on ground level are experienced as part of a larger, organized whole. One basic example:

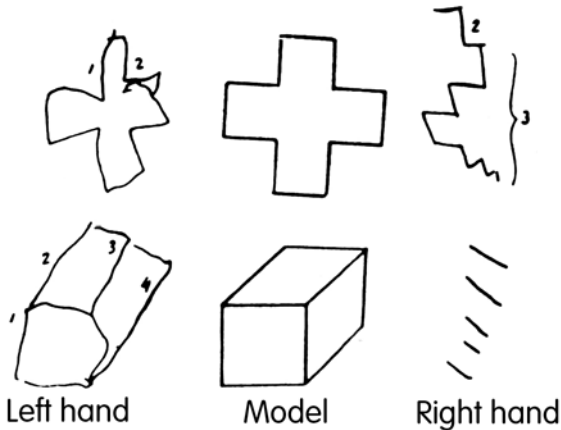


Figure 1. A split-brain patient is asked by Joseph Bogen to copy shapes with left and right hand.

When Joseph Bogen surgically split the two hemispheres of the human brain (the famous “split-brain” operation), the patient’s ability to connect objects to a whole was gone in one side.⁵ Consider the drawing in Figure 1. The left hand (controlled by the right hemisphere), although it is a poor draftsman, is clearly able to copy the whole figures in their entirety. All sides are attached and connected. The right hand, controlled by the left hemisphere, without the ability to see the figure whole, produces a group of lines that are not the least bit organized, are in no way connected together and don’t make up a whole.

While this is a simple example, it delineates the basis of the cognitive process of going above and beyond the ordinary: When things are connected, they are attached, they become a part of

each other, a whole, and they operate in unison. Connectedness yields wholeness and unity, important aspects of consciousness. In this basic example, the set of single lines isn't a square, and the set of unconnected, isolated corners isn't a cross.

One side of the brain — the right hemisphere in most people — is highly involved in producing and maintaining this overall comprehensive outlook.

This makes the right hemisphere better, for example, at avoiding fake news. One innovative research study used electrical stimulation to temporarily inactivate either the left or right hemisphere.⁶ With one side of the brain or another knocked out, the researchers presented a fake syllogism to the subjects.

An example:

“Winter is cold in tropical countries.

Thailand is a tropical country.

Is it cold in Thailand in winter, or not?”

With the brain's right hemisphere inactivated, causing the person to operate in what the researchers called the “left self” mode (with the left hemisphere in control), the solutions were limited to the internal consistency of the syllogism rather than its correspondence to external reality. In our example above, the subject would insist that it is cold in Thailand “because it says so.”

By contrast, when the left hemisphere was inactivated, the same person, but now operating in the “right self” mode, would reject a similar syllogism as wrong because “everyone knows that tropical countries don't have cold winters.” There is a sense of an overall perspective and context that's activated in one side of the brain, and something closer to a localized, step-by-step analysis of the text alone is activated in the other.

The best way to think about the relationship between the brain's two hemispheres is as one between the *text* (the literal statement itself, alone) and the *context* (the meaning, taking in all the information as a whole).

That perception of a larger whole is the wellspring of humanity's solidarity in tribes, societies, teams, nations, religions. It is not the possession of any religion or sect, and it is not a delusion. The complement of brain structures and social development necessary for this group solidarity forms the deep basis of a sense of something beyond and, sometimes of a "God." This universal capacity is responsible for humanity's success on the planet. There is evidence now that the first massive gatherings for worship stimulated the development of agriculture about 11 millennia ago, changing human life forever.

This capacity for understanding is what makes human lives singular and distinct from the lives of all other animals. While it often doesn't seem like it — especially these days — almost all of human life is based upon cooperation and connection. Many animals do, of course, show both minor and elaborate cooperation: Wolves and lions do so in the hunt; dolphins work together to chase, corral and scoop up schools of small fry; and ants are legendary in their organization. But humans are flexible in cooperating in countless pursuits, and with different partners: with a single collaborator, with a few or with many; with a large workgroup, a sports team, a political party or a country. All of these are changeable and flexible connections — which is not the case with other species.

Human beings evolved to go beyond the individual, to transcend the "self" and to connect in a manner that no other organism can — and this is the basis of our planetary success. Understanding the centrality of "connecting up" yields a different outlook on human nature and on the development of societies. It reveals the foundation upon which our cognitive ability for higher consciousness is developed.

So the human brain seems to be equipped for connection to others and has evolved in ways that facilitate this. Recent research has shown that the more personal connections one has

— in this case, measured by the size of a person’s social circle — the bigger the brain’s orbital prefrontal cortex.⁷

As the anthropologist and evolutionary psychologist Robin Dunbar put it, “Understanding this link between an individual’s brain size and the number of friends they have helps us understand the mechanisms that have led to humans developing bigger brains than other primate species. The frontal lobes of the brain, in particular, have enlarged dramatically in humans over the last half million years.”*⁸

We see the importance of connection clearly in daily life. We become depressed when alone too long; solitary confinement is the most punishing of penalties in incarceration. When we are just sitting at rest, with our brains just idling, it is most often our personal social connections that occupy our minds. The widespread popularity of computerized “social networks” embodies this drive to connect. For many people, the experience of social distancing in response to the COVID-19 pandemic brought this into stark relief.

Psychiatrist and author George Vaillant noted how important connection to others is for the emergence and survival of humanity itself. While humanity is certainly dominant on Earth now, we forget that our early human ancestors were scrawny and scarce. Living in isolated bands of a few dozen, they needed to bind into communities to help them survive predators and climate fluctuations. It is most probably the case that human beings have thrived as a species because of sophisticated social bonding, attachment to others, forgiveness and gratitude.⁹

A genuine higher transcendence of the “small world” self began with the long bonding and attachment of the mother

*Our “cognitive load,” the mental capacity of managing information, appears to limit our social relationships to about 150 people, a number established by Robin Dunbar and known “Dunbar’s number.” This is by far the largest social network of any animal, and almost three times larger than that of our nearest hominid relative, the chimpanzee.

and child, and of different individuals into a society; and it is the *consciousness* of that connection to others that is the basis of human solidarity and a cooperative society. This is the foundation upon which our innate “second system,” a connection to higher consciousness, can develop.

A Second System of Cognition, Inspiration and Insight

There is no cause for fear. It is imagination,
 blocking you as a wooden bolt holds the door.
 Burn that bar. . .

— RUMI¹⁰

Almost nothing has been the subject of more concern and conflict than the conception of God. But God is everywhere, in the sense that every known society has a religious practice and a concept of God. This is true even among individuals who are part of traditions that don't officially “believe.” It is the promise of transcending beyond the everyday limited world, of attaining a consciousness of reality above and beyond the norm.

Like other universals in human nature, such as color vision and basic emotions, there is regularity in our “higher” experiences. The Yale anthropologist Erika Bourguignon and her colleagues studied 488 societies, including the ancient Egyptians, Greeks, Hebrews and 41 others in the Mediterranean. When they reviewed the ethnographic data, they found that “altered states of consciousness” existed in virtually all of them.¹¹ Bourguignon observed that “societies which do not utilize these states clearly are historical exceptions which need to be explained, rather than the vast majority of societies that do use these states.”¹²

Prehistorian Jean Clottes and archeologist David Lewis-Williams, in their book *The Shamans of Prehistory*, make a

similar observation: “Indeed the potential to shift, voluntarily or involuntarily, between different states of consciousness is a function of the universal human nervous system. All people have to cope with different states of consciousness in one way or another.”¹³

Individuals have tried to comprehend and interpret this expansion of consciousness for millennia, beginning long before we had any idea of who we are and where humanity comes from. Their interpretations gave rise to the metaphors that have come erroneously to be taken literally.*

Seen in this light, one can understand several sayings of Jesus, Moses, Muhammad and others in a new way. In the Gospel of Thomas, Jesus says, “*It will not come by watching for it. It will not be said, ‘Look, here it is,’ or ‘Look, there it is.’ Rather, the father’s kingdom is spread out upon the earth, and people do not see it.*”¹⁴ In other words, “It’s not what you believe, it’s what you perceive” — a most important maxim, to which we’ll return.

These sayings also remind us that attainment of a wider perception is much, much closer to everyday experience than most people believe. A companion of Muhammad recorded: “*We were with the Prophet on a journey, and some men stood up repeating aloud, ‘God is most great’; and the Prophet said, ‘O men, be easy on yourselves and do not distress yourselves by raising your voices; truly, you do not call to one deaf or absent, but truly to one who hears and sees; and He is with you; and He to whom you pray is nearer to you than the neck of your camel.’*”¹⁵

This understanding of what the nearness and universality of “higher” experience really means — that it is inside ourselves and a capacity we can develop — may possibly, in time, diminish

*Once oral literature was written down, interpretation of it became less flexible. Stories could be “wrong,” or they could be “the truth.” This fostered a literal understanding, especially after the advent of printing in the 15th century.

the divergence between science and religion, and could reconcile many cultural and religious conflicts.

But there are many problems to address.

Religion, Spirituality and Transcendence

There are plenty of reasons why bright, intellectually oriented people reject or ignore the “transcendent.” For one thing, we’ve outgrown the language. Many words used in antiquity no longer have the same meaning. As we wrote in the introduction, the word “spiritual” traditionally meant “of the soul” (referring to a higher perceptive capacity); today it is often confused with “deep feeling.” Some words have a diaphanous, and sometimes weird, feeling. The word “transcendence” itself can evoke the idea of escaping from life and its difficulties, floating away to a warm and fuzzy safe space. But transcendence really means shifting one’s state of consciousness to achieve a new insight, perceiving the connections between formerly unrelated happenings, objects and events.

We usually conceive of a common connection between spirituality and religion, but there is a clear separation between the two — in concept, in practice and even between their practitioners. Spirituality more often entails the person leaving her received doctrine behind to search for something “beyond,” while religion most often involves following a received tradition and its rules laid down for established behaviors. As we uncover the history and development of both, we’ll see that there are even different genetic dispositions related to these two different belief predispositions (which do seem to make them irreconcilable for the individuals involved).

“Mysticism” sounds a bit strange, too. The word itself derives from the church’s medieval “mystery plays.” “Metaphysics,” which also sounds like something filmy and beyond the realm of reality, is just Aristotle’s name for the next book in a sequence

he was writing, the one “after” physics: “meta-physics,” whence he took on these issues.

It’s imperative to either rescue or do away with these archaic terms and to clarify the importance and the reality of the phenomena they describe. Otherwise, it is as if we were to hear a thunderstorm being described as a god’s angry voice and then believe that if we went outside, we wouldn’t get soaked.

There’s also a lot of oddity to try to put together and to understand. Why do people all over the world have “high” experiences? Why do they build soaring structures to stimulate awe? Why do people, in transcendent moments, have such similar experiences of timelessness, spacelessness, placelessness and a sense of nothingness? What could those terms mean, and why are they universal?

And, why do people do and say crazy, incomprehensible things? All over the world, people seeking higher experiences might focus on a sound, phrase or image for an hour; they might dance to exhaustion; synchronize spinning movements; endure deprivation and pain; fast; stimulate a trance state; put ash on their faces; or wear clothes suitable for a Middle European winter in the sweltering heat of a Jerusalem summer. We hear the statement “The world is an illusion” and have little idea what that might mean. It’s all too easy to dismiss, if you don’t know what the speakers are talking about (and, all too often, they themselves don’t know).

We all possess inherent cognitive biases ranging from reliance on strict, sequential methods of examining information (often called, mistakenly, rationality) to an all-at-once manner of thought involving diffuse and loose associations. Where we are on this continuum underlies how open we are to new ideas and experiences, versus being tethered and fixed to doctrinaire interpretations of the saying of venerated ancestors. These biases affect everything from our idea of God, to our religious

and political affiliations, to our preference for open versus closed borders of our country. As we shall see in Chapter 10, people who adhere strongly to one or another cognitive style have a genetic predisposition to do so. People who abhor social, religious or political change are somewhat prewired (though not hardwired) to be fundamentally conservative: to keep things as they are or as they believe they were in the paradisiacal Muhammadan Caliphate, in the church of the Council of Nicaea, in the colonial world of the original Constitution, or even in the days of late 1950's European royalty. We observe this cast of mind all over the world today.

The public discussion of spirituality is often dominated (as it is in politics) by the extremes: One side maintains that "the whole thing is an illusion — an old-fashioned superstition," while the other side maintains that "God is everywhere, always, and sees and guides everything." Transcendence, then, seems alien and a waste of time to the minds of many. To those with very ordered minds, people interested in the possibility of transcendence can seem flakey, prone to magical thinking and less able to use structured logic. And there is, in truth, a strong association between an individual's interest in spirituality and a certain fluidity of thought — too much of which can be maladaptive, just as too much rigidity can lead to obsessive-compulsive disorder and the like.

Transcendence has had a much greater role in the development of society than mechanistic thinkers believe. Archeological evidence at Göbekli Tepe, a settlement 11,000 years old in what is now southeastern Turkey, shows that gathering together for transcendent insight actually stimulated the need for agriculture and the rise of modern organized society. We'll come to that later.

Neither extreme is the answer. The optimum is a balance between what William James called "tender-mindedness and tough-mindedness."¹⁶ A precise, mechanistic, "engineering" approach to comprehend the world's workings may provide con-

sistency and repeatability that's great for technical progress, but it can foreclose on our openness to new experiences and new ideas.

What Kind of a System Is the "Second System"?

It's not a physical organ or a specific set of cells in the brain that underlies, for example, the ability to speak a language. But it is evidently present. The "second system" is a quiescent faculty; accidents can activate it, as can certain procedures, such as meditation, isolation, fasting, overstimulation, prayer and the use of drugs which have appeared in every known society. They all involve a breakup or a bypass of normal cognition, and the opening of "another world," as it has been called metaphorically.

We now know how the mind and brain do this, and for the first time, we can explore how this innate mode of cognition can be activated in a way relevant to the rapidly changing modern world.

The capacity for this development is a part of everyone's natural endowment. All of us possess a nascent, intuitive sense which is the basis of an expanded consciousness; but it is not fully developed in most of us, just as a lot of other human capacities lie embryonic and untrained. All human beings can speak and understand language, but to write it and read it demands a lot of teaching, and to write like a James Joyce requires a rare combination of talents. Similarly, all human beings can understand the concept of "one, two and many" but to learn arithmetic, algebra, geometry and calculus is not, as we all know, natural. It takes work.

And beyond that, from time to time, a prodigy comes along. As a child in rural India, Srinivasa Ramanujan somehow learned, almost on his own, to do advanced mathematics. Mozart composed music on a level considerably more advanced than that to which he had been trained. Einstein somehow

developed a conception of the universe far beyond anything conceived of by his predecessors or contemporaries (or even by us today) and worked out specific predictions about the laws of physics, which were confirmed years later.

Consciousness changes continually within each of us, and does so radically each day. It shifts from the hallucination of dreaming sleep, to the fluid thought that is experienced in hypnagogic states, to narrowly focused workaday full alertness — and to everything in between.

The fluidity of our minds makes a possible change in consciousness closer to our daily experiences than we usually assume. It is a further development of what we experience when we get an insight into the workings of a machine, or into how another person is thinking, or when we suddenly discover the solution to a problem. Areas inside the brain temporarily shut off normal thinking to make way for a new insight or new level of understanding.

The activation of this more inclusive consciousness is sometimes called “wisdom,” “perspective,” “second sight,” “the sight of the seer” (*an da shealladh* in Gaelic), “deep” or “direct perception,” or “seeing God.” These are all traditional terms that can seem strange and off-putting, and they don’t offer practical steps forward. But the widespread similarity of such descriptions, in all areas of the world and in all ages, indicates that the experience of altered states of consciousness is universal.

Fortunately, the neuropsychology of altered states is now becoming better understood, which opens up the possibility of developing this “higher” consciousness to many of us rather than to a select few.

What happens is that the normal step-by-step, moment-by-moment way of dealing with the world — which is useful for crossing the street or cutting up carrots — gets bypassed, shoved aside. And inside the brain, what’s called the “default mode” switches from an everyday “small world” of limited connections to one in which connections are expanded.

It's a shift (as some describe it) away from an egocentric world into a selfless one in which, as many studies show, the brain changes to a more right-hemisphere mode. With this expanded connectedness, individuals can sometimes get new insights. When this happens, there's a specific shutoff of brain activity in the area of the right hemisphere that maintains the sense of self. This deactivation of the self is necessary for a holistic system of cognition to emerge. We need this expanded perception now, because as our view of consciousness and its possibilities changes, so too will our understanding of religion and science — something that could have far-reaching effects on our common human future.

Barriers that Cloud the Mind

Barriers to connection and communication are everywhere. There are barriers within us, barriers between ourselves and others and barriers between our groups and outsiders. We all build invisible barrier walls within to keep out irrelevant or difficult thoughts and experiences; and we wall ourselves off socially and psychologically — and even physically, from “invaders” to our own society.*

The first step towards an expanded perception is to get around, in some way, the barriers of the everyday mental system and preoccupations. As Rumi said “burn that bar.” The way to do this is to begin at the beginning, to establish where the barriers are, how they change and how we can change them.

So think of it this way, in a metaphor (which will remain a metaphor).

It's a few thousand years ago. You are at sea, along with others of your tribe. But there are no stars by night; the fog clouds have covered them. The wind is taking your boats aimlessly one way then another, one strong gust after another. Whether you realize it or not, you are lost.

Then the clouds partially clear, and for a moment you get an insight into what has been hidden but was always there, behind the fog — there are faint stars there! You might be dazzled and confused by this breakthrough, perhaps a bit destabilized in your life following this new sight of something “beyond.” Some fellow travelers might imagine beings in the Milky Way, or soldiers calling them to war; some might conjure up images of freedom, or commandments. Others might deny that there’s anything relevant in what they’ve just seen. Some sight-impaired travelers may only see what is right in front of them and are unable to see the stars at all. Some will stop at a first glimpse, as it yields a measure of peace, perhaps a reduction of anxiety or the shedding of an addiction. Others will travel on and can navigate home.

In an individual life, the quick breaking up of these internal barriers to perception can, in some cases, cause confusion, even derangement. But breaking through them, or even slightly opening them up, can allow one to get a first glimpse of faint, ever-present signals. We believe it’s better to think about the aim of spiritual and religious efforts this way: as developing another — an extra — dimension of consciousness, and “seeing” a reality coexisting along with, but above and beyond, the narrowly focused, survival-centered reality of our everyday world.

There have been different metaphors used by different traditions and different authors to describe this experience, but beyond the surface differences, one can see a common focus. One metaphor is the distinction between 3-D and 2-D perception; another, color vision versus black-and-white. The experience has also been likened to awakening from sleep, opening a new “eye” or bypassing the “reducing valve”¹⁷ of the senses. All of these bespeak a development of perception and an extension of consciousness beyond the norm.

Given our current understanding of what really is going on inside us, we prefer the metaphor of clouds at night. Clouds are

permeable barriers that vary during the day in their thickness and color, and sometimes we can peek into an existence of a different realm behind them; and then it all “clouds” over and shuts down again. So this metaphor gives more of a sense of the evanescence, the shifting rather than fixed nature of our real internal barriers to the perception of these “two worlds” (which is itself a metaphor).

Crossing these barriers is by no means the whole story of transcending everyday consciousness. It is just the beginning. But with practice and under the right circumstances, one can see things from a more complete, “higher” perspective and begin to understand that those faint signals convey valuable information: you can “navigate home.” One anonymous mystic wrote, “When the clouds of thoughts and emotions disappear . . . You experience Reality as it is.”

A New Phase of Religion

The “4.0” in the title of this book indicates that our understanding and worldview have gone through (to simplify things greatly) three earlier configurations, all striving for transcendence to a deeper or “higher” knowledge of reality which many have called “God.” — “God 1.0” refers to the spirit world of our Stone Age ancestors; “God 2.0,” to the multi-god religions of Egypt, Mesopotamia and elsewhere; and “God 3.0,” to the monotheistic religions of today: Judaism, Christianity and Islam.

We focus on these three “Abrahamic” traditions for the most part because their adherents constitute more than half of humanity. Almost all of this majority are Christian and Islamic, with close to two billion people each. While Jews are miniscule in number — less than two-tenths of a percent of all peoples, or about 14 million — they are an important part of this history.

It is now almost a millennium and a half since the emergence of Islam, two millennia since the birth of Christ, and almost

four millennia since the purported birth of Abraham and the beginning of Jewish history. We're in dire need of an update.

We now know that many experiences that have formerly been attributed to external, mystical entities are, in truth, mental phenomena based on brain processes, and we'll expand on this later. The Andalusian Sufi scholar and poet Ibn el-Arabi intuitively recognized this, writing, "Angels are the powers hidden in the faculties and organs of man."¹⁸ Idries Shah says of el-Arabi: "He also speaks of God as the name given by man to the impulse which originates all kinds of developments, rendered in customary terms as the deity which most people associate with that word; but none the less important by reason of his referring to it in what we would today call scientific terms – and this in the thirteenth century."¹⁹

Knowing the biological basis of experiences does not explain them away or reduce them, just as understanding the brain mechanisms of language and the universal regularities of syntax doesn't diminish or deny that we understand what's being said to us — which when you think about it, is quite a marvel.

The higher reality — metaphorically presented as "seeing God," being "born again" and "entering the light," among many other images — has not changed. But it is now possible to connect the dots to understand these metaphors and the progression for attaining a higher insight, both neurobiologically and psychologically. It's time for a new conceptual framework, a framework based on a foundation of current knowledge — one without the restrictions, accumulations and clannishness of contemporary religions; one based on an understanding of the capacity for expanded consciousness inherent in us all. It is time for God 4.0.