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Magical Consciousness

An Anthropological and Neurobiological Approach

Susan Greenwood and Erik D. Goodwyn

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Preface

The process of magic as an aspect of the mind has been rendered largely invisible, except in a negative sense as irrational and "other" to the logical reasoning of science. An important part of this work is to explore new avenues of investigation through the building of bridges between anthropology and neuroscience to highlight what we believe is an important aspect of human thinking. We draw on our previous research—specifically, Greenwood's *Magic, Witchcraft and the Otherworld* (2000), *The Nature of Magic* (2005), and *The Anthropology of Magic* (2009), and Goodwyn's *The Neurobiology of the Gods* (2012) and *A Psychological Reading of the Anglo-Saxon Poem Beowulf* (2014)—to create an interdisciplinary dialogue of scholarly analyses of what we term *magical consciousness.* Above all, as we aim to show, magical consciousness is always affective, associative, and synchronistic in its mode of operation, and it is shaped through an individual's experience within a particular environment through which meanings are gained. A primary aim is to address the question, "What would an ethnography of a mind involved in magic be like?" The research documented in this work is one answer. Rather than the more usual focus on the many cultural contexts in which beliefs in magic may be found, this investigation highlights some of the attributes of magic as a process of thought as demonstrated by Greenwood's own research into the process of magic. Too often, magic is viewed in its instrumental aspects rather than as a mode of thinking, and a primary aim of this volume is to offer an additional perspective. From an ethnographic view, it is an intimate study of the way in which the cognitive architecture of a mind engages the emotions and imagination of an alternative perception in a pattern of meanings. Magical consciousness is as intensely personal as it is universal in some of its fundamental features. While there are many different cultural expressions of magic, there are some underlying fundamental

aspects that are shared by all. Thus, although the detail of the involvement in magical consciousness presented here is necessarily specific, the *modus operandi* is common to magical thought processes in general. The tenets of this mode of thinking, can be applied to a cross-cultural analysis to increase understanding of this ubiquitous human phenomenon.

A relational and holistic aspect of the mind in which spiritual entities are experienced as pervading the universe, magical consciousness, as we are using the term, differs from logical, abstract, and analytical thinking, the more usual focus of cognitive science. The latter is a loose affiliation of disciplines of neuroscience and anthropology, as well as linguistics, psychology, and philosophy, each with its own particular view of the "mind." Thus, cognitive science represents a diversity of visions.[1] Being inextricably linked to new technologies, a central branch of study has been based on the view that human cognition is a manipulation of symbols after the fashion of a digital computer, independent of neurobiology and anthropology.[2] In this perspective, a sense of "embodiment," a notion of the body as a lived experiential being as well as a context of cognitive mechanisms, is largely absent. Consequentially, cognitive science has virtually nothing to say about what it means to be human in the situations that are lived every day. More reflective dimensions of human experience are treated with little more than a cursory, matter-of-fact manner that has no depth or the sophistication of scientific analysis.[3] In addition, in the past, some of the complex workings of the mind have been obscured by an historical separation of the disciplines, and this has led to differences that obscure important insights, and a tendency of each to misunderstand or even ignore the other. Although cognitive science is "unavoidably an ethnographic enterprise,"[4] there are far-reaching implications for how culture and the mind are generally conceptualised between disciplines. This results in a rather intractable division between the ideas of culture and the ideas of the mind, and has left a legacy that has frequently marginalised anthropology from cognitive research. This is particularly so in

relation to studies of magic.[5] With regard to anthropology and neuroscience, anthropologists are more comfortable looking at the social and cultural dimensions of human life, while neurobiologists concentrate more on individuals and the functioning of the brain. Biogenetic structuralism has been developed as a perspective in anthropology that focuses on the brain, consciousness, and culture —as "a neuroanthropology" that integrates anthropology with neuroscience, phenomenology, and quantum physics.[6] However, in this present work, we seek a creative, experimental place of amelioration between anthropology and neuroscience to reveal a hitherto largely hidden dynamic of magical thinking.

This hidden dimension of magic has been generally obscured in anthropology and neuroscience by a perhaps overzealous emphasis on certain notions of analytical reasoning in the pursuit of knowledge. A "magical" affective aspect of research on cognition is a result of many centuries of academic focus on abstract and emotionally detached thought;[7] an effect of this thinking is that certain perceptions of logical, analytical thought are valued above the sensory and subjective experience of magic. An eighteenth-century Enlightenment ideal grounded notions of rationality on the universality of analytical reasoning, and this has divided the human mind not only from emotions and sensory experience, including that with non-human beings, but has crystallised into a dichotomy between so-called rational and irrational modes of thought. Analytical reasoning has become the basis for science, and magical thought relegated to superstition or primitive, erroneous beliefs. This exposes a modern Western cultural bias in the privileging of one mode of thought over another. As David J. Hufford notes, science is not the problem, but the cultural bias of scientism is.[8] Although scientific attitudes are now changing, especially in the opening up of studies of emotion,[9] there has been comparatively little work done on the neglected process of emotionally driven magical thought, the subject of this study. Consequently, many social-scientific theories have made implicit assumptions about the inferiority of magic compared to science.[10] This attitude has been detrimental to a study of the process of

magical thinking. Apart from understanding the fascinating and ubiquitous phenomenon of "magic," another reason for exploring this issue is that it enables a consideration of the very heart of some of the theoretical and methodological difficulties encountered in the social and natural sciences, especially those having to do with issues of "rationality" and "reason."

We each came to be involved in this project on magical consciousness in different ways. For Greenwood, the possibility of such an interdisciplinary study was finally crystallised in a moment at the University of California, Berkeley Art Museum's exhibition on Deities, Demons, and Teachers of Tibet, Nepal, and India, with friend and colleague Geoffrey Samuel, author of *The Origins of Yoga and Tantra: Indic Religions to the Thirteenth Century* (2010). Trying to get a sense of the essence of the Buddha's teaching on the mind and liberating insight in relation to her own work amongst Western practitioners of magic, Greenwood studied the figures of Indian deities and dancers and the images of enlightened beings from Tibet and Nepal. Having visited the Asian Art Museum in San Francisco some days before, and amid various conversations with Geoffrey Samuel, Greenwood thought about what the figures in the museums might mean in terms of human thinking and meaning in a universal dimension. Greenwood and Samuel were preparing to attend an invited seminar at The Esalen Institute's Center for Theory and Research on Anthropology and the Paranormal in Big Sur, further south down the Californian coast. Ideas about connection were on Greenwood's mind. Esalen was Gregory Bateson's final home at the end of his life; Bateson was a pioneer in the interrelationships of different forms of knowledge.[11] Studying communications from subjects as diverse as mental health, cybernetics, and the language of dolphins, Bateson's work had inspired Greenwood's research on magic as an associative process of the mind. Greenwood decided to try an experiment in making a narrative out of her own experience of magic as a process of the communication of the mind, the basis of the experiential chapters of this volume.

Some time previously, Erik Goodwyn had contacted her about

the possibility of writing a paper together, and when Greenwood read his *The Neurobiology of the Gods,* she was prompted to write on the inside front cover: "[T]his book gave me the keys to a previously locked room." Goodwyn's work in this study took a neuropsychiatric perspective in seeking to address what religious ideas meant in cognitive terms, and his aim was to understand gods and spirits as subsets of ideas formalised as symbols; however, he did not reduce the gods to ideas. The gods were metaphorical representations of thoughts, feelings, actions, and environments, a fundamental part of existence. Symbols, Goodwyn argued, "[C]arry the weight of the gods in the human heart, and are very real and potent forces acting on us." Of deep-rooted and innate predispositions, symbols interact with the environment and are highly charged with emotion.[12] From reading this work, Greenwood saw a whole new dimension to magic that corresponded with her own research.[13] She decided to offer her narrative on her research experience of magical thinking to Goodwyn to examine as co-author in this present study. Thus, Goodwyn's work on the neurobiological, evolutionary, and cognitive perspectives on thinking about gods and magic provided another window through which to look at the extraordinarily complex mental-spiritual-physical-cultural activity that occurs during magical thinking. To be truly "scientific," meaning to observe with as little preconceived bias as possible and with an eye toward discovering deeper truths, requires us to look from multiple angles to find what is actually going on in this heretofore largely forgotten style of thought—the inclusive, story telling, holistic, non-verbal, physical, and emotional "language" of magical thought. Such a mode of thought was felt to be absolutely essential to some of the deepest thinkers in the West, and the present work seeks to update that line of inquiry with newer disciplines, acquired data, and also insights from Asian, particularly Buddhist, perspectives.

This study is a move, therefore, from the counterproductive premise that we are all living in a world best described and apprehended by a certain "scientific" view that marginalises

emotion and intuition, and where magic is ignored or passed off as being irrational.[14] The result is a poly-vocal narrative study in which the voices of the neurobiologist, anthropologist as anthropologist, anthropologist as "native," and various spirit beings and entities weave an alternative story that displays a largely hidden dynamic process of magic.

A collaborative work such as this has drawn on the support and expertise of many individuals, and Susan Greenwood would particularly like to thank Brian Bates for his comments and helpful advice on draft chapters, Geoffrey Samuel for continued conversations, Liz Puttick for her constructive criticism of some early dragon material, and the past and present students in the Shamanic Consciousness Course. Inspiration has come from Michael Murphy, Jeffrey J. Kripal, David J. Hufford, Ed Kelly, Paul Stoller, Edith Turner, Stanley Krippner, Jack Hunter, Mark Schroll, Øyvind Eikrem, and, as ever, Pat Caplan and her daughter Lauren Greenwood.

Notes

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12. Erik D. Goodwyn *The Neurobiology of the Gods: How Brain Physiology Shapes the Recurrent Imagery of Myth and Dreams* (New York: Routledge, 2012): 4.

13. Susan Greenwood "Toward an Epistemology of Imaginal Alterity: Fieldwork with the Dragon" in *The Social Life of Spirits,* Diana Espirito Santo and Ruy Llera Blanes (eds.) (Chicago: University of Chicago Press, 2014).

14. Espirito Santo and Blanes "*Spirits",* 6–7, 12.

Introduction

Magic in Consciousness

> "[S]cience is to trees as myth is to forest—they appraise different levels of analysis but are not separate from one another or necessarily contradictory."[1]

Magic is frequently defined as a convenient word for a whole collection of techniques, all of which involve the mind and its supposed effects, such as improving a relationship, curing an illness, yielding good crops, dealing with stress, or finding a better job. These techniques suggest that a focused activity or purpose is directing an altered state of consciousness, and it is this instrumental aspect of magical thought that usually gets the attention of scholars. However, the real impact of magic happens at a more fundamental level of individual awareness that includes emotions, feelings, and beliefs. Our aim is to examine the nature of what we call *magical consciousness* before the effects are judged in instrumental terms. Our understanding of magical consciousness is as an associative mode of thought. Characterised by its diffuse and holistic orientation and sense of permeability of boundaries between material and non-material perceptions of reality, magical consciousness leads to a certain "knowing with others." This orientation can be described as analogical rather than logical. Within this conception, there is no contradiction between apparently mutually incompatible and exclusive states such as "life in death" or "unity and multiplicity of being," seemingly universal features of human thought first reported by Plato and Aristotle, who probably carried on traditions originating from Parmenides, but also noted by Lucien Lévy-Bruhl in his work on mystical

mentality.[2] Opening up a general sensory awareness of perceptual and emotional fluidity, analogical magical thinking exists alongside logical aspects of the mind and notions of fixed categories of phenomena. Here, it must be emphasised, we are looking at magical thought as a purified, ideal form in order to contrast it with its "analytical" counterpart, where in reality *both forms of thought occur simultaneously all the time.* Happening in varying degrees—from day-dreams, mild trance, or meditations to the most obvious expression in the mediation of practitioners of magic, such as shamans, medicine men, witches, and spirit mediums—magical thinking is often specific to a particular place and time—perhaps in relation to a divinatory question, ritual cycle or process, or a definite set of circumstances—but the associative magical thought process is similar.

Although magic is a foundational area of study in the discipline of anthropology, it is also directly linked to supposed irrational thinking, and so it meets head-on the challenges of the conceptual theoretical parameters also found in neurobiology and the natural sciences. Straightaway, "magic" is something of a commonly contested domain. Despite differences in orientation, anthropology and neuroscience are united in their common, problematic relationship with magic and human relationships with "entities of otherness," commonly understood as spirits. In neuroscience, "hearing voices" or other such "symptoms" has been evidence for psychopathology or psychosis. But a black-and-white categorization of normal and abnormal functioning is just not that easy, and experiences of other, disembodied minds has never been established as universally pathological by any field of study, though obvious extremes are easy to identify. We are not, however, concerned with the extremes, but with the more everyday experiences of the non-material minds reported in the countless mantic and magical practices reported all over the world by all peoples.

A commonality between both disciplines is that the "magical" affective aspect of cognition has been sidelined due to an emphasis on a certain understanding of rationality, a result of the academic

focus on abstract and emotionally detached thought.[3] Cognitive anthropology, for example, starts from the premise that culture consists of a corpus of intergenerational and transmissible knowledge, and the objective of anthropology is to discover how that knowledge is organised. There are assumptions that cognition consists of a process of matching sensory experience to stable conceptual schemata, much of which is imposed by the mind through beliefs rather than direct experience.[4] Bourdieu, who argued that cultural knowledge is generated within contexts of people's involvement with others in *habitus*, a process of life embedded in practical contexts, challenged this view,[5] but he did not go into the interior subjective or intersubjective space of images and representations.[6] Here, both emotions and magical experience are theoretically invisible. By contrast, we engage with the issue of affective magical experience with the aim of contributing to cognitive science more generally. Cognitive science stands at the crossroads where the natural sciences and the human sciences meet; it is "Janus-faced," for it looks down both roads at once, and "[o]ne of its faces is turned toward nature and sees cognitive processes as behaviour. The other is turned toward the human world (or what phenomenologists call the "life-world") and sees cognition as experience." Our present study is a move beyond such oppositions.[7]

Examining Magical Consciousness

Magic has traditionally been examined within a rationality debate that focuses on issues of instrumentality. In his book *A Cognitive Theory of Magic*, Danish scholar of religion Jesper Sørenson holds that magical beliefs create a particular form of conceptualization whereby human reasoning depends on the ability to understand one thing in terms of another; to be able to "map inferential potential between distinct experiential and ontological domains." This is what Sørenson refers to as "conceptual integration" gained

through the use of metaphor and metonymy.[8] Sørenson defines magic as a ritual practice "aimed to produce a particular pragmatic and locally defined result by means of more or less opaque methods." In manipulative magic, the aim is to change schematic aspects of entities belonging to one domain by manipulating entities belonging to another domain. Metaphor and metonymy are used to express hard-to-grasp terms.[9] Here, magic becomes associated with rituals that create a blended space where elements from profane and sacred worlds mix; for example, the Eucharist creates such a combined conceptual area whereby the bread and wine, from the profane domain, come to contain the essence of Christ, from the sacred domain.[10] Sørenson's instrumental theory of magical ritual shows how people maintain magical beliefs through rituals; however, his work, while it shows certain cognitive mechanisms, does not explain how magic is experienced —what is going on when people communicate with spirits, or how they come to foretell the future or cure the sick.[11]

Magic is often seen as functioning as a form of misplaced science that people seek out in order to obtain direct results, whether these involve bringing rain or a new lover. And it is this functional aspect that most frequently interests scientists so that they can assess its effects, and then often compare magic unfavourably with science. This is particularly relevant to the question of how magic, as a mode of consciousness, can be examined while avoiding the common extremes of materialistic reduction and an uncritical belief in spirits. This position presents certain obstacles. Even anthropology, as a social science that is more traditionally inclined to view the spirit beliefs of other cultures with more empathy of understanding, still bases its theoretical attitude on the scientific method, while at the same time acknowledging the reality of magic in people's lives.

However, ignoring other aspects of the mind amounts to a silence regarding a whole dimension of human life, and so it is important to discover a different orientation. For anthropologists, specific knowledge gained through fieldwork is understood using a detached, analytical, academic model that is often far removed

from the world of lived experience, and differing types of knowledge are often not acknowledged.[12] Thus, magical thinking, while valued in itself as an emic "native" expression in anthropology, has been firmly located outside the habitual etic domain of anthropological enquiry and theorisation: "natives" may think what they like, but science really knows best about "reality." For some anthropologists today, there is a distinction between knowledge about magic—what people say and do about it—and knowledge actually from magical consciousness. In its most extreme form, magic is ultimately not true; knowledge that comes from it is untrustworthy and not accessible by the scientific method. Therefore, there are no means to verify its assertions. There is a curious paradox in anthropological studies of magic that abhors universal understandings, and looks at cultural specifics but, at the same time, errs towards general analyzing tendencies that bypass the process of magic as a form of affective cognition. Little attention thus far has been given to understanding magic as an aspect of consciousness. While it is acceptable, or even required, for informants to report manifestations of spirits, the anthropologist should not cross the line between scientific objectivity and his/her own subjectivity. First-person research should include experimental efforts by the anthropologist to achieve any experience necessary to understand the research situation and should be open to other similar scholarly interventions, but also empirical analysis that exposes modern cultural bias. As David J. Hufford notes:

> As was true for Copernicus and as is true for Darwinian evolution, any fair and effective inquiry begins with rigorous methods and controls for cultural bias. Science is not the problem, but the cultural bias of scientism is. In a long struggle scientism captured the flag of rationality. If we are to understand the ubiquitous experience of human spirit encounters and beliefs we need rationality back.[13]

To move beyond the cultural bias of scientism, rationality needs to be reclaimed for magical consciousness. Magic has its own form of reason, as we hope to demonstrate in Chapter 1.

In neuroscience, “hearing voices” or other such “symptoms” has been evidence for psychopathology or psychosis, but in clinical practice, there is no simple rule to determine if hearing disembodied voices represents true pathology or is merely an unusual occurrence in what would otherwise be a normal, everyday experience. Seeing and hearing dead loved ones, for example, is remarkably common during the time period right after a loved one dies. Is this “psychosis?” Religious practice often involves feeling a spiritual presence or having an inner sensation of an outside will or force. Is this “psychosis?” These are not easy questions with clear-cut answers, though the neurobiological literature sometimes is taken to have such clear-cut answers. In reality, however, the neuroscientific corpus, though it contains an unprecedented amount of detail on the inner workings of the brain, still largely consists of a body of neural correlates. This can be very useful for pharmacological or psychosurgical interventions. It does not, however, provide us with the key to deeper questions about the nature of mind and its interaction with matter. And so our approach is to examine magic head-on, not through its instrumental aspects, but as a process of associative thought. In Chapter 3, we will examine some interdisciplinary challenges that face us.

While it is perhaps evident that the aspect of consciousness that we categorise as “magical” cannot be adequately assessed by the classification and conceptualisation of the scientific method as it is currently formulated, it can be analysed as a particular mode of thought that can be understood as a form of knowledge in its own right, much as the ancient Neoplatonists might have approached it. In the West, the dichotomy of “rational” and “nonrational” approaches to knowledge has a long history, with full, thorough treatments dating back at least as far as the Neoplatonists of the late antiquity. Here, we see, for example, Plotinus,[14] arguing that the deepest truths about the nature of reality and the gods can be obtained by a purely detached and rational contemplation, whereas later students, such as Iam-blichus[15] and Proclus,[16] assert strongly that true communion with Truth and the Divine cannot

be completely achieved through rational contemplation alone, but must involve "theurgy" or ritual acts involving affective, associative magical thinking. These ancient authors felt there was no way to truly approach and connect with the Divine—and hence achieve the highest level of knowledge—without accessing non-verbal, physiognomic, and ecstatic/ emotional modalities. This ancient approach (one among many that have cropped up at various times in history) has been more recently overshadowed by scientism, the putatively "scientific" approach that ignores such magical thinking as irrational, useless, or a distraction. The present volume seeks to rectify that unnecessary bias and think critically about magical thinking. Science and magic have too long been jammed into a false dichotomy, with science overruling magic every time, when in fact a truly scientific approach, one that goes beyond the cultural bias of scientism, would involve an attempt to see what these two approaches typically aim for, so that we might compare and contrast them fairly and then arrive at a new synthesis without reduction to either.

Studies of consciousness are the usual purview of philosophy rather than anthropology or neuroscience. Anthropologists tend to view consciousness as a social rather than a psychological or neurobiological matter, often taking it for granted, neglecting its significance, or seeking explanations in social structure or "culture."[17] A definition of "consciousness" as a "knowing system" comes from its Latin origin in *conscius,* meaning "knowing with others, participating in knowledge,"[18] or "sharing the knowledge of anything, together with another."[19] Further clarification of consciousness as "not asleep; awake; awareness of one's own existence, sensations, thoughts and environment; subjectively known; capable of complex response to the environment"[20] invites an examination of magical consciousness as a communal aspect of human cognition. The term "consciousness" has been used in the cognitive, artificial intelligence, philosophical, and other scientific traditions to refer to a "number of interrelated behaviours characteristic of complex systems that respond to their environment." Of course, there are many different kinds of

consciousness. These include those that range beyond the rational and egoic forms, engaging with what is conceptualised as forms of spirit, soul, mind, self, and transcendental human capabilities, as well as relationships with other beings.

Some neuroscientists have reservations about the using the term "consciousness," seeing it as problematic to define and preferring to divide up aspects of perception to determine correlates,[21] although there are movements of making connections in terms of the common capabilities and continuity between the brains of current fish, amphibians, reptiles, mammals, and birds, in an evolutionary sense.[22] Opinions about the distribution of consciousness range from a position—influenced by theological doctrine—that holds that only human beings have consciousness to the standpoint that everything might be construed as having consciousness.[23] In this latter view, consciousness is not seen as suddenly arising at a certain evolutionary point, and the development of the mind—from unrecognizable to recognizable—occurs in all forms of matter. As psychologist Max Velmans puts it:

> In the cosmic explosion that gave birth to the universe, consciousness co-emerged with matter and co-evolves with it. As matter became more differentiated and developed in complexity consciousness became correspondingly differentiated and complex.[24]

Recently, a group of prominent neuroscientists and theoretical physicists, including Stephen Hawking, Philip Low, Jaak Panksepp, Diana Reiss, David Edelman, Bruno Van Swinderen, and Christof Koch, signed a proclamation called The Cambridge Declaration of Consciousness at the First Annual Francis Crick Memorial Conference, held at the University of Cambridge on July 2012. This declared that human beings were not unique in possessing neurological substrates that generate consciousness:

> We declare the following: The absence of a neocortex does not appear to preclude an organism from experiencing affective states. Convergent evidence indicates that non-human animals have the neuroanatomical, neurochemical, and neurophysiological substrates of conscious states along with the capacity to exhibit intentional behaviors. Consequently,

> the weight of evidence indicates that humans are not unique in possessing the neurological substrates that generate consciousness. Non-human animals, including all mammals and birds, and many other creatures, including octopuses, also possess these neurological substrates.

This is a significant move in a relational neurological pattern, and a start at opening up channels of communication between disciplines that challenge conventional scientific understandings. Here, we see continuity between different species in the recognition of similar neuroanatomical, neurochemical, and neurophysiological features, as well as the ability to show intention and affective states. We should note, however, that the problems and challenges of dealing with consciousness do not end here. The above-mentioned declaration assumes an equation of the mind and brain, or a dependence of the mind on the brain, that is not shared by all those who study consciousness.[25] This part of the issue—the so-called "mind-body" problem—has a centuries-long history as well, and is the elephant in the room in all these discussions (as we will discuss later in Chapter 2 of this volume).

American biologist Gerald Edelman has defined consciousness as an ecological habitat "ultimately beyond the physical"[26] in which the brain lives, develops, and constructs its experiences and values.[27] Such a relational definition of consciousness correlates with magic as a participatory, associative aspect of the human mind. Tim Ingold points out that the mind is not given in advance of the individual's entry into the social world, but is fashioned through a lifelong history of involvement in relationships with others; "it is through the activities of the embodied mind (or enminded body) that social relationships are formed and reformed," and psychological and social processes are "thus one and the same."[28] Within this habitat there are a variety of cross-cultural modalities in which people can be conscious, including "alternative" magical modes of mind. Anthropologist Charles D. Laughlin has categorised these as "polyphasic" due to their use of altered states of consciousness, such as the dreaming, contemplation, trance, and ecstatic modes of awareness, as valid forms of knowing. By contrast, "monophasic" cultures, such as

those found largely in Western contexts, place more value on the so-called "normal," everyday modes of awareness.[29] Neither of these modalities should be axiomatically privileged in analysis, and either may help us to understand what is going on in the other[30]. A notion of "perceptual diversity" allows us to access knowledge through a variety of processes, including those of a "transrational" nature not considered valid by a science based primarily on reduction, quantification and the experimental method[31].

With regard to the specific modality of magical consciousness, it can be understood as a psychodynamic process that embodies a multi-way interaction of communication with a different reality of spirits, non-material entities, and other beings of an "otherworldly" nature, as is the norm in Asian societies that have sophisticated techniques for experiencing "magic" through subtle body practices. These techniques have existed for many centuries in the world and arise from a widespread way of thinking about consciousness that differs considerably from the modern (but not ancient), conventional Western ways of thought.[32] The issue is how to recognise the autonomous status of consciousness without invoking non-material concepts, or assuming the existence of a mind separate from the body. There is a need for a model that is materialist in broad sense, but also includes a wider range of phenomena that includes a non-material or spirit dimension.

A defining characteristic of magical consciousness is the engagement with an inspirited world, and a fundamental issue has been how to work with non-material, invisible domains. How do we understand and integrate perceptive and sensorial alterity, or otherness, in studies of how the intangible works within a field of consciousness with other beings material and non-material in a total field? In physiological terms, the associative awareness of magical consciousness can be said to correlate with the workings of the right hemisphere of the human brain; this has a wide take on the world, compared to the narrow focus of the left hemisphere, as developed in the work of British psychiatrist Iain McGilchrist. Both hemispheres are involved with all the brain's functions, such

as emotion, reasoning, visual imagery, and mathematical thinking, but they have different orientations.[33] By engaging with the right hemisphere orientation, it is possible to understand the fullness of the mutability of magical consciousness. The two orientations arising from the two hemispheres function interchangeably and may be said to be two antithetical potentialities, the one deconstructive or perhaps reductive, and the other integrative and holistic. Although they work in differing ways, they also have complementary tendencies. A common problem results when right-brain notions, which have their own kind of validity, are treated as if they have the validity of left-brain thinking.[34] The idea behind viewing right-brain activity as separate from the workings of the left hemisphere to illustrate magical consciousness is emphatically not to create a dualism, but a distinction that illuminates significant differences in awareness that can be studied by neurobiology and anthropology.

Another important concern to keep in mind is that all of the neurobiological data we are looking at is correlative, but not necessarily causative, in these domains. When looked at naively, neuroscientific data can give the illusion that neural regions are "activated" and "create" various sorts of mental activity. This is essentially a view of mind and matter that is espoused by various kinds of philosophical materialism. Despite the fact that this assertion has yet to be proven (and in fact we know of no way in which it really "could" be proven), it continues to be commonly assumed out of hand, often without acknowledgement. Even when this difficulty is recognised, we encounter the phenomenon of what Karl Popper referred to as "promissory materialism," in which it is assumed that once we acquire a sufficient level of neuroscientific data, we will be able to explain the great mystery of how the brain "creates" consciousness—such assertions are normally followed by vague, hand-waving invocations of mid-level "emergence"—i.e., treating consciousness as an "emergent" property of a physical system. This of course rules out the possibility that the brain may not actually create consciousness/the mind, but rather exists in some other sort of relationship with the

mind as explored by a variety of philosophers, physicists,[35] and psychologists.[36] Thus, the question of exactly what sort of minds magical practitioners are engaging with becomes an even deeper mystery—one that neuroscience may not be able to solve.

Moreover, the aforementioned materialistic paradigm often emphasises the "bottom-up" effects of the body on the mind (such as neurotransmitters, neural patterns, etc.) while neglecting the extremely important "top-down" effects of the mind on the brain. These top-down effects of mind over matter can be seen in studies of placebo effects,[37] neuronal plasticity,[38] and many other phenomena[39] that empirically show that knowing what the brain is doing is only half the story.

The mind associated with that brain (however one may define such a mind) must be studied from angles that may not be approachable from a purely materialistic perspective. What neuroscience "can" do, however, is teach us a great deal about how the brain and body work, as however the mind may interact with the body, we know that the body has a long evolutionary history and we are continuing to learn more about how it works, what it does, and (at least from an evolutionary perspective) why it does it. Thus, whatever the mind and consciousness are, neuroscience is teaching us a great deal about how and what the brain and body present to consciousness, and why they do so. Understanding exactly what the mind does during magical action, however, requires not only a neuroscientific perspective, but *also* a cultural, subjective, and mythological perspective, as these are all known to have top-down effects on the body itself.

With that behind us, let us look at two sorts of mental activity that will help us understand magical consciousness as compared with analytical consciousness. The following table shows the differences:

Table Intro.1 Qualities of Analytical and Magical Thinking

Formal Quality	Analytical	Magical
Time	sequential	cyclical/non-linear

Space	distinct	diffuse
Distinction	particular	holistic
Emotion	dispassionate	emotionally *rich*
Concepts	concrete	abstract/ambiguous
Symbolism	literal	metaphorical, mythological
Explanation	causal	interpretive
	mechanical	willful-intentional
	logical	analogical
Binding of perceptual elements	linear cause-effect	associative, synchronous
Neurobiological correlates	left brain	right brain
Dream-wake primary influence	wakefulness	dream
Self	distinct	"shape-shifting"

One might propose that magical consciousness taps into the "primary process," or unconscious thought processes that are characterised as metaphoric rather than the thoughts of consciousness, especially the verbalised thoughts expressed in the "secondary process." This presentation, however (derived from Freud in his classic *Interpretation of Dreams*), privileges the analytical over the magical—a temptation we are attempting to resist. Freud furthermore attached the primary process to "the unconscious" and elevated the secondary process to "consciousness." These distinctions, however, need not be kept, as associative magical thinking does not necessarily require any particular level of consciousness to function, and we suspect this differentiation may stem from Freud's own cultural context, which equated magical thinking with "primitive" peoples. However, magical thinking is pervasive cross-culturally and can be found operating normally in all sorts of everyday conscious activities, as it has done probably throughout human history and pre-history. What mantic techniques do, however, is apparently tip the scales

in favour of magical thought, as much as working intently on a difficult physics problem might tip thinking modes in the other direction—each has its own ends and its own modalities and strengths. Nevertheless, despite these objections, the dichotomy as presented by Freud does approximate what we are using to differentiate types of thinking. Thus, we find it a useful distinction, while rejecting the implicit prioritization of the secondary process as superior to the primary process, as we also reject the association of the primary process with nineteenth-century notions of "primitivity," and any particular connection with a level of consciousness. Indeed, some magical practitioners report that mantic/magical consciousness can be "hyper-real," presenting enhanced kinds of awareness that one would associate not with a "dimming" of consciousness (such as is often spoken of by Jung), but with a heightening of consciousness leading to insight or wisdom.

The subject matter of primary process discourse is different from the subject matter of language and consciousness, whereby "[c]onsciousness talks about things or persons, and attaches predicates to the specific things or persons which have been mentioned. In primary process the things or persons are usually not identified, and the focus of the discourse is upon the *relationships* which are asserted to obtain between them."[40] It is the aspect of relationship that is common to the primary process and magical consciousness (further explored in Chapter 4). Magical consciousness works on many brain levels of awareness, unconscious and conscious, and can be highly trained and shaped by the will of the individual so that the contents of the unconscious filter through and relate with consciousness, as demonstrated by the thought processes of magical practitioners, such as shamans or other specialists in this form of awareness.

A Different Process of Thinking

Labelled in numerous ways through the centuries, both positive and negative, it is true to say that the manifestation of magical thought as a process of consciousness has been neglected in academia. The historical reasons for this lack of attention are due to a widespread ambiguity in the concept of magic inherent in European cultures. A disenchanted world of modernity came into existence through the complex interplay of a number of political, religious, and ideological factors, including the Protestant Reformation, the Renaissance, colonial contact with non-Western societies, the Enlightenment, political developments in Europe and North America, and the rapid development of technology and science in the nineteenth and twentieth centuries. Much of the modern antagonism to magic was the result of struggles over cultural authority, especially between secular and religious institutions. In this process, the belief in spirits—the traditional core of religious traditions—came to be identified, at least by many intellectuals, as hostile to science.[41] In consequence, particularly due to a legacy of a peculiarly defined and increasingly positivistic "rationalism" (far removed from the rationalism of Plato) arising during the eighteenth-century Enlightenment, and the development of the scientific method, magical thinking is now generally contrasted with science. Science in the past has labelled magic as wrong; at best, it is logical thinking based on false premises, or at worst, it is mere superstition, the stuff of primitive error.

Due to this specific line of development of Western thought, the natural and social sciences have generally disregarded magical thinking as a legitimate form of knowledge;[42] this has had important theoretical implications for our study. Since its first use as a term in Greece in the fifth century BCE, magic has been considered a marker of otherness. Arising initially from Greek contact with the Persians, who were the Greeks' political enemies, it came to refer to that which was illicit, suspicious, and had to do with potentially powerful actions by others. The origin of the concept stems from the ancient Iranian *maguš*, whom the Greeks referred to as a threatening foreign culture. Herodotus referred to

the *mágoi* as one of the seven Median tribes in charge of religious rites and the interpretation of dreams. The dominant Greek concept of "magic" came to be associated with charlatanism, fraud, and unsanctioned rites performed in private by ritual entrepreneurs outside institutionalised cults; notwithstanding, Plato referred to *mageía* as the "worship of the Gods" amongst the Persians, and, as we have discussed already, the Greek and Roman Neoplatonists felt strongly that true knowledge of the universe could only come through "theurgic"— that is, magical—practice. Nevertheless, in general, the Romans took up the Greeks' negative attitude towards magic as a fraudulent, ritual art.[43] However, in more recent Western history, positive attitudes towards magic were taken by Renaissance magicians influenced by the *Corpus Hermetica*, a collection of first-to-third-century Greek texts that sought to bring the individual closer to the deity; in particular, Marsilio Ficino (1433–1499), a Neoplatonist, and Giovanni Pico della Mirandola (1453–1494) regarded magic as an elementary force pervading natural processes.[44] Eventually, "magic" became an extremely versatile and ambiguous abstract category that could be associated with the art of the devil, or a path to the gods.[45] The boundary between what is considered to be magic and what is considered to be religion was, and still is, impossible to draw; any conceptual lines will inevitably always remain blurred.

Making a conceptual division between magic and science is much easier. During the seventeenth-century Scientific Revolution, the practical elements of experimental magic were taken up by some natural philosophers, such as Francis Bacon, to develop what would later become known as the scientific method. Bacon incorporated the experimental method of the magician in a reformed natural philosophy, into which the good ideas in magic were incorporated while the bad ones were labelled as magic and denounced.[46] This shift in thinking involved a change in worldview that moved from an integrated conception of the material and non-material worlds—which included many disciplines that are today seen as separate areas of study, such as music, medicine, optics, and metaphysics—to a process that is now

identified as "science," a term first coined in the nineteenth century.[47] Thus, the development of science and the Enlightenment critique of natural magic, *magia naturalis*, a seventeenth-century discipline that investigated magic as a natural force, led magic to increasingly become viewed as irrational in comparison with science. In more recent times, magic has been explored by social scientists as offering an explanation for erroneous beliefs (Frazer and Tylor); in opposition to the social cohesion of religion (Durkheim and Mauss); as a cathartic release of emotional tension in the absence of reason and practical knowledge (Malinowski); as forming a logically coherent set of beliefs and practices that are nevertheless inferior to science (Evans-Pritchard); and more recently still, magic has been seen as an analytical counterpoint to modernity's rational progress (Meyer and Pels). This rather jaundiced view still prevails within historical studies and the social sciences today. For example, Wouter Hanegraaff, writing in 2012, calls the term "magic" an "important object of historical research, but definitely unsuitable as an etic instrument for doing research."[48] Psychologists Leonard Zusne and Warren H. Jones, in their *Anomalistic Psychology*, which was first published in 1982, assign magic to anomalistic phenomena, i.e., behaviours and experiences that have been explained in paranormal, supernatural, or occult terms. They argue that magical thinking "is wholly or partly at the root of any explanation of behavioural and experiential phenomena that violate some law of nature," and that the roots of magic include "the absence of information about the physical causes of the events that surround us," and further claim that reification and self-awareness are used as two compensatory strategies.[49]

More recently, in 1997, Stuart A. Vyse, author of *Believing in Magic: The Psychology of Superstitions*, found that superstitious behaviour, while not "psychopathological" or limited to traditional cultures or people with "low intelligence," arose from "accidental conditioning," which occurred due to repeated, apparently successful actions associated with waiting in high-tension moments, such as before exams, when playing sports, or when

gambling.[50] Psychological research has uncovered that magic is a culturally pervasive mode of thinking in children and adults. Malinowski's observation that we are prone to magical thinking when confronted with stress and uncertainty has led to a number of empirical studies. One of these is Keinan's 1994 study of how the Israelis' beliefs in magic increased while being threatened by SCUD missiles during the 1991 Gulf War. This type of research refers mainly to the judgement of certain forms of cognitive orientation that are branded as "superstitious," and is usually characterised by negatively framed interrogations that bypass the emotions and shortcut the complexities of magical thought processing.[51] Note also how the correlation does not really address the validity of magical thinking—that people under stress resort to whatever tools they can to obtain knowledge should be no great surprise and sidesteps the issue of whether or not magical thinking results in useful knowledge. On that question, arguably a much more relevant and interesting question, such studies are silent and therefore of limited usefulness.

Certain answers are presupposed that immediately make magical thought suspect. Magical consciousness "works" through analogical rather than logical thought patterns, but it is often assumed to be a lesser form, or prior stage, of logical thinking. Consequently, it is frequently compared unfavourably with the more conventional cognitive processing, and is then shown to be incomplete or misguided. Thus, the other ways in which we perceive reality are considered less important. The study of magic by cognitive and evolutionary psychologists has not differed greatly from that of other psychologists. A 2007 study of superstitions, magic, and paranormal beliefs by Lindeman and Aarnio characterised magic as "category mistakes where the core attributes of mental, physical, and biological entities and processes are confused with each other."[52] Increasingly, psychologists assumed that all things mental could be explained from the inside out, i.e., from brain events occurring within the individual, while anthropologists took the opposite view, that the life of the mind could only be approached from the outside in, as through the

social and cultural influences on the person. Two broad defensive streams of enquiry resulted: the anthropological one interpreted field observations and the narratives of informants to capture the emic view; the other, the psychological stream, isolated mental processes and studied them experimentally in the supposedly context-free setting of a laboratory.[53]

Needless to say, none of these definitions are particularly helpful in defining or examining magical consciousness and so in this sense, they offer us an opportunity to explore a field that is relatively unexamined. We will show how magical thinking as mytho-poetic thought came to be eclipsed by the critical thinking of the scientific attitude that developed during the period of the Enlightenment. A more integrated scientific attitude that incorporates mytho-poetic and critical thinking comes within our focus. Magic generally has to do with alterity or "otherness," and magic as an aspect of consciousness in Western thought has certainly been other to science and religion; this offers us a chance to discover new ways of thinking about how we create meanings in our lives, and, more broadly and ambitiously, what it is to be human. Thus, it can be seen that what we term as magical consciousness does not correspond with analytical thought, the conceptual foundation of science, but rather is a different process of thinking altogether. Indeed, magical worldviews are frequently articulated through mythology, a form of mytho-poetic thinking that is hard to translate into the language of science due to the fact that meanings can only be fully expressed in metaphorical terms.[54] Myths form their own language, and, as Carl Kerenyi puts it in his study of the science of mythology, "The water must be fetched and drunk fresh from the spring if it is to flow through us and quicken our hidden mythological talents." Mythology is a body of material contained in tales about gods and god-like beings, and it is the movement of this material that becomes something "solid yet mobile" and "substantial and yet not static." A living mythology "expands in infinite and yet shapely multiplicity;"[55] it speaks emotionally to the individual in the creation of meanings, but also relates to a lived reality in social and practical terms, as

Malinowski has pointed out long ago.[56] Our study of the mythological thinking of magic enables a deeper understanding through an anthropological and neurobiological analysis of the manner in which it helps to shape patterns of relationships between phenomena.

A felt sense of the participatory awareness of magical consciousness does not exclude a search for causality: a spell, a ritual, or a special object can carry both a sense of invisible connectedness and a causal intention or interpretation of the world. This mode of thinking can be visualised metaphorically as a web of connections, and this means that minds are not always unequivocal. They are able to give more than one explanation to the same occurrence; and they can hold naturalistic and magical interpretations that reflect the right- and left-brain orientations simultaneously. The magical explanation is often associated with an affective component, while the naturalistic one tends to be logical, meaning that magical thinking, although allowing for causal reasoning, is still processed differently. By developing a sustained anthropological and neurobiological examination of magic as an affective process of the mind, this study provides a unique account of magical consciousness as associative process correlated with right hemisphere brain activity that has wide ramifications that affect the whole organism and its environment. As we will see below, this is a complex interaction that defies any sort of biological or cultural essentialism. Furthermore, we will see that the study of magical consciousness repeatedly returns us to those thinkers who question whether or not the mind should be defined as completely within the skull. Magical consciousness is a holistic and connective sort of thinking process that is inherently non-reductive and whole-greaterthan-parts in its essence, which includes mind-mind and mind-environment relations.

More akin to the Greek notion of the psyche, the "magical mind" of magical consciousness is closely aligned to an animating principle related to a non-material essence of breath, life, and soul. The magical mind thinks *with* other beings. In this sense, it is similar to the notion of the psyche articulated by Aristotle in 4

BCE. Aristotle thought the soul was equivalent to the psyche, that it was the "principle of life" that animates. Aristotle's conception of the psyche was as the form or soul of all living organisms, including plants and other animals, as well as human beings. Thus, a key issue is how to bring back the spirit and overcome *dissociation*, and here, we approach the problem of the Western understandings of the phenomenal world. In this study, we engage with the troublesome issue of "spirits," "subtle bodies," or "energies," without reducing them to individual psychology or seeing such phenomena as real in certain cultural contexts, but not real in a scientific sense. We seek to find a non-reductionist, conceptual area where there could be an intermediate level, or series of levels, between the material and non-material realities.[57]

A Method for Exploring the Mind

The present study brings about a creative interchange between Greenwood's own lived experience of magical consciousness and a theoretical analysis with the aim of working toward a methodology for its examination. Having spent over twenty years as a fieldworker examining various practices of Western pagans and magicians, Greenwood has had many experiences of magic. In conventional anthropological methodology, she would be required to remain more detached, or if she did have an experience, not to include it in her research data. An objection for some anthropologists has been the issue of the ethnographer "going native," with a supposed fine line between taking the native's point of view and the anthropologist fully experiencing the affective aspects of magic, such as relating with spirit beings or other such non-material entities. In Greenwood's doctoral research,[58] she wrote that she sought to create a communication between scholarly analysis and the magical spirit panoramas of her informants; she wanted to develop the critical eye of the anthropologist, but also an empathy that was sensitive to her

informants' involvement with an inspirited magical otherworld. She took a deliberately participatory approach, arguing that anthropological engagement with magic was a valuable tool of research, not to be contrasted with scientific truth. Indeed, when it is cognition or the mind that is being examined, the dismissal of experience becomes untenable, even paradoxical.[59] In anthropological terms, Greenwood did become a "native," although we are all potentially natives of this mode of thought as cultures are not homogenous, and no one can be a fully native insider or outsider.[60] In this sense, Greenwood is drawing on a subjective magical orientation of consciousness that potentially we all have, while also maintaining her objective analytical orientation as an evaluating perspective. Edith Turner, who has argued that to understand spirit healing in Zambia she needed to sink herself fully within it, records, "Thus for me, 'going native' achieved a break-through to an altogether different worldview, foreign to academia, by means of which certain material was chronicled that could have been garnered in no other way."[61] This position follows what has later been called "first person" research in the tradition of William James who, in *Principles of Psychology*, first published in 1890, resisted reductionism and used his own inner workings of mental life to study some of the most extreme and challenging phenomena and what they might mean.[62] We will be examining magical consciousness from the perspective of the actual first-person experience of Greenwood as an in-depth, specific example of how magical thinking is part of a panhuman mode of thought. We develop this approach in the present work. By going deeper into the lived experience of the anthropologist's life, Greenwood demonstrates the development of the process of magical consciousness. In this regard, and in subsequent research, Greenwood has built up a considerable, largely untapped "database" of personal, magical experiences. This was considered to be invaluable primary material that needed to be brought back into the fold of academic discourse as a first person narrative of the process of magical consciousness.