ROUTLEDGE STUDIES IN ANTHROPOLOGY

Magical Consciousness

An Anthropological and Neurobiological Approach

Susan Greenwood and Erik D. Goodwyn

ROUTLEDGE

Magical Consciousness

How does a mind think magically? The research documented in this book is one answer that allows the disciplines of anthropology and neurobiology to come together to reveal a largely hidden dynamic of magic. Magic gets to the very heart of some theoretical and methodological difficulties encountered in the social and natural sciences, especially those having to do with issues of rationality. This book examines magic head-on, not through its instrumental aspects, but as an orientation of consciousness. Magical consciousness is affective, associative, and synchronistic, shaped through individual experience within a particular environment. This work focuses on an in-depth case study that uses the anthropologist's own experience gained through years of anthropological fieldwork with British practitioners of magic. As an ethnographic view, it is an intimate study of the way in which the cognitive architecture of a mind engages the emotions and imagination in a pattern of meanings related to childhood experiences, spiritual communications, and the environment. Although the detail of the involvement in magical consciousness presented here is necessarily specific, the central tenets of *modus operandi* is common to magical thought in general, and can be applied to cross-cultural analyses to increase understanding of this ubiquitous human phenomenon.

Susan Greenwood is a past lecturer at Goldsmiths College and the University of Sussex.

Erik D. Goodwyn is an Assistant Professor at the University of Louisville.

Routledge Studies in Anthropology

1 **Student Mobility and Narrative in Europe**
The New Strangers
Elizabeth Murphy-Lejeune

2 **The Question of the Gift**
Essays across Disciplines
Edited by Mark Osteen

3 **Decolonising Indigenous Rights**
Edited by Adolfo de Oliveira

4 **Traveling Spirits**
Migrants, Markets and Mobilities
Edited by Gertrud Hüwelmeier and Kristine Krause

5 **Anthropologists, Indigenous Scholars and the Research Endeavour**
Seeking Bridges Towards Mutual Respect
Edited by Joy Hendry and Laara Fitznor

6 **Confronting Capital**
Critique and Engagement in Anthropology
Edited by Pauline Gardiner Barber, Belinda Leach and Winnie Lem

7 **Adolescent Identity**
Evolutionary, Cultural and Developmental Perspectives
Edited by Bonnie L. Hewlett

8 **The Social Life of Climate Change Models**
Anticipating Nature
Edited by Kirsten Hastrup and Martin Skrydstrup

9 **Islam, Development, and Urban Women's Reproductive Practices**
Cortney Hughes Rinker

10 **Senses and Citizenships**
Embodying Political Life
Edited by Susanna Trnka, Christine Dureau, and Julie Park

11 **Environmental Anthropology**
Future Directions
Edited by Helen Kopnina and Eleanor Shoreman-Ouimet

12 **Times of Security**
Ethnographies of Fear, Protest and the Future
Edited by Martin Holbraad and Morten Axel Pedersen

13 **Climate Change and Tradition in a Small Island State**
The Rising Tide
Peter Rudiak-Gould

14 **Anthropology and Nature**
Edited by Kirsten Hastrup

15 **Animism and the Question of Life**
Istvan Praet

16 **Anthropology in the Making**
Research in Health and Development
Laurent Vidal

17 **Negotiating Territoriality**
Spatial Dialogues Between State and Tradition
Edited by Allan Charles Dawson, Laura Zanotti and Ismael Vaccaro

18 **HIV/AIDS and the Social Consequences of Untamed Biomedicine**
Anthropological Complicities
Graham Fordham

19 **Environmentalism, Ethical Trade, and Commodification**
Technologies of Value and the Forest Stewardship Council in Chile
Adam Henne

20 **An Anthropology of Robots and AI**
Annihilation Anxiety and Machines
Kathleen Richardson

21 **An Anthropological Economy of Debt**
Edited by Bernard Hours and Pepita Ould Ahmed

22 **Ethnographies in Pan Pacific Research**
Tensions and Positionings
Edited by Robert E. Rinehart, Elke Emerald, and Rangi Matamua

23 **Anthropologies of Cancer in Transnational Worlds**
Edited by Holly F. Mathews, Nancy J. Burke, and Eirini Kampriani

24 **Magical Consciousness**
An Anthropological and Neurobiological Approach
Susan Greenwood and Erik D. Goodwyn

Page Intentionally Left Blank

Magical Consciousness

An Anthropological and Neurobiological Approach

Susan Greenwood and
Erik D. Goodwyn

Routledge
Taylor & Francis Group
NEW YORK AND LONDON

First published 2016
by Routledge
711 Third Avenue, New York, NY 10017

and by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Routledge is an imprint of the Taylor & Francis Group,
an informa business

Library of Congress Cataloging-in-Publication Data
CIP data has been applied for.

ISBN: 978-1-138-85036-1 (hbk)
ISBN: 978-1-315-71984-9 (ebk)

Typeset in Sabon
by Apex CoVantage, LLC

For Ryder and India Greenwood, and all those past, present, and to come

Page Intentionally Left Blank

Contents

Figures

Tables

Page Intentionally Left Blank

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

1. Francisco Varela, Evan Thompson, and Eleanor Rosch *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge, Massachusetts: MIT Press, [1991] 1993): 4–6.
2. Francisco Varela et al. "*Embodied Mind",* 8.
3. Francisco Varela et al. "*Embodied Mind"*, xv–xviii.
4. Bradd Shore, *Culture in Mind: cognition, culture, and the problem of meaning*, (Oxford: Oxford University Press, 1998): 8.
5. Edward Bever "Current Trends in the Application of Cognitive Science to Magic" in *Magic, Ritual and Witchcraft* (Summer 2012, University of Pennsylvania Press).
6. Charles D. Laughlin http://www.biogeneticstructuralism.com/index2.htm, accessed 27 Sep. 14.
7. Christina Toren "The Child in Mind" in Harvey Whitehouse (ed.) *The Debated Mind: evolutionary psychology versus ethnography* (Oxford: Berg: 2001): 155.
8. Hufford, D. J. 2003. "Evaluating Alternative and Complementary Medicine: The Limits of Science and of Scientists." (*Journal of Law, Medicine & Ethics*. 2003); *The Terror That Comes in the Night: An Experience-Centered Study of Supernatural Assault Traditions*. (Philadelphia, University of Pennsylvania Press, 1982).
9. C. Lutz, and G.M. White The Anthropology of Emotions" (*Annual Review of Anthropology*, Vol. 15) 405; Anna Wierzbicka "Human Emotions: Universal or Culture-Specific?"(*American Anthropologist,* New Series, Vol. 88, No. 3.1986) 584–594. Kay Milton and Maruška Svašek *Mixed Emotions: anthropological studies of feeling* (Oxford: Berg, 2005).
10. Susan Greenwood "Magical Consciousness: A Legitimate Form of Knowledge" in *Defining Magic: A Reader* Bernd-Christian Otto & Michael Stausberg (eds.) (London: Equinox, 2013) 201; Susan Greenwood *The Anthropology of Magic* (Oxford: Berg, 2009).
11. Jeffrey J. Kripal *Esalen: America and the Religion of No Religion* (Chicago: University of Chicago Press, 2007): 307–308.
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.

Page Intentionally Left Blank

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 Iamblichus[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.