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N, N-DIMETHYLTRYPTAMINE AND BIOLOGICAL REDUCTIVE ACCOUNTS FOR
RELIGIOUS AND SPIRITUAL EXPERIENCES

A Paper

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Abstract

There is unquestionably a plethora of details and mysteries regarding the mind and the body. However, with the advent of psychopharmacology (the study of how psychedelics inform or alter brain states), there are more issues at hand. Do psychedelics allow us to access deeper areas of our consciousness? Are we having a spiritual experience under the influence of psychedelics? Dr. Rick Strassman does not want to continue asking these rather conspiratorial-like questions. Instead, Dr. Strassman believes that there is one special, endogenous psychedelic, synthesized within the human physiological framework: N, N-Dymthethyltryptamine. Dr. Strassman concludes that this chemical is produced within and around the pineal gland, and is often the catalyst for spiritual and religious experiences. I will explore this topic further under the framework of discovering whether a naturalistic type explanation of spiritual experiences accounts for all types of spiritual experiences and whether one may be rational or justified in believing in God if a naturalist could explain spiritual experiences.

Keywords: *N, N-Dimethyltryptamine, DMT, Mystical Experiences, Non-Mystical Experiences, Justified Religious Belief*

I. Introduction

In essence, this essay is an attempt to address a very special explanation for the existence of spiritual experiences. For years, as biology and neurophysiology have evolved into a force for explanatory power, there is often a trend to begin with the antecedent condition of materialism, and by way of Ockham's Razor, reduce our explanations to purely physical phenomena. A popular view of the mind/body problem that grew from the force of psychology was that of functionalism and behaviorism. Likewise, a special and intriguing feature of our world are these rather mystical, bizarre, out of the ordinary experiences with celestial beings, divine unity, or with God, that often transform the unlikeliest of believers into man of faith and religion.

Can biology accurately and succinctly account for spiritual experiences with substantially physical explanation? Psychologist Dr. Rick Strassman has been fervently researching for an explanation, and through the 1980s and 1990s, he believed he found the "spirit molecule": N, N-Dimethyltryptamine (DMT). The goal of this essay is not to address the underlying metaphysical features of such an explanation. Instead, briefly I will discuss exactly what N, N-Dimethyltryptamine is and the work the Dr. Strassman has done to conclude that this is indeed the biological explanation for spiritual experiences. For our purposes, I will assume that the said explanation is perfectly accurate, true in the actual world. There are two criteria worth illustrating to distinguish the strengths and weaknesses of the said explanation. First, does this accurately fit all varieties of spiritual experiences within the explanation, accounting for the nature of internal, external, and unique varieties of spiritual experiences? Second, reflecting on William Alston's work in the epistemic rationality of spiritual experiences, does one retain full rationality or warrant for a belief in God or celestial beings on this account? What will become clear and apparent is that the biological explanation of spiritual experiences under the DMT

model fails to serve either of these two issues and justice, making the explanation a bit more vestigial than its reputation already has been carrying.

II. N-Dimethyltryptamine: The Spirit Molecule

A large part of what has led Dr. Rick Strassman to N, N-Dimethyltryptamine was the study of the tryptamine class of organic compounds that become the predominant force behind some intriguing theories in the 1960s and 1970s. The class of tryptamine compounds consist of a few “psychedelic drugs”, such as lysergic acid diethylamide (LSD-25), DMT, and psilocybin (“magic mushrooms” as they are often labeled). The uniqueness of a said class of compounds is that the foundational compound tryptamine is a derivative of tryptophan. This is an amino acid present in the human diet.¹ Just to clarify the term a bit, Strassman wants to reassure us that the term “psychedelic” should not be given the negative connotations of “left wing” or “radical”. Instead, he insists that the term be taken in a more adaptive psychological way, as “mind-manifesting”.² The study of how these compounds work in the body, and how they are possibly produced within the body, was made successful by Albert Hofmann’s 1938 discovery of LSD-25.³

Thus the study of “psychopharmacology” was born. What is so interesting about DMT? After reviewing the organic compound of DMT, the appeal became quite clear. First, DMT is natural. Classifying a compound as natural simply means that nature is producing or that the human composition is producing or inhibiting of a said compound (i.e. much like enzymatic and metabolic activity that occurs within the human body). A second appealing feature is the

¹ Rick Strassman, *DMT: The Spirit Molecule* (Rochester, VT: Park Street Press): 32-41.

² *Ibid.*, at 31-32.

³ *Ibid.*, at 23. See also Richard E. Schultes and Albert Hofmann, *Plants of the Gods* (New York: McGraw Hill, 1979) and *The Botany and Chemistry of Hallucinogens*, 2nd ed. (Springfield, IL: Charles C. Thomas, 1980).

simplicity. The compound is so uniquely and simply structured that, comparatively to other compounds, makes it easily attainable by the human body without much damage. Let us look at these two appealing features in a bit more detail.

DMT is a naturally occurring substance. In fact, many Amazonian tribes were the first to intake the substance through a tea known as *ayahuasca*.⁴ Dr. Strassman has dealt extensively in determining if the molecule is a self-formulating entity in the human composition. The very fact that DMT could formulate within the brain serves to help his case. In 2013, Strassman and other researchers published an article indicating that DMT has a natural occurrence and production within mammals. Using the process of microdialysis, DMT was seen to have developed in or around the pineal gland of lab rats.⁵ Thus, as one mammal indicates, there is good reason to suspect that the mammal class contains organisms that can and do develop this unique compound.

The second feature is the simplicity of the compound. Apart from lysergic acid diethylamide (LSD), the organic structure of N-Dimethyltryptamine is simple. Both contain the tryptamine core as the structure, but LSD contains an additional nitrogen and oxygen atom. Compared to the simpler, more natural compound of DMT, we see only the addition of two methyl groups to the tryptamine compound. The substance is more natural and less complex.⁶

In short, this section is to introduce the molecule as something that is appealing for the biological research of spiritual experiences. The simplistic and natural occurrence of this substance is reason to look further into its nature and to try and determine what DMT is doing in

⁴ Strassman, *DMT: The Spirit Molecule*, 43.

⁵ Steven A. Baker & et. al. "LC/MS/MS Analysis of the Endogenous Dimethyltryptamine Hallucinogens, Their Precursors, and Major Metabolites in Rat Pineal Gland Microdialysate," In *Biomedical Chromatography* 27, no. 12 (December 2013): 1690-1700.

⁶ Strassman, *DMT: The Spirit Molecule*, 35.

our bodies. Overall, the nature of psychedelic activity does closely resemble the kinds of behaviors and responses we expect from what are commonly referred to as “spiritual experiences.” Of course, these experiences are far more amplified. For biological research, however, this is a starting point that should be taken seriously, if biology is need of an explanation for spiritual experiences: ones that are ineffable and unique.

III. Does DMT account for a variety of spiritual experiences and uniqueness of such experiences?

For the remainder of this essay, I will presume that biology can account for the nature of spiritual experiences. Specifically, these features could best be understood under John Searle’s theory of consciousness; one that emerges from the brain as the lower level neurons are realized within the system.⁷ The purposes from this point is to ask this question: does a biological reductive account of spiritual phenomena change how we categorize spiritual experiences, the uniqueness of said experiences, and the rationality or warrant of said experiences?

The first item to discuss is whether biological explanations for spiritual experiences accurately capture the variety of spiritual experiences. An explanation that does not account for internal and external, mystical or nonmystical, life changing versus illusory experiences, would be a baffling explanation to say the least. For any account to be successful there are two main varieties that I think William Rowe correctly describes: mystical and nonmystical.⁸

Perhaps the most notable example of a spiritual or religious experience is one that the apostle Paul (at the time of the experience Saul) encountered on the road to Damascus. As rightly noted, Rowe sees this as a nonmystical religious experience, where the subject

⁷ See further, John R. Searle, *The Mystery of Consciousness* (New York: New York Review of Books, 1997).

⁸ William Rowe, *Philosophy of Religion*, 4th ed. (Belmont, CA: Wadsworth/Thomson, 2008): 73.

encounters, or is exposed to the divine.⁹ There are variations to these kind of experiences. Sometimes the subject is having an awareness of the external divine, such as when Jesus, in personhood, appears to the disciples. However, sometimes the experiences are void of any audible or a sensory perception, perhaps one just feels the presence of the divine amongst them.¹⁰ On the contrary, mystical experiences are those that look inward into one's soul, sort to say. The idea that quickly comes to fruition is that of a monk, with his legs crossed in the ever so correct stance, and the monk comes into contact with the divine that is within: these are what Rowe calls introvertive mystical experience. Extrovertive experiences, on the other hand, are those that deal with the external items of the world, like trees and waterfalls, but one conscious of these experiences see them as they really are, or in a transformed and transfigured state.¹¹

With these two types of spiritual experiences in mind, there is good evidence to suggest that a biological explanation for spiritual experiences can only account for the mystical experiences, apart from the nonmystical. The reason for this is both metaphysical and epistemic. First, metaphysically, there is no reason to think that the inner workings of neuron firings that produce pineal gland formations of DMT fail or come short of explaining mystical states. These are purely subjective; and the illustrative phenomenon of DMT experiences can account for the inner mystical encounters. As Strassman indicates himself, much of eastern religions call for the workings of DMT within the human anatomy.¹² These are stages of enlightenment that the consciousness undergoes in order to reach the higher stages. DMT is a great start to suggest the

⁹ Ibid., 73-78.

¹⁰ Ibid., at 74.

¹¹ Ibid., at 78-81.

¹² Strassman, *DMT: The Spirit Molecule*, 58

causal chain between the brain states and the mental states, as they translate those inner workings into qualia, states of feelings, etc.

To deal with nonmystical experiences (experiences of external visual and auditory qualities) is at face value a bit more difficult. The neuron firings producing DMT is not enough to establish an understanding of why multiple people record the same kind of experiences and the same kind of transformations of their character. To use a specific example, when Jesus appears to the disciples there is at one instance a numerically and qualitatively physical, or outwardly presence of a divine being. If DMT is a successful explanation of how spiritual experiences take place, then it ought to explain these phenomena and ones similar to it. Nevertheless, there is no evidence of an inwardly working causal factor to account for the sameness of external objects that these experiences contain. In other words, the information of the character of Jesus, to use the disciples' example, would have to be present. One could object at this point and say, "Well yes, Jesus was alive and they saw him, therefore the external information was gathered from a previous conscious experience, and consciousness is reconstructing based off of their desires." As simple and appealing as this explanation is, it does not work. In order for this objection to work science would have to be in a state of completion.¹³ Neurophysiology suggests that the brain often transfers information from different geographical areas of the brain. The explanation would have to account for the unity of the objective experience.¹⁴

As is clear, natural biological experiences account for only one type of a spiritual experience: mystical religious experiences. Do these experiences retain ineffability? The

¹³ Eric LaRock, "From Biological Naturalism to Emergent Subject Dualism," in *Philosophia Christi* 15, no. 1 (June 2013): 103-104. See also, Eric LaRock, "Why Neural Synchrony Fails to Explain the Unity of Visual Consciousness", in *Behavior and Philosophy* 34, (2006): 39-58.

¹⁴ Ibid.

biggest claim towards the uniqueness of mystical experiences is that they are ineffable, or contain an inherent lack of ability to describe the exact power of these experiences. As Richard Gale argues, there is something trivial with statement “mystical experiences are ineffable.” In regards to uniqueness, these experiences are often expressed in terms that are not unique to just one person in the universe. Gale suggests that the value and significance is what retains ineffability upon uniqueness of mystical experiences.¹⁵ There is no reason to suggest that a biological account of religious experiences result in unique mystical experiences in this sense. The very essence of these experiences live and die on their ineffability, as William James rightly noted.¹⁶ If natural causation accounts for mystical experiences, then there is no good reason to suggest that there is value in these experiences for a couple of reasons. First, within a closed system there is only a finite number of experiences that occur, all of which are formulated by the environment we find ourselves in. There is no doubt that one could learn more about themselves, but the value of said experiences are not unique in that way due to the fact that all functioning humans are also partaking in the likeness of these experiences. The explanation would have to develop some notion of value and significance that is attributed to the biological processes. Thomas Nagel suggests that this is not possible in the current scientific framework.¹⁷

IV. Are People No Longer Rational?

As argument has progressed, the nature of DMT as being the biological causal factor between the mental and the physical, in regards to spiritual experiences, has difficulty accounting for nonmystical experiences, while retaining the ability to explain mystical experiences where

¹⁵ Richard Gale, “Mysticism and Philosophy,” in *The Journal of Philosophy* 473-474.

¹⁶ William James, *Varieties of Religious Experiences* (New York: The Modern Library, 1936): Lecture XVI.

¹⁷ See Thomas Nagel, *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False* (New York: Oxford University Press, 2012): pgs.

the subject comes to oneness with themselves or with the divine through deep introspection. However, there is no ability to account for the uniqueness of said experiences, at least on Richard Gale's understanding. The final question that remains is whether the soundness of the DMT explanation retains epistemic rationality or warrant on part of the subjects who undergo these experiences.

William Alston has contributed great arguments and explanations for why religious experiences lead to an epistemically rational belief in God or other spiritual entities. The central question is whether a religious experience serves for any grounding for religious beliefs.¹⁸ As Alston contends, justification is granted on the grounds that the undergoing of these experiences are done by habit or practices, a continual process of growth and investigation by way of religious experiences.¹⁹ A clear distinction has to be made in order to develop justificatory beliefs that stem from religious experiences. First, direct experience, in contemporary times, serve as *prima facie* justified beliefs. Of course, there are times when the evidence of your experienced beliefs can be overridden by other beliefs. A good example would be if a Christian were to say "God came to me in a dream and told me to kill all the materialists." Plausibly, a member of your congregation would ensure you that an all-loving God would not do that; this serves as a overriding of your given experiences.²⁰

To overcome the confusion, Alston places the justification for our "perceptual practices" in varying degrees: strong and weak normative justification. As argued, perceptual practices have at the most a weak normative justification. Reasoning for this stems from the fact that often times our perceptual practices do deceive us, but other times they do not. Applied to "Christian

¹⁸ William Alston, "Religious Experiences and Religious Belief," in *Nous* 16, no. 1 (March 1982): 3.

¹⁹ *Ibid.*, at 4.

²⁰ *Ibid.*, at 5-6.

epistemic practices,” Alston argues that this too falls under the category of a weak normative justification. Since Christian epistemic practices fall under the weak normative justification, like perceptual practices, they are on equal footing. Concluding, Alston sees that there is no reason present to declare either perceptual or religious practices to be unreliable in any sense. Therefore, with some form of certainty, religious practices, specifically of the Christian sort, often lead to reliable beliefs, fulfilling the externalist criterion for justification.²¹

Alongside the work that Alston has done, if the metaphysical framework of spiritual experiences were framed in such a way that the explanation could be reductive in nature, explained in purely naturalistic terms, then there is good reason to suggest that on the epistemic level, justification can be retained. A few metaphysical issues contribute to the retention of epistemic justification. Wesley Wildman has written an extensive book attempting to illustrate a naturalist perspective for spiritual experiences. He reveals that there are five problems that stand between neuroscience and an explanation for religious and spiritual experiences.²² The two problems that are fundamentally important for the scope of this essay are the complexity and semantic issues.

The first to understand is the complexity issue. As neurology stands today, there are a variety of religious experiences that are not accounted for.²³ Specifically, this would serve as a metaphysical issue for the DMT explanation of religious experiences. As discussed in the previous sections, the variety of spiritual experiences creates a difficult task for those who look to find a unifying explanation for those types of experiences. To play into the hands of a

²¹ Ibid. at 7.

²² Wesley Wildman, “Spiritual and Religious Experiences: A Spiritually Evocative Naturalist Interpretation” (Cambridge: Cambridge University Press, 2010): 48-53.

²³ Ibid., at 49-50.

naturalist explanation, Wildman claims that there is an exaggeration towards religious experiences that many fall prey to, confusing the distinction between experiences that seem plausible and those that do not.

Secondly, and this has always been an issue that John Searle has been adamant in discussing, the semantics of consciousness. As Wildman explains, this area of neuroscience is completely dark and stuck in an abyss.²⁴ As Searle has illustrated, the reason why the brain is not merely a computer device of some type is simply due to the semantics involved in consciousness and the constructs of consciousness. The vast amount of information, meaning, and intentionality is only located on the first-order ontology. Objectively, Searle contends that we can understand consciousness on the epistemological level.²⁵ Wildman contends that neuroscience still lacks the ability to discuss this feature of consciousness.

With these two problems in mind, would a biological account of spiritual experiences ultimately alter the justificatory scheme that Alston has provided? The answer is no. Simply, the level of complexity and the semantical information is primarily available to the subject on a first-order ontological status. The inner states are present to the subject. Provided that the DMT account serves to advance the neurophysiological understanding of spiritual experiences, there is reason to suggest that the semantic and complexity illustrate the uniqueness, but as already discussed, this would only apply to mystical type religious experiences and not the nonmystical. On the mystical level, the uniqueness of the semantical information is easily identifiable by the subject whose brain releases the DMT compound. In regards to the contents of consciousness, the most reliable way to know them and formulate beliefs about them is through introspection. Therefore, given Alston's weak normativity of justification, being equivalent to normal

²⁴ Ibid., at 52-53.

²⁵ John Searle, "Mind, Language, and Society," (New York: Basic Books, 1998): 40-47.

perceptual practices, there is no reason to suggest that a biological account that could explain the nature and existence of spiritual experiences would alter that relationship. The reliability of the subject's cognition is unaltered whether there is an immaterial explanation or not. As of right now, neuroscience is unable to account for the semantics and complexity of these experiences. Any explanation, however, does not alter the value the subject has, the undertaking of these experiences that lead to a change in beliefs or practices. Overall, those beliefs are rationally grounded like our ordinary belief forming sensory datum.

V. Conclusion

To conclude, I think there is a plethora of good reasons to suggest that religious experiences will never be fully explained or understood. The information inherent in these experiences is so mind altering, belief changing and experientially distinct from the normal, mundane experiences of the ordinary material world. The advent of psychedelics led to the further research of how the brain, higher consciousness, and spiritual experiences operated in a naturalist way. The research into the nature of N-Dimethyltryptamine and an attempt to biologically explain the nature of spiritual experiences has led to a further explanation. Nevertheless, this explanation is a cup half full. First, there is no reason to suggest that the explosion of DMT within the human brain leads to explain certain nonmystical features of religious experiences. Second, using Alston's reasoning, there is good reason to suggest that even on the mystically experiential paradigm, one could retain their justification in religious beliefs given that there is no good reason to suggest that the semantics and complexity of these experiences are not reliable to the one who is conscious of them. The research in science is currently incomplete; but where hard empirical sciences fail, good philosophy comes creeping in

like a thief in the night. This thief, however, is not interested in the money or jewels, but in the forces that have brought each of us to this place.

Bibliography

- Alston, William J. "The Autonomy of Religious Experience." *International Journal for Philosophy of Religion* 31, no. 2 (1992): 67-87.
- _____. "Religious Diversity and Perceptual Knowledge of God." *Faith and Philosophy* 5, no. 4 (1988): 433-448.
- _____. "Religious Experience and Religious Belief." *Noûs* 16, no. 1 (March 1982): 3-12.
- Barker, Steven A., Jimo Borjigin, Izabela Lomnicka, & Rick Strassman. "LC/MS/MS Analysis of the Endogenous Dimethyltryptamine Hallucinogens, Their Precursors, and Major Metabolites in Rat Pineal Gland Microdialysate." In *Biomedical Chromatography* 27, no. 12 (December 2013): 1690-1700.
- Descartes, René. *Discourse On Method; And, : Meditations On First Philosophy*. 4th ed. Indianapolis: Hackett Publishing Company, 1999.
- Gale, Richard. "Mysticism and Philosophy." In *The Journal of Philosophy* 54, no. 14 (July 1960): 471-481.
- Jacquette, Dale. *Philosophy of Mind: the Metaphysics of Consciousness*. London: Continuum, 2009.
- _____. "Kripke and the Mind-Body Problem." *Dialectica* 41, (1987): 293-300.
- _____. "Chisholm on Persons as *Entia Successiva* and the Brain-Microparticle Hypothesis." *The Modern Schoolman: A Quarterly Journal of Philosophy*, 70 (1993): 99-113.
- _____. *Philosophy, Psychology, and Psychologism : Critical and Historical Readings on the Psychological Turn in Philosophy*. Dordrecht, Netherlands: Kluwer Academic Publishing, 2003.
- _____. "Psychologism Revisited in Logic, Metaphysics, and Epistemology." *Metaphilosophy* 32, no. 3 (April 2001): 261-78.
- _____. "Searle's Antireductionism." *Facta Philosophica* 4, (2002): 143-166.
- _____. "Searle's Intentionality Thesis." *Synthese* 80, no. 2 (August 1989): 267-275.
- James, William. *The Varieties of Religious Experience*. New York: The Modern Library, 1936.
- LaRock, Eric. "From Biological Naturalism to Emergent Subject Dualism." In *Philosophia Christi* 15, no. 1 (June 2013): 97-118.

- _____. “Why Neural Synchrony Fails to Explain the Unity of Visual Consciousness.” In *Behavior and Philosophy* 34, (2006): 39-58.
- Moser, Paul K. *The Elusive God: Reorienting Religious Epistemology*. Cambridge: Cambridge University Press, 2009.
- Nagel, Thomas. *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False*. New York: Oxford University Press, 2012.
- Peterson, Michael L., ed. *Philosophy of Religion: Selected Readings*. 4th ed. New York: Oxford University Press, 2010.
- Plantinga, Alvin. *Warranted Christian Belief*. New York: Oxford University Press, 2000.
- Rowe, William L. *Philosophy of Religion: An Introduction*. 4th ed. Belmont, CA: Wadsworth/Thomson, 2007.
- Russell, Bertrand. *Religion and Science*. London: Oxford University Press, 1935.
- Searle, John R. *Brains, Minds, and Science*. Cambridge, MA: Harvard University Press, 1984.
- _____. “Minds, Brains, and Programs.” In *Behavioral and Brain Sciences* 3, no. 1 (198: 417-457).
- _____. *Mind, Language, and Society*. New York: Basic Books, 1998.
- _____. *The Mystery of Consciousness*. New York: The New York Review of Books, 1997.
- Stace, Walter T. *Mysticism and Philosophy*. New York: J. B. Lippincott Co., 1960.
- Stein, Dan J. *Philosophy of Psychopharmacology*. Cambridge, UK: Cambridge University Press: 2008.
- Strassman, R. J. “Human Hallucinogenic Drug Research in the United States: A Present-day Case History and Review of the Process.” *Journal of Psychoactive Drugs* 23, no. 1 (January 1991): 29–38.
- _____. “Endogenous ketamine-like compounds and the NDE: If so, so what?” *Journal of Near-Death Studies* 16, no. 1 (1997): 27–41.
- _____. *DMT: The Spirit Molecule*. Rochester, VT: Park Street Press, 2001.
- Strassman, R. J., & C. R. Qualls. “Dose-response study of N, N-Dimethyltryptamine in humans. I. Neuroendocrine, Autonomic and Cardiovascular effects.” *Archives of General Psychiatry* 51, no. 2 (February 1994): 85–97.

- Strassman, R.J., C.R. Qualls, & L.M. Berg. "Differential Tolerance to Biological and Subjective Effects of Four Closely-spaced Doses of N, N-dimethyltryptamine in Humans." *Biological Psychiatry* 39, no. 9 (1996): 784–795
- Strassman, R.J., C.R. Qualls, E.H. Uhlenhuth, & R. Kellner. "Dose-response Study of N, N-dimethyltryptamine in Humans. II. Subjective effects and preliminary results of a new rating scale." *Archives of General Psychiatry* 51, no. 2 (February 1994): 98–108.
- Strassman, R. J. & M. Galanter. "The Abhidharma: A Cross-cultural Application of Meditation." *International Journal of Social Psychiatry* 26, no. 4 (December 1980): 283–290.
- Swinburne, Richard. *The Existence of God*. 2nd ed. Oxford: Oxford University Press, 2004.
- Timpe, Kevin, ed. *Arguing About Religion*, New York: Routledge, 2009.
- Tribus, Myron. "Consciously Thinking about Consciousness." *Journal of Science Education and Technology* 13, no. 3 (September 2004): 343-351.
- Wildman, Wesley. *Religious and Spiritual Experiences: A Evocative Naturalist Interpretation*, Cambridge: Cambridge University Press, 2010.
- Yandell, Keith E. *The Epistemology of Religious Experiences*, New York: Cambridge University Press, 1993.