Dissertation: Do Pagans see their beliefs as compatible with science?

MA in Contemporary Religions and Spiritualities

Bath Spa University

Yvonne Aburrow

September 2008

This dissertation is submitted in partial fulfilment of the requirements for a Master of Arts in Contemporary Religions and Spiritualities

Abstract

Pagan attitudes to science are explored, and compared with previous findings, popular discourse and the writings of Pagans. Pagans are generally observed to accord more authority to science than religion, but to find the ultimate source of authority within the self. This trend is examined in the light of secularisation and re-enchantment theory. Demographic data was also gathered, showing that many respondents have higher education qualifications, many of which are in scientific subjects. All of this suggests that Pagans do not see their religion as being in conflict with science; many see the Pagan and scientific world-views as complementary descriptions of the same underlying reality.

Acknowledgements

I would like to thank Faye Ringel and Katherine Rountree for sending me copies of their papers; the editor of Wyntergreene magazine for sending me the responses to her survey of readers; and questionnaire respondents and email interviewees. I would also like to thank my supervisor, Catherine Robinson, for constructive comments, Nerissa Shaw for lending me books on religion and science, and my husband Nick Hanks for his support during the writing of this dissertation.

Statement of Originality

This dissertation is an independent work in which sources of material have been acknowledged.
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Introduction

The motivation for this study was born out of a series of arguments about *The God Delusion* (Dawkins, 2006). I maintained that religion in general, especially Paganism, is not primarily based on beliefs, but upon shared values and practices, and the aim of it is to raise consciousness; and that whilst the fundamentalist worldview that Dawkins is criticising *does* stress the importance of a particular set of beliefs and doctrines, it is an aberration rather than the norm, so people should not extrapolate from it to criticise all religions. Dawkins’ concept of religion is very narrow, since he characterises it as belief in the supernatural; but the majority of the Pagans in my study reject the concept of the supernatural in the sense of something outside or beyond nature. I find his concept of “Einsteinian religion” (Dawkins, 2006: 15) very attractive, and also think that it bears a close resemblance to much of Paganism. According to Jammer (2002), Einstein said that he appreciated the magnificence of Nature but did not impute any purpose or goal to it, and derived spiritual satisfaction from this (cited in Dawkins, 2006: 15). However, Dawkins complains about people using “Einsteinian religion” to justify strong theism (the view that there is a supernatural creator deity).

There are also numerous instances where Dawkins seems to think, mistakenly, that all religions have similar beliefs to Christianity; for instance he dismisses Hinduism as “really monotheism in disguise” (Dawkins, 2006: 33). This may be true of some schools of Hinduism, but as it includes diverse traditions, and the term ‘Hinduism’ is a construct of nineteenth century colonialism (King, 1999: 181-182), it can hardly be appropriate to reduce the diversity
of Hindu thought to such a simplistic formulation. He is also inclined to treat Buddhism and Confucianism as philosophical systems rather than religions (Dawkins, 2006: 37). Here he is simply falling into the trap of viewing religion through a Western Christian lens (King, 1999: 174). He also seems largely unaware of developments in the history and philosophy of science; there is no mention of Kuhn, Popper, Toulmin, and Porter, who, as historians and philosophers of science, showed that science itself displays the same dynamics of orthodoxy, schism and revisionism as religion; while Michel Foucault (and by implication, postmodernism) is dismissed as an icon of ‘haute francophonyism’ (Dawkins, 2006: 347).

The aim of my study is to ascertain whether my claim that there is no conflict between Paganism and science is defensible. How many Pagans would subscribe to the view that religion and science are 'non-overlapping magisteria' put forward by Stephen Jay Gould – a view which Dawkins disagrees with (Dawkins, 2006: 55)? How many would agree that religion and science are in conflict, competing to provide explanations of the world? Is it the case that a large number of Pagans are scientists? How do Pagans accommodate scientific, magical and spiritual ideas, how is each adjusted to fit the other, and what discourses do Pagans employ in talking about them?

**Review of previous work**

There are various ways of accommodating Pagan views within a scientific world-view. Various authors identify different discursive positions which may be adopted. Their
conclusions often depend on their own perspective, and whether they are examining Pagan views, or those of other religious groups.

Luhrmann (1989: 285-293) identifies four possible positions which magical practitioners take in justifying their views to sceptics. The first is realism, the idea that 'there is a knowable objective reality and that magic reveals more of it than science'. The second position that she identifies is the two worlds view, that 'the objective referent of magical claims is unknowable within the terms of an ordinary, scientific world'. The third position is relativism, which 'defines all truth as relative and contingent' (which Luhrmann finds to be quite a common view). The final position is the metaphorical view, that magic is metaphorical and is probably objectively not true, but is nevertheless a creative and enjoyable practice. Luhrmann (1989: 293) says that she rarely encountered this position except among those who had come to magic through political concerns such as environmentalism and feminism. This metaphorical view is embraced by Starhawk (1999: 219), who says that '[s]cientific knowledge, like religious knowledge, is a set of metaphors for a reality that can never be completely described or comprehended.' However, Starhawk (1999: 7) is one of those Pagans who are heavily involved in environmental and feminist activism, as predicted by Luhrmann.

Luhrmann (1989: 284) also states that the four positions are not mutually exclusive, and that she senses that 'most magicians will give most of these arguments at some time during their magical career'. These views are clearly discursive positions. Luhrmann’s research is very useful as a basis for comparison with my research, because she was studying a similar
group, and had a broadly similar research question: ‘Why do people find magic persuasive?’ (Luhrmann, 1989: 8).

Bienkowski (2006: 2) also identifies four possible belief positions: materialism, the belief that only the material plane exists (this is similar to Naturalism, atheism, and humanism); idealism, the belief that the material plane is illusory; dualism, the belief that both material and spiritual realms exist, but are separate (similar to Luhrmann’s *two worlds* view); and animism, the belief that the spiritual world is intertwined with the material, or immanent in it. He uses these to explain how the beliefs of archaeologists and those of some Pagans informed their attitudes to human remains, but they are also applicable to the broader relationship between religious and scientific discourse, in that they are different ways of viewing reality. The ideas discussed are very broad in scope, however, as they are intended to represent a range of religions and philosophies, and something more specific is needed to identify the nuances of Pagan discourse.

Dawkins (2006: 50) identifies seven possible belief positions on the existence of God, ranging from strong theism to strong atheism, with agnosticism in the middle. However, these are not very useful for the purpose of this discussion, because they only relate to the existence of a supernatural creator deity, and not to the possible ways in which the spiritual and material realms could interact.

Nuyen (2001: 394) discusses realism and antirealism in religion. Religious realism (which is very similar to Luhrmann’s realist position) asserts that there is an external referent of
religious language (this is similar to); religious antirealism asserts that ‘there is no transcendent being or reality to which religious languages and practices refer and that the source of religious meaning and value lies in us, human beings’ (Nuyen, 2001: 394). This antirealism is very similar to Luhrmann’s metaphorical position.

Folse (1986: 96) describes the classic scientific realist position as holding that at least some terms in theoretical statements correspond to the properties of entities to which these terms refer. Another form of realism is ‘the quest for knowledge about the reality producing the phenomena we experience’, which does not necessarily insist that that reality is entirely comprehensible.

Muller and Livingston (1995: 16) describe scientific antirealism as the view that scientific terms are merely ‘terminological abstraction(s) designed to account for the... results of a particular set of experiments’ and do not necessarily have any objective referents. They note much of the debate between realists and antirealists hinges on the Copenhagen interpretation of quantum mechanics, which posits that the observer affects the observed, thereby calling into question the notion of an objective external reality. Magicians often quote this in defence of the ‘relativist’ position (Luhrmann, 1989: 291).

Methodology

There are a number of possible discursive positions on the relationship between religion and science, some of which Pagans are likely to express because they are immersed in popular discourse, and some of which they are likely to resist as being too different from their
worldview. In order to try and capture this, I wanted to include in my study statements with which people would disagree as well as exploring their views.

Web questionnaire and email interviews

In order to find out whether Pagans regard their worldview as compatible with science, I developed an email interview and a web-based questionnaire. Questions for the email interviews focused on what areas of science interested interviewees and why; how science made them feel; whether interviewees thought there was any overlap between the domains of religion and science; how they thought science fitted in with their religious, magical, or spiritual beliefs; how magic works, in their view; and how they thought their view of cosmology (gods, the nature of the universe) fitted with science. The first question was to establish the extent of the interviewees’ interest in and knowledge about science; the second was to address the issue of ‘non-overlapping magisteria’; the last three were to explore how they thought their views fitted with science. The questions were open-ended in order to encourage interviewees to be expansive in their answers (Bloch, 2004: 171). I also looked at Pagan writing about science in popular Pagan books, websites and blogs. At the same time, a Canadian Pagan magazine called Wyntergreene invited its readership to comment on the relationship between science and religion, and I thought it would be interesting to include these views, as the question posed by the magazine’s editor was similar to my research question.
The web-based questionnaire provided a series of statements with which respondents were invited to agree or disagree, in order to see how Pagans responded to mainstream discourse positions on the relationship between science and religion. The advantages of a web questionnaire are that the interviewer is not present, which can increase the reliability of responses; they allow for greater geographical coverage; and reduce effects of bias caused by the characteristics of the interviewer or the variability of their interviewing skills (Bloch, 2004: 166). Potential disadvantages are sampling bias and the lack of face-to-face interaction and hence possibly mutual misunderstanding; people may have understood different things by the concepts mentioned in the statements, and the questionnaire format gives no opportunity to explore or clarify different interpretations (Bloch, 2004: 166). Also, the Likert scales on the web-based questionnaire required replies to a set of pre-defined ideas, rather than allowing people to express their own thoughts. They could do that in the comments if they wished, and they were also invited to take part in the email interview – but that might be problematic, as the questionnaire might have predisposed them to think about the problem in a particular way.

Some people expressed dissatisfaction with the questionnaire; one respondent commented on the first section, Science and religion, that ‘[t]he framework for these questions implies a model of "reality" which I do not accept’ (Appendix 3, p. 82). Another respondent complained that they agreed with the first half of some of the statements, but not the second half, and so were forced to select 'Neutral'.
The questionnaire used statements from popular discourse to see how Pagans would respond to them, so it is hardly surprising that some (perhaps more counter-cultural) Pagans would be hostile to the statements, whereas those who are comfortable with mainstream culture and whose discourse is less differentiated from it might not be uncomfortable with the statements.

Attempting to describe attitudes using quantitative tools is always problematic, because what people say gives greater insight into their subjective meaning than statistical trends (Lazar, 2004: 14). Several respondents objected to their views being fitted into a category. In a future study, it might be better to give participants the opportunity to comment on each statement and where their own views differ from it, or what makes them uncomfortable about it, rather than only providing a comments box at the end of each section.

Also, perhaps I should have distinguished between Paganism’s relationship with science, and that of other religions – some respondents objected to Paganism being categorised with other religions. This is a ‘frame of reference’ problem (Bloch, 2004: 172); respondents were unsure whether I meant religion as an all-embracing term including all religions, or just Christianity, or just Paganism.

Questions for the web-based questionnaire were drawn from a variety of sources, including books on the relationship between science and religion; and some were adapted from the Belief-O-Matic questionnaire on Beliefnet (a popular online questionnaire which offers percentage matches with the closest religion to respondents’ beliefs). I also listed a
number of books and other media which might be expected to influence Pagans' views, and asked respondents to say whether they have read or seen them, and whether they influenced their beliefs at all. This is because Pagans often quote from sources such as the novels of Terry Pratchett and Neil Gaiman when asked to explain or justify their beliefs; and these authors have even been described in some quarters as “Pagan missionaries” (Kraemer and Lewis, 2007), even though neither of them are actually Pagans.

The sample

It is unlikely that the respondents to the web questionnaire are a representative sample of all Pagans, as those with less digital literacy or limited access to the internet were less likely to complete the questionnaire, and it is difficult to know the characteristics of people who did not complete the survey (Bloch, 2004: 166). I posted details of the questionnaire mostly on mailing lists and fora in which I participate, and my preference is for sites populated by the kind of people who can engage in intellectual discussion, and have embraced an accurate historical view of the development of Paganism – possibly the more sceptical end of the Pagan spectrum.

Although qualitative interviews do not involve large samples, and therefore need not attempt to select a random or probability sample, there is still a need to select interviewees in order to reach an understanding of the issue (Byrne, 2004: 186). I mitigated the problem of 'snowball sampling' (only interviewing people within one network) by finding multiple places to post details of my study so that more than one group would be included (Bloch, 2004: 177).
However, the people who responded to the survey were quite likely to be interested in science and its relationship with their spirituality, because the survey was clearly labelled as “Pagans and science”. So there may be people who hold very different views and yet identify as Pagan.

The general direction of Pagan discourse, however, is to dismiss what is “fluffy” (Coco and Woodward, 2007: 480), which usually involves commercialised or sentimentalised versions of Pagan traditions. So whilst the Pagans in my study may not be completely representative of all Pagans, they could be seen as representing a dominant discourse within Paganism, where the term ‘fluffy’ is used to demarcate the boundaries of the discourse, excluding those with excessively New Age views. Among ‘non-fluffy’ Pagans, a commodified approach to spirituality (characterised by the acquisition of ‘tacky’ magical paraphernalia) is frowned upon, in a form of resistance to mainstream consumerism and capitalism (Coco and Woodward, 2007: 481).

Unfortunately, I did not get many responses from polytheists or reconstructionists (people who are trying to reconstruct paganisms from ancient texts), partly because I did not post information about the questionnaire on many of the web-sites that they are likely to read. However, they appear to be still quite a small minority of the Pagan population (National Statistics Office, 2004).

The web-based questionnaire was sent out to several Pagan mailing lists (Pagan Studies, two local Pagan lists, a University Pagan Society, a Wiccan mailing list, and Pagan and Heathen Bloggers) and posted to various blogs and forums (MetaPagan, a collaborative Pagan
blog; the Non-Fluffy Pagans Livejournal community; the Pagan Network forum, the Heathen Theology Forum and my own blogs). Many of these lists include Pagans from both the UK and the USA, with some Canadians, Australians, and Europeans. See Appendix 1 for the questionnaire and accompanying permission statement, and Appendix 3 for nationalities of respondents.

Respondents to both the email interviews and the web-based questionnaire have been anonymised, and were given the opportunity to withdraw from the study at any time. In the web-based questionnaire, I asked people to give me their email address, in order to enable me to identify which were their responses if they should wish to withdraw from the study, but the email address was only collected for that purpose.

**Analysis**

Since the respondents were self-selecting, I may have only received responses from people who are interested in science and/or who have thought about how it relates to religion, so this could have skewed the sample. Therefore, I am only using the results to analyse what discourses these Pagans prefer when talking about the relationship between science and religion, and not using the data to make any broader claims about Pagan views of science. Given the diversity of the Pagan community, the difficulties practitioners have with defining what is meant by Pagan, and the broad spectrum of perspectives included in contemporary Paganism, it would be difficult to generalise in any case.
Responses to the questionnaires and interviews are analysed in a qualitative manner using discourse analysis (as this is a very effective means of analysing text, and because sufficiently random sampling cannot be guaranteed). Discourse analysis is an excellent tool for understanding complex utterances and conversation, and placing them in the context of other similar views. Maas (1984) defines discourse as an expression or part of a social praxis, which defines a certain group of possible texts that express that praxis. So ideas and how they can be expressed are shaped by the discourse and its underlying assumptions; for example, the assumption that the spiritual is supernatural, an idea heavily criticised by Pagan authors such as Roney-Dougal (2002: 236) and by several of my respondents. This is an extension of two concepts found in linguistic theory: presuppositions (the assumptions upon which an utterance is based) and entailments (what can logically be said as the second part of an utterance (Stubbs, 1983: 207).

There are three levels of meaning in discourse; presentational, orientational and organisational meaning (Lemke, 1998: 3-4). Presentational meaning represents ‘processes, activities, and relationships’. Orientational meaning describes attitudes, ideologies and motivation. Some of the respondents to my survey were highly sensitive to the orientational meaning of the statements with which they were presented. Organisational meaning is at the level of semantics – how sentences are organised and constructed. This study mainly examines orientational meaning, because the questionnaire and interview questions are mostly about attitudes and ideologies.
I chose to interpret the questionnaire and interview responses in the light of the four positions identified by Luhrmann because she formulated the model on the basis of her observation of Pagans and magicians. Other models arise out of the interactions and conflicts between science and Christianity, which are based on different concepts.

Luhrmann’s realist position seems to match up with the view that science will eventually make discoveries that will confirm some of the spiritual world-view. Luhrmann’s two worlds position seems to match up with the idea of ‘non-overlapping magisteria’. Because I drew the survey statements mostly from popular discourse on science and religion, which tends to reflect the polarisation of the two worldviews (McGrath, 2007: 26), very few really expressed Luhrmann’s relativist position, except possibly ‘I hold several conflicting ideas in creative tension in my mind at the same time’. Luhrmann’s metaphorical view seems to match up with the statement that creation myths are metaphors for physical processes such as the Big Bang, or that Pagan spirituality is based on metaphorical representations of internal or archetypal processes.

Discussion

The Pagan revival is a complex phenomenon, involving both secularisation and re-enchantment. It includes a number of discursive positions (Luhrmann, 1989: 285-296), and draws on some older ideas such as reading the book of Nature, which can be traced back to the Renaissance (Porter, 2001: 56), conflicts of authority which go back to the early modern period (McGrath, 1999: 10), the roots of the Pagan revival in the Enlightenment (Porter, 2001: 273), and the upsurge of interest in the occult and Nature occasioned by Romanticism (Hutton,
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These streams have all fed into Pagan culture (Hutton, 1999). Debates about the relationship of Christianity and science can also spill over into Pagan discourse, such as the assertion that most educated people are atheists (Dawkins, 2006: 103), and discussions about the nature of reality.

Secularisation and re-enchantment

Secularisation describes a set of theories that religion is either declining, becoming de-differentiated from society, having to co-exist with other religions and philosophies, or becoming less intense (Partridge, 2004: 8). There are various theories as to how and why this has occurred. Science is widely believed to be responsible for the demise of the Christian hegemony, and Enlightenment rationalism was held to have dealt a death-blow to the magical worldview (Thomas, 1971); but the seeds of the Pagan revival were planted in the Enlightenment with the writings of Richard Payne-Knight and William Hamilton (Porter, 2001: 273). Berman (1981: 16) echoes the view that rationalism was the cause of disenchantment:

The story of the modern epoch, at least on the level of mind, is one of progressive disenchantment. From the sixteenth century on, mind has been progressively expunged from the phenomenal world.

Ironically, science itself is not immune to the processes of disenchantment and re-enchantment. According to Berman (1981: 23), many people are disillusioned with science, because of the decline of capitalism, the dysfunctional nature of institutions, general dismay about ecological spoliation, and the inability of the scientific worldview to give meaning to existence. People have ceased to regard science as offering solutions to every imaginable problem. Hence the dominance of the scientific paradigm may be slipping.
Some Pagans are critical of the materialism of science; this seems to have created a space for re-enchantment. One of the questionnaire respondents strongly criticised the scientific worldview:

I am willing to admit that there might be different definitions of “science” than the domineering, intrusive, heartless and mystery-refusing worldview that dominates contemporary scientific inquiry, but it is seen so rarely that, like its domineering, historically warmongering, body-hating and earth-destroying religious worldview counterpart, I have seen little evidence of a gentler, truly holistic scientific approach, so I find it hard to believe that’s what people are truly talking about when they use the word "science." (Appendix 3, p. 82)

Most questionnaire respondents and email interviewees, whilst not as critical as this person, did not express materialist views (73% of questionnaire respondents agreed that the Divine is immanent in the universe). Another critic of the materialist worldview is Serena Roney-Dougal (2002: 31), a parapsychologist who explores mystical language and experience in terms of Western science. Her observations on the Pagan revival are interesting. She points to the high point of materialism and logical positivism, the behaviourist school of psychology, where consciousness was deemed not to exist because it could not be measured (Roney-Dougal, 2002: 199), and says that the most harmful form of magic is to ‘deny that there is “godness” in the world, that there is spirit in a tree, a brook, a person’ (Roney-Dougal, 2002: 204); clearly a ‘realist’ position, because she is assuming that spiritual phenomena are tangible and testable.

She then compares this with the culture that seems to be emerging:

Everyone is highly spiritual in a non-religious sense; that is, there is a recognition and a respect for the spiritual aspect of life, but there is as yet no clear form, each individual finding their own way through the plethora of teachings... they are finding the Divinity within their own selves and are becoming self-responsible. (Roney-Dougal, 2002: 238)
Here she presents Pagan spirituality as still finding its way, but seeks to orient the reader towards finding the source of authority in the self. This echoes the thoughts of Letcher (2003: 68), Bregman (2006: 15) and others, that the 'spiritual revolution' (Heelas and Woodhead, 2005) is about creating a personal assemblage of meaning from the smorgasbord on offer; since the hegemony of organised religion has been removed by the onslaught of science and secularisation, people are free to create their own spiritual meanings. It also accords ultimate spiritual authority to the individual self. Roney-Dougal (2002: 242) is hopeful that this is a sign of an emergent paradigm where an animistic and pantheistic world-view, which was one of Berman’s (1981: 23) criteria for re-enchantment, informs our thinking about the relationship of spirit and matter.

Indeed, some commentators have proposed that science is being re-enchanted; Whitehead (1998: 20-21) notes a significant increase in research on consciousness, arguing that the nature and origin of consciousness is a 'Hard Problem' for Western science, which challenges its very roots, because it is unclear how consciousness can arise from purely physical processes. Whitehead also points out the re-enchanting possibilities of quantum mechanics, which many Pagans use to explain magic, possibly drawing on popular science authors such as Gary Zhukav. Letcher (2006: 216, 266, 298) shows how others have drawn on the neo-shamanic discourse of Terence McKenna, Michael Harner and Carlos Castaneda to fulfil their quest for re-enchantment, and many of these authors use the language of science to lend credence to their theories.
Harvey (1997: 124) also sees a connection between science and Paganism, and is critical of mainstream religions:

Modern Western consciousness, especially religious consciousness, requires considerable alteration if it is to celebrate the Earth. The resources are available among other “listening peoples” and include secular scientists’ careful observations of the ecology of the planet, anthropologists’ careful observations of other societies, historians’ careful descriptions of past agrarian cultures, and the traditions, songs, techniques and visions of existing shamanic practitioners.

Here he presents Pagans and scientists as being ‘on the same side’ and wants to orient his audience towards greater respect for the Earth, towards becoming a ‘listening people’.

Harvey, Starhawk, Clifton and Landstreet all advocate allowing scientific knowledge and insights to inspire Pagan practices and metaphors, and Roney-Dougal appears to want magical insights to inform science. These authors want science to be the basis of Pagan enchantment, and/or for Paganism to re-enchant science. Frisk (1997) goes one step further; she also suggests engaging with nature through science, but is highly critical of the Pagan preoccupation with the magical and symbolic qualities of things over their real substance. She further highlights the problem inherent in much use of magic in Paganism – if we are using magic to affect the outcome of events, is that not too much like the domination of nature exercised by patriarchal religion and science? But, she argues, if Pagans embrace environmentalism, myth and symbol can provide the motivation to save the planet from ourselves. She criticises both science and traditional religion for their claims of infallibility, since, she argues, both have damaged the environment and the human psyche.
The revival of Paganism in a climate of secular rationalism could be seen as a process of re-enchantment. Indeed, the process of secularisation has created the opportunity for the emergence of new religions and occulture (occult concepts which are disseminated through popular culture, such as reincarnation), and significantly shaped their development, since they are eclectic, relativistic, accord the highest authority to the self (often regarding it as a manifestation of the divine), and their goal is happiness, whereas traditional religions see happiness as a by-product of the spiritual life (Partridge, 2004: 32). The importance accorded to the goal of happiness and ‘personal growth’ is linked to the growth of softer and more person-centred forms of capitalism (Heelas and Woodhead, 2005: 84).

Another way of viewing secularisation is as the privatisation of religion, where people begin to see religious convictions as a personal and private concern, and there is an increase in small group practice (Heelas and Woodhead, 2005: 115). However, Dobbelaere (1998) has criticised this view because he regards the dichotomy between the private and public spheres as an ideological rather than a sociological distinction, and because the family has also become secularised.

Partridge (2004: 17) describes a number of different theories of secularisation. Weber’s theories, formulated in the late nineteenth century, predicted that religion would die out altogether, displaced by rationality and science (Partridge, 2004: 9). However, Chaves (1994: 749) says that instead of seeing secularisation as a uniform decrease in the amount of religiosity, it is best to think of it as a decline in the authority of religion, where people no
longer see religion as the sole arbiter of truth. Some authors even predicted the rise of sects and new religious movements as a result of secularisation; Gallagher (1994: 863) notes that,

Since secularization weakens the hold that conventional churches have on the general population, Bainbridge and Stark argue that first sects and then new religious movements will arise as a response (438, 444). ... In Peter Berger’s pithy formulation, with the rise of a diverse group of sects and cults “cosmology becomes psychology” ... (Berger: 167). The neopagan identification of the individual with divinity directly reflects that tendency.

Here Gallagher is referring to the tendency, often found among Pagans, to regard mythology as metaphorical and relative. According to Partridge (2004: 21), Weber’s hypothesis of unilinear decline had to be modified (by Niebuhr, Troeltsch and Berger) because of the persistence of religion, and the emergence of new forms of religion and spirituality. Wallis (1976: 13) classified organisations into churches (compulsory groups which people are born into), sects (which people join voluntarily), denominations (second-generation sects) and cults (non-exclusive groups like Paganism and the New Age) (cited in Partridge, 2004: 25). This classification is important because it shows that there are different ways of being religious, and different ways of getting involved in religion.

In her study of British magicians and witches, Luhrmann (1989) seeks to understand the process of becoming involved in magic; how people brought up in a rational-scientific world can adopt magical beliefs. She refers to this process as ‘interpretive drift’:

[T]he slow shift in someone’s manner of interpreting events, making sense of experiences, and responding to the world. People do not enter magic with a set of clear cut beliefs which they take to their rituals and test with detachment. Nor is their practice mere poetry, a new language to express their feelings. Rather, there seems to be a slow, mutual evolution of interpretation and experience,
rationalized in a manner which allows the practitioner to practise. (Luhrmann, 1989: 12)

On the other hand, in a study of New Zealand feminist witches’ beliefs about how magic works, Kathryn Rountree (2003: 47) finds that their definitions of magic exhibited ‘an unequivocal rejection of the magic versus science dichotomy’. She criticises the Tylorian view of magical thinking:

[T]he idea that magic is a primitive substitute for science is particularly nonsensical in any analysis of these magicians, all of whom are thoroughly familiar with scientific modes of thinking and acting, and some of whom are scientists themselves.

The Tylorian view is that people formerly explained natural phenomena as the work of supernatural beings; this view strongly influenced many other theorists such as Frazer. Tylor’s view also presupposes that the sole function of myth is explanatory, and that mythological explanations are always unscientific (Segal, 1999: 20). However, many contemporary Pagans enthusiastically embrace the scientific worldview, yet still enjoy mythology as metaphor; the function of myth is to re-enchant the world, not to explain it (Harvey, 1997: 174). Further, Ringel (1992: 66) notes that some Pagans are interested in science fiction, and discusses the literary sources which interested them in Paganism (which also included a hefty proportion of fantasy fiction). However, interest in science does not preclude non-scientific ideas, and Pagans often espouse concepts which many scientists would regard as incompatible with science. These ideas are, however, arrived at by a gradual process, rather than a sudden revelation, as Luhrmann (1989: 10) points out:

[Pe]ople entered magic with a dim notion that it involved a different, and science-like, theory of reality. They soon got involved with a range of spiritual
and emotional experience to which the ideas were largely irrelevant, and they came to treat their practice like a religion – in that they spoke of gods and spiritual experience – rather than like a theory-laden science, and to value it more for its spiritual, symbolic experiences than for the truth of its magical theory.

Drawing on Luhrmann’s analysis, Hanegraaff (2003: 358) explains secularisation as a profound transformation of religion into a magical and spiritual world-view (cited in Partridge, 2004: 40); but Partridge (2004: 41) regards this process as re-enchantment. According to Partridge (2004: 44), re-enchantment in the secularised West is not a return to earlier forms of religion, but the emergence of new, more mystical, ways of being religious, including belief in the immanence of the divine (Partridge, 2004: 148). However, this emerging spirituality needs to be seen in the context of the earlier decline of religiosity.

Partridge (2004: 9-59) describes how, when a religion is in decline, there is a process of secularisation as its influence wanes, and it becomes de-differentiated from society. When a new religious sect begins, it is highly differentiated from society at large, and its mores and customs are at odds with the mainstream. However, in order to survive and gain new adherents, it eventually has to accommodate itself to the mores of the host society. Parts of the early Pagan revival embraced environmentalism and radical sexual ethics such as polyamory and acceptance of homosexuality (so it was differentiated from mainstream values); in subsequent decades, polyamory has been quietly dropped by the majority, and environmentalism and acceptance of homosexuality have become mainstream values (hence Paganism is becoming de-differentiated). As the process of de-differentiation eventually makes a religion indistinguishable from the secular world-view, this can give rise to
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Dissertation

The idea that the Pagan revival is becoming de-differentiated is echoed by Brock-tn (2008), a Pagan blogger:

We are seeing more and more people now who self-identify as being “pagan,” but who approach their involvement in the pagan community more as a social activity than as a religious or spiritual one.

Clifton (2006: 164-166), in discussing the rise of Paganism in the context of secularisation, points out that Wicca is struggling to adapt itself from a small-scale mystery religion into a larger group, while some practitioners are pointing out that they only wanted a small-scale mystery religion, and others are looking forward to the time when there will be paid Wiccan clergy, and for various administrative and social reasons, some Pagan traditions are being forced into a congregational model.

The Pagan revival

As the Pagan revival has emerged from the occult revival, which occurred in the era of science and capitalism (Luhrmann, 1989: 279), Pagans seek to negotiate their own meanings and values within the context of consumer culture (Coco and Woodward, 2007: 503) and the rational-scientific worldview (Luhrmann, 1989: 272).

Many Pagans are scientists or are interested in science; Adler (1986: 446), a Pagan journalist who carried out an extensive survey of Pagan beliefs and lifestyles, found that 35 out of a sample of 193 people had science-related jobs (see Appendix 5). Similarly, I noticed, in
2003, 2004 and 2005 that the majority of student members of the University of Bristol Pagan and Earth Religions Society were studying science subjects (27 out of 30 one year, and 30 out of 33 the following year).

Perhaps because of the number of Pagans interested in science, many Pagan meditations 'resemble a sensible marriage between science and sacrality' (Harris, 2005: 73). However, some people would characterise all religion as irrational, because

'the willingness to accept some kind of "revelation" as a legitimate source of knowledge creates a fatal gap in the barricades that ought to be maintained against irrationality as such' (Levitt, 2007: 49).

It seems to me that this includes an assumption that such a barricade ought to be maintained, and that all religion is revelatory, but because the scientific discourse values rationality, it seems that many scientists see a conflict between holding 'irrational' views and 'scientific' views. Pagans are generally non-dogmatic (Adler, 1986: 13), but they do make claims that many scientists would consider irrational, or non-empirical. However, much of the discourse around this issue seems to conflate empiricism with rationalism; for example the BBC (2006) pages on atheism state that:

Rationalism is an approach to life based on reason and evidence. Rationalism encourages ethical and philosophical ideas that can be tested by experience and rejects authority that cannot be proved by experience.

This conflation is ironic, since rationalism often appeals to innate ideas (McGrath, 1999: 58), whereas empiricism holds that we are born with a 'blank slate' (Porter, 2001: 60-61).

Empiricism is the idea that 'truth arises from reflection within the mind on what the human
faculties experience through sense perception’ (McGrath, 1999: 62); in contrast, rationalism is the belief that ‘all truth has its origins in human thought, unaided by any form of supernatural intervention or an appeal to the experience of the senses’ (McGrath, 1999: 58).

The conflict between modernism and post-modernism also seems relevant here, as many Pagans employ post-modern discourse to justify their ideas – 70% of questionnaire respondents agree that they hold several conflicting ideas in creative tension in their mind at the same time, and one respondent comments that ‘I believe that there are multiple layers of truth, with none being “more true” than the other, but all holding equal validity.’ Similarly, Starhawk (1999: 219) says that

Religion becomes dogmatic when it confuses the metaphor with the thing itself. Metaphors themselves are not contradictory or antithetical; many can be true at once. They point to something beyond themselves; they are separate lights beaming at the same spot.

So how do Pagans reconcile their views with their interest in science? Luhrmann (1989: 337-343) characterises magic as ‘the romantic rationalist’s religion’; it satisfies the romantic’s yearning for meaning and magic in the world without violating the rationalist’s distrust of belief and authority. The magicians in her study hold that truth is subjective and each person has a unique perspective on the world, which may be a total reality for them, but is different from others’ perceptions; this is seen as good, because whatever the ultimate reality may be, it is infinitely complex and varied. Magicians tend to be ambivalent about the reality of magic:

The first books that newcomers will buy are full of intellectual vacillation, asserting the claim that the magical forces are clear and effective alongside a
justification of the practice even if the claims should prove to be false. (Luhrmann, 1985: 341-342)

One of the questionnaire respondents agrees:

So many of these beliefs are partial – I work with energy, but would stop short of asserting categorically that it exists. It MAY exist, it may not, but it works for me to act like it does. Tanya Luhrmann got this one spot on, I think – many pagans, including myself, "play" with belief.

The idea of playing with belief is consistent with the experimental approach described by Starhawk (1999: 220), a Pagan author, and with the metaphorical view described by Luhrmann (1989: 293).

This liberal attitude to belief may help to explain why many Pagans do not pass their religion on to their children, which is confirmed by a 2005 survey by the Covenant of the Goddess (an American Pagan organisation), in which 49% of respondents indicated having no children, and of the remaining 51%, only 27% (i.e. approximately 13% of the total sample) said that they were bringing their children up as Pagans. 52% of those with children said they were bringing them up in a multi-faith environment; 9% said 'another faith'; and 12% said 'none'.

Even those brought up as Pagans might not choose to practise a Pagan tradition as adults. This is interesting, as one of Dawkins’ (2006: 260) criticisms of religion is that people indoctrinate their children into it; clearly this is not happening with Paganism.

This leaves two other possible routes into Paganism. The first is from another religion (usually but not always Christianity; a number of Pagans are of Jewish extraction, Starhawk being the most famous example); this usually means that they have had a period of doubt or
crisis in relation to that religion before giving up on it (Harrow, 2002: 113-125). The second is entering Paganism via atheism and agnosticism; these Pagans may be more ambivalent about belief. These diverse entry routes, and the fact that most Pagans are not born into the tradition, may help to explain the diversity of beliefs, and the need felt by many Pagans to justify their views to the sceptical majority. It also illustrates a process of secularisation and re-enchantment in people’s individual spiritual journeys.

The number of Pagans may be growing, but they are still a minority; in the 2001 UK census, 30,569 respondents are Pagan, 7,227 Wiccan, 1,657 Druids, 1,603 pantheists, 278 Heathens, 92 Asatruar, 401 animists, 508 Celtic Pagans, and 101 ancestor worshippers, making a total of 42,346. There were 4.4 million people who declined to state their religion (the question was optional) and 8.6 million people of no religion, while 41 million identified as Christian (National Statistics Office, 2004). In a 2001 survey of American religious affiliation, there are 140,000 Pagans, 134,000 Wiccans and 33,000 Druids; compared with 8,000 Wiccans in 1990; no comparators were available for Pagans and Druids (Kosmin et al, 2001: 13). Clearly the Pagan revival is a growing phenomenon, but what is driving this growth? Is it disillusionment with scientific materialism, or with mainstream religions? Is it a concern for ecology and interest in immanence and the divine feminine?

Lee (2003: 351) describes the New Age movement as drawing upon traditional beliefs such as ancient Eastern and pagan religions, in the hope of bringing about radical cultural change and rediscovering the holistic dimension of human experience. By contrast, Letcher
(2003: 69) points out that much of the Pagan revival draws on feminist critiques of scientific hegemony. However, whilst contemporary Pagans are sometimes critical of scientific materialism, they do not dismiss rationality and empiricism (Starhawk, 1999: 220), and the Pagan revival is often playful, ironic, sceptical and self-mocking (Luhrmann, 1989: 356).

The Pagan revival is a bricolage of individual choices, which can yet be identified as Pagan, because of a shared ethos (Letcher, 2003: 68). Bregman (2006: 15) notes that most spiritualities in a secularised context are characterised by eclecticism; people are free to pick and choose because of the declining authority of religion. This approach fits in well with consumer culture; practitioners are free to ‘shop’ among competing paradigms, a characteristic of capitalism and consumerism, because ‘inner capitalism’ is about the commodification and marketing of experience (Heelas and Woodhead, 2005: 172-173).

**Discursive positions**

The science and religion debate has elicited various discursive positions from those engaged in it. The NOMA (non-overlapping magisteria) position, put forward by Stephen Jay Gould, is that science and religion deal with two different domains, and therefore share no common ground for either agreement or argument; science deals with empirical matters and religion deals with ‘questions of ultimate meaning’ (McGrath, 2007: 18). Dawkins disagrees with NOMA because he argues that a universe with a creator deity would be a very different place to a universe without one, and therefore discussion of this does fall within the domain of science (Dawkins, 2006: 55). The POMA (partially overlapping magisteria) position is that there is some overlap, and that they are two complementary ways of viewing the world.
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Naturalists argue that only the physical realm exists, and phenomena such as consciousness are emergent properties of complex biological systems (Naturalism.org). Theists are believers in God – usually the God of the Abrahamic faiths, since this debate is primarily framed in terms of the conflict between science and Christianity (Dawkins, 2006: 18). Atheists are those who do not believe in any deity, though Dawkins (2006: 50) identifies seven possible positions between strong atheism and strong theism, with agnosticism in the middle. According to the British Humanist Association (undated), humanists celebrate humanity and human potential, and are ‘ethically concerned but non-religious’.

Other possible discursive positions on science and religion include deep ecology, the view that the human order is not separate from the natural order, which implies that all life is sacred (Livingstone, 2002: 347). This is similar to the animism proposed by Graham Harvey, who advocates an embodied awareness and ‘listening neighbourliness’ towards other species (Harvey, 1997: 141). The Gaia Hypothesis goes further than this, arguing that the entire planet is such a complex system that it should be regarded as a living organism (Livingstone, 2002: 347). Both of these views can be found in Pagan views of relationship with Nature.

**Pagans’ relationship with Nature**

Pagans’ relationship with Nature is very important to the questionnaire respondents. 97% agree that they revere Nature and the environment; 87% agree that the Divine is (or deities are) immanent in Nature; those who do not agree do not believe in any deities. 79% agree with the statement that everything in Nature is conscious. 53% agree that the Gaia
hypothesis is a good explanation of the relationship of the divine and the planet, with 38% neutral and only 9% disagreeing. However, the Gaia Hypothesis does not make any mention of the self-regulatory system of the planet being conscious, though it does refer to the Earth as a living system (Harvey, 1997: 146). Nevertheless, Lovelock flirted with Goddess religion, vacillating over whether to court the acceptance of the scientific community by denying that he viewed Gaia as a conscious entity, or whether to relax and enjoy the poetic imagery of the Goddess (Hutton, 1999: 352-354), so it seems entirely understandable that many Pagans might assume that he was talking about a living entity. Adler (1989: 303) says that Otter Zell (a prominent American Pagan) entered into correspondence with James Lovelock, comparing their views. Starting in 1971, Zell had already written a series of articles proposing the idea that the aim of life on earth was to progress towards 'total telepathic union' (an idea borrowed from Teilhard de Chardin), the awakening of planetary consciousness as the organism called Gaia; Lovelock’s hypothesis seemed to fit neatly into Zell’s ideas. Harvey (1997: 145) says that ‘the Gaia hypothesis is particularly attractive to Pagans’. He says that, whatever scientists may have intended by attaching the name of a goddess to their hypothesis, the imagery of the Earth as a living organism or self-regulatory system resonates strongly with ecologically-minded Pagans. The link between the Gaia Hypothesis and Goddess religion was also suggested by Farrar and Farrar (1987: 15), *The Witches’ Goddess: the feminine principle of divinity*, a widely-read book among Pagans.
The idea of reading ‘the book of Nature’ goes back to Renaissance natural philosophy, and the writings of Francis Bacon (Porter, 2001: 56) and Thomas Tymme (Debus, 1978: 14), and descends to us via the nineteenth-century Transcendentalism of Thoreau and Emerson, which advocated coming closer to the Divine through a closer relationship with nature, in which it was held to be immanent (Hutton, 1999: 351). Similarly, Carl Sagan (1994) said that:

A religion, old or new, that stressed the magnificence of the Universe as revealed by modern science might be able to draw forth reserves of reverence and awe hardly tapped by the conventional faiths. Sooner or later, such a religion will emerge.

Both Paganism (Genexs, 2006; Starhawk, 2007) and pantheism (Harrison, 1999: 10) have been claimed to be that religion. Indeed, many Pagan writers draw on scientific imagery to express spiritual insights. For example, Landstreet (1993) regards the lightning striking the primordial waters (an image she drew from a science text) as the primary polarity, of which the Wiccan Great Rite is an echo or representation; here she is clearly getting inspiration from science. She is, however, strongly critical of the desacralised world-view of scientific materialism, pointing out that it is specific to our culture, and ultimately emergent from the Christian world-view, because first the Divine was displaced to a force beyond the world, and then regarded as non-existent, whereas she regards it as immanent (Landstreet, 1996).

_A conflict of authority?_

Many email interviewees and questionnaire respondents seemed to view science and religion as competing for authority. Three of my interviewees thought that religion and
science were in conflict, and two of those had accorded science the victory, so they seem to have embraced the secularisation hypothesis. Similarly, a contributor to a PaganSpace (2007) forum opines that religion and science do not mix, that they are 'like oil and water'; but he is mainly referring to Christianity, specifically the type that teaches creationism:

So much in Science is contradictory to what religion preaches. They would have to disavow their basic [tenets] if they accepted the scientific evidence. Mainly the [C]hristian religions.

The orientation of this passage suggests that the writer is highly critical of Christianity (not an uncommon attitude among Pagans). A further contributor more emphatically adopts the non-overlapping magisteria position:

I don’t see any value in the religion vs science debate. They are totally different spheres of thought: science is a system of rational inquiry and organization of information; religion is a set of beliefs and practices dictated by an outside source.

However, he finds his own spiritual practice compatible with science:

[T]he ceremonial paths lend themselves very well to static (algebraic) mathematical structures, but for a living, adaptable spellworking you have to take into account complexity, change, and the fractal nature of existence.

He is clearly using scientific ideas to inform his magical practice; the orientation of this passage is towards using scientific language to describe magical concepts.

According to interviewee A, science could be useful to distinguish between different religions’ truth claims (clearly giving the ultimate authority to science). D’s views are similar, regarding religion’s role in explaining how the universe works as ‘well and truly obsolete’. 66% of questionnaire respondents accept the scientific account of how the universe came into
being (only 7% do not). One person comments that ‘[s]cience and spirituality can co-exist as long as spiritual traditions are not dogmatic about their beliefs’, implying that it is religions that need to modify their behaviour, and not science. This supports the aspect of secularisation theory which says that religion is no longer seen as authoritative (Chaves, 1994: 749).

Some view science and religion as non-overlapping domains:

[W]hen religion and science are mixed we get very bad and skewed results, kinda [sic] of like religion and politics! ....I think science is something that must be used without preformed thoughts and beliefs, making it separate from religion and VERY VERY different. (Interviewee A)

Here A is adopting the position that religion necessarily involves preformed ideas, which is similar to Dawkins’ views. Interviewee F seems to be embracing the ‘two worlds’ model, seeing no overlap because the assumptions on which the respective paradigms are based are very different; however, he is happy to use scientific analysis in some situations, and magical understandings in another.

Some people think that science and religion are overlapping but diverging; Interviewee B thinks that there was an overlap, which is nowadays largely ignored, as science and religion have ‘agreed to disagree and gone their separate ways’. F says that, to the extent that either science or religion tries to provide a complete explanation of reality, there is an overlap between them, and he treads very carefully in areas which both find to be of paramount importance but in which they do not agree.
Most think that science and religion are overlapping and/or converging. A PaganSpace (2007) forum contributor views science and religion as converging:

Science and Religion both come from the same wellspring, only to be divided by the work of man.
Spirituality can be the force in today’s world to reunite these two aspects of the study of the 'World' around us.

This implies that spirituality is more relativistic and metaphorical than religion, and so is able to re-unite the divided world-views of science and religion.

However, the majority of questionnaire respondents disagree with the statement that science and religion deal with fundamentally separate aspects of human experience (thereby dismissing the ‘NOMA’ position), and also disagree that they inevitably compete for authority over the nature of reality. A large majority agree that science and religion have things to say to each other about phenomena where their interests overlap, and an overwhelming majority disagree or strongly disagree with the proposition that religion and science are incompatible (perhaps, then, adopting a ‘realist’ position). Most agree that we need science to prevent excessive superstition and religion to prevent excessive materialism. This balanced approach seems to place the locus of authority outside both science and religion, bearing out the idea that secularisation results in the availability of multiple choices of paradigm, with the self as the source of authority. 61% of the sample agree that science will eventually make discoveries that will confirm some of the spiritual world-view; and 42% disagree that religious claims are outside the domain of science. This implies that questionnaire respondents do not see science and religion as incommensurable paradigms.
Instead, since we are living in a post-Enlightenment, scientific age, Clifton (1998) argues, we should be using science as the basis of our spirituality and our connection with nature:

If you would practice "nature religion" or "earth-centered spirituality," learn where you are on the earth and learn the songs of that place, the song of water and the song of wind. Yes, Western science is flawed, but it is our way of knowing, so take what it offers: its taxonomy, its lists, its naming. Start there--then build a richer spirituality from that point.

Clifton’s Pagan views do not seem to conflict with science, either, since he is advocating engagement with nature through science. The style of this passage evokes poetry, but is also pragmatic; it is oriented towards according authority to science, but moving beyond it into the metaphorical. It accepts the current status quo, and seeks to build something from it.

Another possible view is that science already confirms the Pagan worldview (a ‘realist’ position); one questionnaire respondent comments:

I find the more we delve into quantum physics and other universal scientific truths, the more pagan views make sense.

Starhawk (2007) agrees; in her ‘On Faith’ blog at the Washington Post, she writes:

From a Pagan point of view, there’s no contradiction between religion and science. Our Goddess is immanent in the earth and the cycles of nature, and the more we understand about the earth, the deeper is our sense of awe and wonder. .... one of the spiritual stories I draw strength from is the story of evolution, the amazing and miraculous account of the earth’s birth in fire, of life coming into being and overcoming crisis after crisis with creativity, invention and cooperation. This view of evolution draws heavily from the Gaia theories of James Lovelock and Lynn Margulis, that reveal the importance of cooperation and interdependence in evolution, not just competition.
Starhawk expresses awe at the wonders revealed by science, and seeks to derive spiritual meaning from natural processes and thereby to re-enchant a scientific understanding of the world by using myth as metaphor.

Some email interviewees view science and religion as two different ways of looking at the same thing (Luhrmann’s metaphorical position). B argues that ‘a more open-minded approach from both parties could result in spectacular discoveries’, while G views science as about thinking, and religion as about feelings, and artificially dividing them up as simply ‘fractured thinking’ (so G appears to see the two as complementary). Even Dawkins (2006: 19) acknowledges that people have mystical responses to the universe, but refuses to include these in his definition of religion (because, he claims, the vast majority of people regard religion as referring to the supernatural). One of the web questionnaire respondents comments:

The difference between science and religion is that science proves theories in black and white, and religion gives theories that can be interpreted in several different ways. Some interpretations can be proven by science, and one mistake that many religions seem to make is taking their myths or texts in a literal sense. Religion is made up of symbols and representations whereas science gets right to the point.

The metaphorical and symbolic nature of religious and spiritual explanations is one that is constantly emphasised in Pagan writing (e.g. Starhawk, 1999: 219).

Interviewees B, C and E all agree that there is an overlap between religion and science. B said that s/he the overlap is largely ignored, and that science and religion seem to have agreed to disagree; C says there is an overlap but that science deals with the natural and faith deals with the supernatural; whereas E says:
I think science, especially the latest advances in physics, is getting to the same place as I am trying to get to with my spiritual practices; understanding the underlying nature of the universe.

So A and C view science and religion as overlapping but diverging, and E views them as overlapping but converging, because science is investigating the same areas as magical practice.

C, D, and E see no conflict between Paganism and science. Indeed, A, C, D and E all view science as helping them to appreciate the wonder of the universe (which is reminiscent of the views of Carl Sagan and Starhawk already mentioned). 91% of questionnaire respondents say they enjoy science because it reveals and explores the wonders of the natural world; this seems like a strategy of using science as the basis of re-enchantment, the re-admission of magic to the world.

Does magic work?

Many Pagans do not find their magical beliefs to be incompatible with science. One questionnaire respondent says:

Magic is just technology we don't understand yet, but that doesn't make it any less magical. The world, physical, mental, and spiritual is all still the world, and a scientific approach is useful in all, but as is an intuitive approach. Balance is required.

Clearly this person sees science as complementary to magic, viewing magic as a technique that will eventually be understood by science. In this view, science itself is enchanted. Clifton (1998), a Pagan academic and author, advocates using the sense of awe we experience in
response to scientific insights as the basis of our spirituality; this is re-enchantment through science, rather than in spite of it.

Three email interviewees say that science shows that magic works:

[S]cience has shown that energy (which is magic) exists, so then why can’t I direct it? ... Well, you can direct and move energy in physical things, so why not in spiritual things. I believe magic is just that. A person redirecting energy to a specific pattern, location, time, etc. (Interviewee A)

The rhetorical presentation of this passage suggests that the writer is trying to persuade the audience (in this case, me) that magic is real. Similarly, Chris Keating (2008), a Wiccan physicist, writes:

Magic is part of Wicca, but the term ‘magic’ is very different in Wiccan usage than in common usage. The everyday use of the word means something supernatural, beyond the realm of science. The Wiccan usage is completely opposite. Magic in this usage means the use of the natural forces, many of which are explained by science and others that science may still be investigating.

Keating appears to share the view that all of magic will one day be explained by science, in the sense that magic makes use of natural forces, some of which are already understood by science, and some of which are still being investigated. The orientational meaning of this passage corresponds to the ‘realist’ position identified by Luhrmann; it is trying to justify magic as a scientific endeavour. As Arthur C Clarke famously said, 'Any sufficiently advanced technology is indistinguishable from magic' (Collins, 2008). Keating’s view suggests that the religio-magical discourse of Wicca overlaps with science, and will eventually merge with it.
According to interviewee G, ‘science is just figuring out how magic works, with the term “magic” as a broad generalization of various takes on universal energies’. Questionnaire respondents agree that magic involves moving energy. 79% agree that there is a hidden energy such as ch’i or prana, and 78% agree that it can be directed by human will. 77% agree that there are multiple levels of reality which can be accessed by the human mind – another function of magic (Luhrmann, 1989: 276). These multiple levels of reality seem to correspond to Luhrmann’s ‘two worlds’ model.

Three email interviewees say that magic works by bending the rules of probability. This seems to be an attempt to give a scientific-sounding explanation of the practice. According to C it is partly positive thinking, partly psychology, and partly divine assistance. F says that:

I generally seek to influence the probabilities of events, rather than seek to achieve anything which the scientific paradigm would dismiss as ‘impossible’, but that is as much because I like to seek ‘the line of least resistance’ as because I believe such things are actually impossible.

Here, F seems to be undecided about whether to accord science or spirituality the ultimate authority, remaining open to spiritual possibilities. Again, F seems to be trying to present himself as rational and scientific.

Similarly, a questionnaire respondent, also open to something beyond the scientific explanation, comments:

If magic has any explanation in quantum mechanics, then it’s about tweaking probabilities and nothing deeper than that. This is only an explanation for a small part of how magic works.
D, however, is less open to the ‘impossible’:

I see it as tweaking the probabilities, and the better you do it, the further you can bias things your way. It won’t actually break the laws of physics.

These views suggest that they do not regard magic as ‘supernatural’ but rather as a little-understood property of nature (the ‘realist’ position), since it will not break the laws of physics, has a considerable psychological component, and relies on the manipulation of energy.

Both A and B mention the belief that everything is interconnected (a key magical concept), and A appeals to the authority of science:

Science has shown that all animals, plant and people and environments are interconnected.

B does not mention science at this point, but talks about a sense of interconnectedness. Both A and B could possibly be drawing on holistic discourse here, which makes much of the interconnectedness of everything; for example a website called ‘Physics and Consciousness’ mentions interconnectedness, quantum theory, and ‘our oneness with all things’ (Star Stuffs, 2003).

Similarly, on a 'Pagan Science' forum on PaganSpace.net (2007), a small group of Pagans who are interested in science, or who are scientists, discuss whether or not the two worldviews are in conflict; the majority view is that they are complementary, or even converging. The first contributor says that 'in many ways, psychology confirms paganism, magic, and our beliefs’. Another contributor suggests that science and magic are overlapping and converging;
possibly alluding to the magical origins of science in the Renaissance, when science and magic were both seen as attempts to connect with the Divine, and alchemy and chemistry were a single discipline (Debus, 1978: 14-16). Physics and chaos theory are here seen as the new magic, and the world is re-enchanted by their mysterious qualities.

A non-theist Pagan indicates that there is no conflict for her, and agrees that 'Magic and science are one and the same. But, what was once magic is now science because of logical explanations with evidence to back it up.' Her position seems broadly the same as Naturalism. Another, who introduces herself as 'just a plain old Pagan Witch', regards science and Pagan magic as complementary. A further contributor agrees, but qualifies this by adding, 'if both sides just shut up and get along'. This implies that they are non-overlapping magisteria (Luhrmann’s ‘two worlds’ position), because it implies that they can only co-exist if they do not communicate with each other, because their languages are mutually incomprehensible. However, the majority saw science and magic as complementary ways of viewing the world, and agree that magic (however it is defined) does work. The idea of complementarity is similar to Luhrmann’s ‘metaphorical’ model, where magical views are regarded as metaphors for scientific understanding (Luhrmann, 1989: 293).

The relativist view, by contrast, posits that magical and scientific views are both regarded as metaphors for an unknowable underlying reality (Luhrmann, 1989: 290).

Are educated people more likely to be atheists?

Writers who have already accorded science the victory in the debate allege that educated people are more likely to be atheists; because of this claim, I asked questionnaire
respondents about the level and subject of their education. 20% of the questionnaire respondents have science-oriented jobs (mainly IT, economics, statistics and management services; scientific services; and health care). Adler’s 1985 findings are similar, with 18% of respondents having science-oriented jobs. In addition to this, 20% of my respondents have jobs in higher education, teaching and lecturing. 69% of respondents are educated to university level, with 29% of the subjects studied being scientific. This could be explained by the likelihood that the more highly-educated would worry more about the compatibility of their Pagan views with science, and thereby be drawn to the questionnaire. Nevertheless, other researchers note the predominance of middle class people in Paganism (Luhrmann, 1989: 29; Adler, 1986: 449) and several studies note that Pagans are voracious readers, regardless of educational level (Clifton, 2006: 13).

Dawkins (2006: 103) states that there have been 43 studies since 1927 on the relationship between intelligence and educational attainment and religious belief, and all but four find that, the higher a person’s intelligence and educational attainment, the less likely they are to have religious beliefs. Similarly, a recent study finds a strong correlation between atheism and IQ, but this could be because people with higher educational attainment are more willing to challenge strongly felt intuitions (Attwood, 2008). Leaving aside the question of what is meant by intelligence and religious beliefs, my findings would appear to imply that being more highly educated does not conflict with Pagan views, nor make them less likely, perhaps because Paganism is non-creedal and eclectic (Coco and Woodward, 2007: 500).
The nature of reality

Respondents do not, however, accept uncritically everything that science says. 67% of the sample say they accept the scientific account of how the universe came into being, but only 21% agree with the statement 'There is no Creator', with 38% remaining neutral, and 39% disagreeing. However, 47% agree with the statement that creation myths are metaphors for physical processes such as the Big Bang. This does seem to show that the notion of a creator deity is not very important in Paganism. I wondered if there would be a difference in views about the Creator between the USA and the UK, but the only difference seems to be that more UK Pagans were agnostic on this issue, and views were more polarised among American Pagans (46% of questionnaire respondents are from the UK, 34% from the USA, 8% from Canada, and 5.5% from Australia and New Zealand).

Harvey (1997: 145) concurs, saying that Pagans are 'usually happy to assent to scientific accounts of the origins of life' and pointing out that Pagan deities, because they are immanent...
Do Pagans see their beliefs as compatible with science?  

in nature, are ‘far too involved and implicated in the world to be responsible for its creation’.

He says that ‘Pagans do not entertain dogmas that assert a divine first cause of the cosmos’;  
perhaps seeking to present Paganism as non-dogmatic and not in conflict with science.

According to my results, the picture is slightly more complex than that, but they would appear  
to confirm his observation that ‘even Pagan theologies in which there is a transcendent deity  
do not dissent from scientific narratives which claim to explain the origins of time and space’;  
instead they usually regard creation myths as metaphorical. This is a cautious and partial re-  
enchantment of the world, where scientific explanations are still seen as important, and  
spiritual interpretations are seen as metaphorical.

I was quite surprised that no-one complained about my use of the gendered term  
’Creator’ rather than ’Creatrix’. I used the term ’creator’ to reflect popular discourse. One  
questionnaire respondent complains of bias towards there being only one creator, whereas  
they might believe in many creators. Another comments that:

There is a creator, if not a Creator; nobody knows if the Divine was present at the  
beginning or not; pagan spirituality should (and does?) acknowledge spirits as  
energies both within and outside ourselves - hence immanent/internal and  
transcendant/external.

65% agree that deities and other spirits have developed out of our social and ritual interaction  
with place and space, and 72% agree that the divine is (or deities are) immanent in the  
universe. 54% agree with the statement (a quotation from the television show Babylon 5) that  

The Universe itself is conscious in a way we can never truly understand. It is  
engaged in a search for meaning, so it breaks itself apart, investing its own  
consciousness in every form of life. We are the Universe, trying to figure itself  
out.
Some respondents only agree with some of this statement. 86% agree that you can have a personal relationship with deities, or aspects of the divine (with 21% neutral and 6% disagreeing, but these also agree that there is no creator).

<table>
<thead>
<tr>
<th>Deities (or the divine) and spirits are immanent in the universe</th>
<th>There is no Creator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>Strongly agree 2</td>
</tr>
<tr>
<td>Agree</td>
<td>Agree 3</td>
</tr>
<tr>
<td>Neutral</td>
<td>Neutral 15</td>
</tr>
<tr>
<td>Disagree</td>
<td>Disagree 7</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>Strongly disagree 8</td>
</tr>
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</table>

However, there is not really a consensus about the issue of a creator (or creatrix).

Another issue where there is very little agreement is the cause of suffering. The only statement with which a majority agree is “Egoism (self-importance) leads to desire, craving, and attachments, which can lead to unwholesome thoughts and behaviour, i.e., greed, hate, and violence”. A smaller majority agree that suffering is caused by personal and societal spiritual imbalance, and not by cosmic imbalance, as one might expect from Pagans, who generally do not believe in a cosmic struggle between good and evil (Farrar and Farrar, 1987: 18). 34% agree that there is no need for any spiritual explanation for suffering, but 41% disagree with the statement. The idea that no spiritual (which is usually taken to mean supernatural) explanation of suffering is required is the position that is most consistent with the scientific world-view. However, most of my sample regards spirit as immanent in the universe and not transcendent, so the fact that they do not want to exclude spiritual
explanations for suffering is not completely incompatible with the scientific world-view, which often adopts the position that consciousness is an emergent property of complex systems (Naturalism.org, 2006).

Only 26% of respondents agree that they use the scientific method to determine whether their experiences are real. However, interviewee E says:

The ‘scientific method’ isn’t just for science; it is a rational way of making sense of the world. I apply it to my spiritual practices.

Harvey (1997: 124) argues that Paganism is experimental, and that Pagans are engaged in a search for ‘what works’ (again, a use of semi-scientific language to validate Pagan practices, which tends to support the secularisation hypothesis that authority is vested in science and not religion). Perhaps the other 74% of respondents see their evaluative methods as too subjective to be described as ‘the scientific method’. The inability to seek elucidation on such points is one of the limitations of questionnaires (Bloch, 2004: 166).

_Pagan culture_

The results for books, films and television shows proved interesting. A large number of the sample enjoy popular books on science, science-fiction books and television shows, and fantasy literature. 55% of respondents enjoy science fiction; 56% enjoy fantasy novels. The works of Pratchett, Gaiman, Tolkien and Rowling are popular. The rise in the popularity of science fiction and fantasy novels over recent decades can also be interpreted as part of the process of re-enchantment; even if Pagans say they are not directly influenced by such works,
they are often inspired by another Pagan who has been so influenced, and fantasy and science fiction form part of the scenery of popular occulture (Partridge, 2004: 138).

The majority of those of the respondents who have read Ronald Hutton’s books think they are good or excellent. Hutton is a professor of history and an expert on the Pagan revival; his work is widely-read among Pagans and has changed many Pagans’ views of the history of Paganism (O’Gaea, 2002: 198-200). Many of the questionnaire respondents enjoy popular science and archaeology magazines. Rather fewer are prepared to say that their reading has influenced their own ideas; even when they do admit to an influence, most qualify this by saying that they have weighed up the ideas in their own minds; this confirms the idea that Pagans accord the highest authority to the self, rather than others’ ideas.

**Findings**

The majority view among email interviewees and questionnaire respondents is that the domains of science and religion overlap, and that one day, science will make discoveries that will confirm at least part of the spiritual world-view. This broadly corresponds to the ‘realist’ position identified by Luhrmann (the view that spiritual phenomena are real and not imaginary). If both science and Paganism are looking at nature, and Paganism is concerned with the divine immanent in nature, and science is concerned with the physical properties of nature, then their domains must overlap. Questionnaire respondents largely disagree with the “non-overlapping magisteria” view of the relationship of religion and science; most see them as complementary rather than competing explanations of the same phenomena. Several
questionnaire respondents are uncomfortable with the underlying assumption embedded in the statements that science deals with the natural and religion deals with the supernatural; they argue that since there is nothing outside the universe, and deities are immanent, magic and deities must also be a natural phenomenon, not supernatural. For example, one person comments,

I believe in "Otherworlds", but not on "different levels of reality", which is not coherent with a truly immanent worldview.

The immanence of the Divine is clearly important to Pagans. Another respondent comments,

There are multiple levels of reality - three, the physical, the mental and the spiritual. I don't think there's a great long list of different 'planes'. There's just this world we're in now, and it happens to exist as one world in three ways.

So the other 'levels' are seen as different perspectives on the same reality, or invisible realms entangled with this one; they do not have a separate existence in these Pagans' world-view.

This is consistent with Luhrmann’s (1989: 274-276) findings that most magicians view the other 'planes' as entangled with the physical universe, or as different ways of viewing the same phenomena.

**Discourse positions**

I identified various discourse positions in the email interviews and the statements in the web questionnaire (see Appendices 4a and 7). Luhrmann’s ‘realist’ position is consistent with statements 1b, 1d, 1h, 2a, 2b, 2i, 2j, 2k, 2l, and 2m, and with the view that science will eventually show that magic works (interviewee B); or that science already shows that magic works, (interviewees A, B and G); and the view that science will eventually make discoveries
that will confirm some of the spiritual world-view (with which 61% of questionnaire respondents agreed).

Luhrmann’s ‘two worlds’ position is similar to the ‘non-overlapping magisteria’ position, with which the majority of interviewees and respondents are uncomfortable. The NOMA view was similar to questionnaire statements 1a, 1e, and 1i, and the view expressed by interviewees A, B and F, that science and religion are based on two different paradigms; and that science and religion are in conflict, expressed by A, D and F. The NOMA model posits that science deals with empirical questions, and religion deals with questions of ultimate meaning (McGrath, 2007: 18). Respondent D expressed this in very similar terms: ‘Science is the how, religion is the why. I don’t have any conflicts between the two in my belief system.’ The POMA view was similar to statement 1c, and the view that science and religion overlap, expressed by interviewees B, C and E.

Because I drew the survey statements mostly from popular discourse on science and religion, which tends to reflect the polarisation of the two worldviews (McGrath, 2007: 26), very few really express Luhrmann’s relativist position, except possibly ‘I hold several conflicting ideas in creative tension in my mind at the same time’ (obtained from various conversations on Pagan mailing lists, and with which 70% of questionnaire respondents agree). Some email interviewees embrace a relativist view; interviewee A views all paths as valid for the person walking them, and A, C, and F see Paganism as non-dogmatic, allowing them to find what works and modify their views based on experience.
Luhrmann’s ‘metaphorical’ position is similar to Starhawk’s statements about symbolism, my questionnaire statements 2c, 2e, 2f, 2g, 2h, and 2n, and the view that the underlying reality is unknowable, expressed by interviewee F. It also relates to the statement that creation myths are metaphors for physical processes such as the Big Bang, with which 47% of questionnaire respondents agree, or that Pagan spirituality is based on metaphorical representations of internal or archetypal processes (with which 43% of my respondents agree, with 35% neutral). The ‘metaphorical’ world-view is somewhat similar to the view that science and religion are two different ways of looking at the same thing, or are complementary, which is shared by interviewees B, E and G, and also by three of the Wyntergreene contributors (see Appendix 6).

However, Luhrmann (1989: 284) also says that the four positions are not mutually exclusive, and people will shift from one view to another over their ‘magical career’, presumably as people negotiate meanings in a sceptical world.

The authority of reason and experience as arbiters of truth is acknowledged by many questionnaire respondents; for example, in the question about whether the books they read influence their views, seven respondents mention that their views are primarily based on their experience. Likewise, interviewee B says, ‘I know that what I understand of the deities is based on my personal experience’. 37% agree that they do not have beliefs, but working hypotheses based on their experiences (but 47% disagree with this statement). One questionnaire respondent objects to the use of term ‘belief’, preferring the term ‘view’. This
trend supports the version of secularisation theory which suggests that the authority of organised religion is declining (Chaves, 1994: 749). These Pagans do not cede authority to science either, but think for themselves – critical, like Starhawk (2007), of science’s emphasis on the measurement of material phenomena to the exclusion of all other ways of apprehending the world. One questionnaire respondent chooses aspects of Pagan spirituality to form a patchwork of meaning, rather than relying on someone else’s interpretation:

I choose Paganism because it gives me more freedom to choose how I approach the divine, spirit, etc, without having to restrict myself to a specific path, such as Christianity or Buddhism.

So Berger’s prediction that ‘cosmology becomes psychology’ (cited in Gallagher, 1994: 863) also seems to be confirmed by the metaphorical views of many respondents, and the popularity of Jungian terminology among magicians (Luhrmann, 1989: 281). Instead of mythology being taken literally, it becomes a representation of internal states; this perhaps happens as a result of there being many mythological cosmologies available to contemporary Pagans, but also because they accept the scientific account of cosmology (Harvey, 1997: 145).

The majority of questionnaire respondents (80%) view science and religion as compatible, and many are comfortable with quasi-scientific statements which attempt to explain spiritual phenomena in terms of quantum theory (31%), string theory (36%), the Gaia hypothesis (53%), and so on. 91% of respondents agree that they enjoy science because it reveals and explores the wonders of the natural world (so perhaps they are following Carl Sagan’s hypothetical religion).
One issue where Paganism is clearly distinguishable from pantheism and naturalism (Naturalism.org, 2001) is that of consciousness surviving death (60% of questionnaire respondents agree that it does, with 31% neutral and 9% disagreeing). Pantheism and naturalism take the view that consciousness cannot survive outside the body because it is an emergent property of complex systems. Pagans tend to have a slightly more dualistic view of consciousness (regarding spirit as immanent in matter rather than emergent from it), and many believe in reincarnation (Harvey, 1997: 28, 200).

The language employed by Pagans sometimes sounds as if it is referring to the supernatural, or to spiritual realms outside the material universe, because they redeploy terms from other discourses (Luhrmann, 1989: 274-6). However, many respondents emphasise that they are talking about spirit as an energy or property that is immanent in the material universe, in response to the questions about ch’i or prana, and the interview question about how magic works.

The attempt to make magical and spiritual discourse seem scientific has a long pedigree. It began in the 1840s and 1850s with spiritualism, and talk of ‘odyllic force’ and ‘electro-biology’. These were terms for strange magnetic forces which could be altered by human will; this is much the same concept of ‘energy’ being talked about by interviewees A and B, although they are referencing the idea that matter is just a denser form of energy. It is very unlikely that A and B have read any magical texts from that era, but the concepts appear to
have been transmitted and developed through successive generations of published magical books (Hutton, 1999: 69-82).

The rise of occult discourse continued in the 1870s with Theosophy and the Hermetic Order of the Golden Dawn, and the foundation of the Society for Psychical Research. Much of the magical discourse in use today can be traced back to these organisations, because ‘modern magic first emerged in a world torn by the struggles between science and religion’ (Luhrmann, 1989: 279). This could be argued to be the first stirrings of re-enchantment in a world disenchanted by the Reformation, the Enlightenment, and scientific rationalism. The next important development was the rise of Jungian psychoanalysis, with its concept of the collective unconscious, which is reified in magical discourse and regarded as connected with the individual unconscious as the sea is connected to a lagoon by a submerged channel. The significant feature of the collective unconscious for magicians is that it is not subject to rational laws, and is therefore beyond rational apprehension (Luhrmann, 1989: 281); it can only be experienced. However, magicians still feel the need to justify their views to sceptics, so clearly do not wish to be seen as wholly irrational. The problem of justifying beliefs to sceptics is also experienced by Christian apologists, and Luhrmann finds magicians' arguments to be very similar (Luhrmann, 1989: 297-300). However, if the theoretical constructs employed are very similar, the language used to describe them is somewhat different.

Partridge (2004: 186) suggests that the language used to express spirituality is evolving and will continue to evolve; increasingly, he says, 'Westerners are using the language of
occulture to articulate significant religious experience and belief'. Such language includes terms like 'universal consciousness', 'life force' and 'reincarnation' rather than traditional, and exclusivist, Christian language. Partridge (2004: 187) defines occulture as 'the spiritual/mythic/paranormal background knowledge that informs the plausibility structures of Westerners' and says that it 'tends to be antagonistic to scientism, secularism and views that dismiss the significance of the sacred'.

Only one questionnaire respondent, however, fits the antagonistic model suggested by Partridge:

I am highly critical of science, as I consider it for the most part a symptom of civilization, and I think civilization has been and continues to be the root of injustic[e], ecodestruction and malaise in the history of the earth. (Appendix 3, p. 80)

This person seems to suggest that the majority of scientists are part of the problem rather than part of the solution, and the orientation of this passage is very much against science, civilisation, and mainstream religion. Another questionnaire respondent also mentions the unsustainable behaviour of society, but not in a way critical of science:

I think modern society is not at all balanced, and not at all sustainable as it is as it works against nature for its own ends rather than with nature for the betterment of everything.

Many scientists are also critical of this imbalance, whereas others are not; science itself is an agglomeration of different discourses, some talking about the wonders of nature, and others seeking technological interventions in all areas of existence (Pickstone, 2000: 223), and Pagans
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seem to be responding to all these different discourses, inspired by some, and critical of others, especially the tendency for rationalist discourse to deny the value of intuition.

For example, Starhawk (1999: 220), in her widely-read book *The Spiral Dance*, whilst acknowledging the inspirational possibilities of science and wanting Paganism to be grounded in science, says that

Spirituality leaps where science cannot yet follow, because science must always test and measure, and much of reality and human experience is immeasurable. Without discarding science, we can recognise its limitations. There are many modes of consciousness which have not been validated by Western scientific rationalism, in particular what I call “starlight awareness”, the holistic, intuitive mode of perception of the right hemisphere of our brains. As a culture, we are experiencing a turn toward the intuitive, the psychic, which have been denied for so long.

Starhawk is here espousing the position that if scientists would embrace more holistic methods, they could discover the imaginal realms of which Pagans speak. Some scientists seem to be cautiously exploring less materialist approaches, so that it is even possible to speak of the 're-enchantment of science' (Whitehead, 1998).

Postmodern perspectives also undermine the hegemony of scientific rationalism; the changes during the twentieth century in quantum mechanics, ecology, anthropology and other sciences mean that the scientist is now an involved participant rather than an external observer (Toulmin, 1982: 97). Pickstone (2000: 52-3) explores the decline in the dominance and confidence of science, technology and medicine during the twentieth century. He points out that feminist, minority ethnic, ecological and other counter-cultural critiques have dislodged science from its position of authority. As the impact of Einstein’s General Theory of Relativity
became apparent, the confidence in science expressed at the beginning of the twentieth century
began to crumble, and it was realised that the notion of rational *a priori* knowledge as fixed for
all time would have to be dropped (Friedman, 2002: 174). Kuhn also identifies Einstein’s
theory as a paradigm shift which changed the rules implicit in scientific discourse about what
constituted a valid or correct solution to a given scientific problem (Friedman, 2002: 181). This
relativised view gave rise to ‘problems and questions concerning the ultimate rationality of the
scientific enterprise’ and demonstrated that a particular piece of knowledge might be viewed
entirely differently in one paradigm than another (Friedman, 2002: 182). This shows that
knowledge was discursively and socially constructed (McGrath, 1999: 83), which arguably
makes it possible for alternative and relativised interpretations of science to gain credence
(Partridge, 2004: 53-54).

The objectivity or otherwise of scientific knowledge has been hotly contested among
scientists in the debate between realists and antirealists (Muller and Livinston, 1995: 16). There
are a number of realist positions, including viewing reality as objectively knowable, regarding
the terms of scientific theories as mapping onto some objective referent in the phenomenon
they describe, and complementarity, which ‘holds that different exclusive experimental
arrangements produce phenomena which are interpreted as providing “complementary
information” about “the same object”’ (Folse, 1986: 96). This implies that the object cannot
necessarily be directly apprehended, but the same object persists from one experiment to the
next, allowing the experimenter to discover more about it. The idea of complementarity,
dealing with different perspectives on phenomena, may have influenced Pagan discursive constructions. Toulmin (1982: 98) says:

[N]o biological event can ever be viewed as a phenomenon of one and only one kind. On the contrary, every such event has at least four distinct aspects, and biologists ask at least four kinds of questions about it. ... No one of the resulting accounts of the event will be biologically exhaustive. But, taken together, biochemical, physiological, developmental, and evolutionary accounts give us complementary interpretations which between them show us what biology has to teach us about the event in question.

Similarly, questionnaire respondents talk about a multi-layered understanding of reality, and Starhawk (1999: 219) describes metaphors as ‘separate lights beaming at the same spot’ – a clear parallel to the idea of complementarity.

There are also multiple antirealist positions, including empiricist and constructivist (Godfrey-Smith, 2002: 26). Empiricist antirealists hold that only what is observable is knowable (Alspector-Kelly, 2001: 414); constructivist antirealists hold that knowledge is socially constructed (Demeritt, 1996: 485). According to Demeritt (1996: 486), it is also essential to distinguish between ‘epistemological anti-realism about scientific theories’ (the view that scientific knowledge is socially constructed) and ‘ontological anti-realism about scientific entities’ (the view that reality itself is a construct). Indeed, both feminists and social constructionists have pointed out that science is knowledge that is culturally situated and neither value-free nor objective (Haraway, 1988: 578); contemporary Pagans seem to have absorbed this critique and used it to justify their world-view (Blain and Wallis, 2006). However, this does not completely relativise all truth-claims in the manner hoped for by some Pagans, or claimed by some rationalists as a critique of post-modernism (Fish, 2008).
The process has come full circle; science disenchanted nature, but claimed to have objective truth; but recent thought has concluded that there is no objectivity in science, so now even science is disenchanted (Griffin, 1988: 3). Although scientists might protest that the conclusions of science are at least arrived at by a process of experimentation and peer review, and that they are prepared to change their minds if compelling evidence to the contrary is presented (Dawkins, 2006: 283), this would be something of an over-simplification of the post-modernist case, which is that scientific discourses construct reality just as much as other discourses (Pickstone, 2000: 58), and that there are numerous discourse positions within science.

Conclusion

The Pagan revival, situated as it is in the context of secularisation and re-enchantment (Partridge, 2004: 9-59), capitalism and consumerism (Coco and Woodward, 2007: 479), and post-modernism (Connelly, 1994), has had to come to terms with competing world-views, including scientific rationalism, either by relativising them, or including them in its world-view. It may, as Roney-Dougal (2002: 238, 242) suggests, be the emerging new paradigm; or it may form only a small part of a broader tapestry of ‘occulture’ (Partridge, 2004: 188).

The respondents to my survey and interview questions mostly think that science and religion are compatible, and generally view them as complementary or overlapping ways of viewing the same reality (broadly the same as Luhrmann’s ‘metaphorical’ position), rather than as ‘non-overlapping magisteria’ (Luhrmann’s ‘two worlds’ position). Many regard science
as a literal description of reality, and religion as a metaphorical description of reality – but no
less true for being metaphorical, as some truths can only be accessed metaphorically;
humanity ‘is always constructing such thought-forms... as symbol-complexes for
communication with archetypal elements of the Collective Unconscious’ (Farrar and Farrar,

More than half of questionnaire respondents see religion and science as partially
overlapping; some view them as non-overlapping, but many regard them as complementary
ways of viewing reality. However, Pagans engage in multiple discourses to describe the
relationship between religion and science. Luhrmann (1989: 284) identifies four discursive
modes: ‘realist’, ‘two worlds’, ‘relativist’ and ‘metaphorical’. Participants in my study express
all of these, but less of the ‘two worlds’ mode.

Explanations for suffering vary; many want to include a spiritual dimension to their
explanation (so are not comfortable with purely scientific or materialist views), but do not
attribute suffering to cosmic imbalance. However, since the majority regard spirit as immanent
and deities as having developed out of our spiritual, ritual, magical, and social interaction with
place and space, what they mean by ‘spiritual’ is not a separate realm outside the universe, but
is actually ‘separate-but-connected’, having a direct impact on the material plane (Partridge,

Science itself is not to immune to borrowing its terminology, and perhaps its conceptual
framework, from theistic discourse. It speaks of laws governing the cosmos, and the very
notion of laws seems to presuppose the existence of an external cosmic lawgiver (Haila and Dyke, 2006: 72); scientists sometimes write as if natural selection were an external agent acting to cause evolution, yet it is a product of the complex system of nature (Rayner, 2002).

Discourse analysis of science is only now beginning to unravel these underlying questions and concepts (Pickstone, 2000: 216). Science is now less widely regarded as a panacea for the ills of humanity, and no longer enjoys absolute authority. However, many people find scientific discoveries and insights inspiring; accordingly, some Pagan authors have advocated using science as the basis of spirituality (Frisk, 1997; Clifton, 1998; Starhawk, 1999 and 2007), and 91% of questionnaire respondents enjoy science because it reveals and explores the wonders of the natural world. Most do not view science and religion as being in conflict, but as complementary modes of viewing the world (Luhrmann’s ‘metaphorical’ position). Many are uncomfortable with the word ‘belief’ to describe their views, agreeing that ‘working hypothesis’ is a better term than ‘belief’.

Hence my research appears to confirm Luhrmann's (1989: 353) finding that Pagans are ambivalent about belief, and that there is a complex interplay between concepts and experiences, theory and practice. Pagans are non-dogmatic and empirical; they are more concerned with whether a ritual or spell works than how it works (Starhawk, 1999: 220; interviewees A, C and F), and they tend to be ambivalent about the practice of magic, justifying it sometimes as a psychologically beneficial but metaphorical practice, and sometimes as possibly being effective in the sense of getting results (Luhrmann, 1989: 335).
It could also be said that Pagans have much to be grateful to science for; as part of the process of secularisation that weakened the hegemony of Christianity in the West, the rise of science was one of the processes that made it possible to hold pagan and other heterodox views without suffering the fate of Giordano Bruno, the pantheistic scientist who was burnt at the stake in 1600 for his heretical views (Turner, 1908).

Further research could explore how Pagans relate to different discourses within science, such as the transcendentalism and materialism identified by Whitehead (1998: 20-21), the 'New Atheism' spearheaded by Dawkins (2006), the various 'ways of knowing' explored by Pickstone (2000), and the 'partially overlapping magisteria' view (McGrath, 2007: 18). It could also use different methodologies (ethnographic studies, unstructured interviews, and so on) to explore Pagans' relationship with science; and it could conduct discourse analysis of Pagan discussions and popular Pagan texts about the nature of reality. It would also be interesting to find out what percentage of scientists are practising Pagans, and how many espouse pantheist, animist, or other views derived from the rising tide of 'occulture'.

Furthermore, science does not only come into conflict with traditional and conservative religious views; it sometimes also comes into conflict with politics, the wider culture, and popular 'common sense' world-views (Cooper, 2008); indeed the promotion of the 'public understanding of science' has been with us since the 1980s (Pickstone, 2000: 195), implying that there is a need for science to be promoted and defended, not just from religion, but from general disinterest and misunderstanding. The idea of 'two cultures' was first formulated in
the 1950s by C. P. Snow, who pointed out that there was mutual incomprehension between the arts and science, creating a cultural rift (Pickstone, 2000: 193). This situation still persists, and many people see art and science as incompatible, because art is believed to be based on the imagination, which is held to be irrational, and science is believed to be based on cognition, which is held to be rational (Richmond, 1984: 81). In reality, neither of these assumptions is necessarily true; and similar assumptions abound in popular discourse about the relationship between science and religion, for example the idea that ‘science is the how, religion is the why’ (Respondent D; Starhawk, 2007). Another problem is that scientific accounts tend to express things cautiously, with many caveats and hesitancies, which is often taken as a sign of lack of authority (Cooper, 2008). This is not in conflict with the empiricist attitudes at the heart of Paganism, which values experience over ideas, even if its methods are not as rigorous as those of science.

So the Pagans in my research do see their beliefs as compatible with science, and playfully create their beliefs as a personal bricolage of meaning, allowing them to view the world as enchanted without ceding authority to either science or religion, and retaining a certain amount of scepticism. Much of Paganism combines the ‘secular’ values of tolerance and inclusivity with a view of Nature (including ourselves) as sacred. Pagan discourse is generally oriented towards co-operation with science, and Pagans mostly want to present themselves as reasonable and tolerant. Paganism seems potentially to be Carl Sagan’s (1994) hypothetical religion, stressing ‘the magnificence of the Universe as revealed by modern
science’. Most Pagans regard cosmology as metaphor (Gallagher, 1994: 863), using it as a poetic way of relating to the natural world (Harvey, 1997: 145).

16266 words
Bibliography


Do Pagans see their beliefs as compatible with science?      Dissertation


Do Pagans see their beliefs as compatible with science? Dissertation


Appendix 1: Web questionnaire and permission statement

Page 1. Consent

Dear Participant

I am studying for a Masters degree in Contemporary Religions and Spiritualities at Bath Spa University, and am currently exploring the relationship between Paganism(s) and science. As a Pagan, your views would be valuable for this research.

The major element of this research is conducted by questionnaire with people like yourself. You will be able to view any information you give me at any time, upon request. My contact email address is yaburrow@gmail.com

If you would be willing to take part in a longer email interview, please contact me at yaburrow@gmail.com

The results of my investigation will be printed in order that my supervisor, and other academic staff can assess my research. As it is a dissertation, it will also be available to the public.

I would like to reassure you that you will never be identified in my report.

Any information you give me will be kept on my surveymonkey account and my personal computer, to which no-one else has access. Information will be coded, so that, should the computer fall into other hands, your responses will not be traceable to you.

I would like to thank you for agreeing to take part in this project and stress that you are free to withdraw from the research at any time.

If you have any queries about the research, please feel free to contact the course director, Dr Catherine Robinson, by telephone (01225 875658), email (c.robinson@bathspa.ac.uk) or post (Bath Spa University, Newton Park, Newton St Loe, Bath, BA2 9BN).

Yours sincerely

Yvonne Aburrow

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I confirm that I am willing to take part in research conducted by Yvonne Aburrow between 25-03-08 and 29-09-08. I understand that I may withdraw from the project at any time.

(By proceeding to the next page of the survey, you are deemed to have consented to take part in the research.)
Page 2. Science and religion

1. The domains of science and religion

Strongly disagree / Disagree / Neutral / Agree / Strongly agree

a. Science and religion deal with fundamentally separate aspects of human experience and so, when each stays within its own domain, they can co-exist peacefully.
b. Science and religion inevitably compete for authority over the nature of reality, so that religion has been gradually losing a war with science as scientific explanations become more powerful and widespread.
c. Science and religion have things to say to each other about phenomena where their interests overlap.
d. Science and religion should become a single field of enquiry.
e. Religion and science are incompatible.
f. Science without religion would lead to a person becoming totally materialistic.
g. Religion without science would lead to a person falling into superstitious practices.
h. One day, science will make discoveries that will confirm at least part of the spiritual world-view.
i. Religious claims cannot be proved or disproved, and are therefore outside the domain of science.

Comments

Page 3. Belief

2. Your beliefs

Strongly disagree Disagree Neutral Agree Strongly agree

a. I don’t have beliefs, I have working hypotheses based on my experience.
b. I use the scientific method to determine whether my experiences are real or not.
c. I hold several conflicting ideas in creative tension in my mind at the same time.
d. I enjoy science because it reveals and explores the wonders of the natural world.
e. I accept the scientific account of how the universe came into being.
f. Life on earth is governed by only natural forces (like evolution).
g. There is no Creator.
h. Creation myths are a metaphor for physical processes such as the Big Bang.
i. The development of mind or spirit has shaped evolution.
j. The Divine was present at the beginning of time as a conscious entity or entities.
k. Deities and other spirits have developed out of our spiritual, ritual, magical, and social interaction with place and space.
l. Deities (or the divine) and spirits are immanent in the universe.
m. You can have a personal relationship with a deity (or aspect of the divine) or spirit.
n. Pagan spirituality is based on metaphorical representations of internal or archetypal processes.
Comments

Page 4. What's it all for?

3. The nature of reality

Strongly disagree Disagree Neutral Agree Strongly agree

a. Suffering happens because of personal spiritual imbalance and disharmony
b. Suffering happens because of cosmic spiritual imbalance and disharmony
c. Suffering happens because of spiritual imbalance and disharmony in society
d. Human suffering has nothing to do with the supernatural or karma
e. Egocentrism (self-importance) leads to desire, craving, and attachments, which can lead to unwholesome thoughts and behaviour, i.e., greed, hate, and violence
f. Human nature, psychology, sociology, criminology, etc., explain wrongdoing; there is no need for supernatural or spiritual explanations
g. I revere nature and the environment
h. The divine is immanent in nature
i. The Gaia Hypothesis is a good explanation of the relationship of the divine and the planet
j. Magic can be explained by quantum mechanics
k. There is a hidden energy (such as ch'i or prana)
l. This hidden energy (such as ch'i or prana) can be directed by human will
m. Everything in Nature is conscious, but at different frequencies
n. There are multiple levels of reality, which can be apprehended by the human mind
o. String theory might be used to explain Pagan or shamanic otherworlds
p. There is more than one Universe
q. Reality is an illusion
r. Consciousness survives death
s. The Universe itself is conscious in a way we can never truly understand. It is engaged in a search for meaning, so it breaks itself apart, investing its own consciousness in every form of life. We are the Universe, trying to figure itself out.

Comments

Page 5. Influences

4. Magazines, books, films and TV shows that you enjoy

Dreadful Poor Average Good Excellent Have not read/seen it

• 2001: A Space Odyssey (film)
• A Brief History of Time (book) - Stephen Hawking
• American Gods (book) - Neil Gaiman
• Babylon 5 (TV show)
• Battlestar Galactica (TV show)
• Blackfoot Physics (book) - F David Peat
• Books about mythology (genre)
• Books about Paganism (genre)
• Books on Chaos magic (genre)
• British Archaeology (magazine)
• Buffy the Vampire Slayer (TV show)
• Chaos (book) - James Gleick
• Cosmos (TV show) - Carl Sagan
• Current Archaeology (magazine)
• Discworld series (books) - Terry Pratchett
• Doctor Who (TV show)
• Factual science books (genre)
• Fantasy (genre)
• Firefly (TV show)
• Gödel, Escher, Bach (book) - Douglas Hofstadter
• Harry Potter (books) - JK Rowling
• Harry Potter (films)
• Neverwhere (book) - Neil Gaiman
• Neverwhere (TV Show)
• New Scientist (magazine)
• Pagan Dawn (magazine)
• Pomegranate: The International Journal of Pagan Studies
• Science fiction (genre)
• Scientific American (magazine)
• Scientific American Mind (magazine)
• Star Trek (TV show)
• Stardust (book) - Neil Gaiman
• Stardust (film)
• The Cauldron (magazine)
• The God Delusion (book) - Richard Dawkins
• The Lord of the Rings (books) - JRR Tolkien
• The Lord of the Rings (films)
• The Science of Discworld (books) - Terry Pratchett, Jack Cohen, Ian Stewart
• The Sky at Night (TV show)
• The Stations of the Sun (book) - Ronald Hutton
• The Tao of Physics (book) - Fritjof Capra
• The Triumph of the Moon (book) - Ronald Hutton
• White Dragon (magazine)
• Witchtower (magazine)

Have any of these books/films/TV shows/magazines shaped your Pagan beliefs? If so, how?
Page 6. About you

This section is just to put your answers in the context of your Pagan tradition, country of origin, subjects studied, etc., and will not be used to identify you, as the results will be collated and anonymised.

5. Email address (so that, if you decide to withdraw from the research, I can identify which are your results, and delete them)

6. Where did you hear about this questionnaire?
   - Local Pagan mailing list
   - Pagan Network forum
   - Pagan Studies mailing list
   - Pagan/Heathen bloggers mailing list
   - Searching the web
   - Wiccan mailing list
   - Witchvox
   - You emailed me
   - Other (please specify)

7. Your Pagan tradition
   - African Traditional Religion
   - Asatru
   - Celtic Reconstructionist
   - Druid
   - Eclectic Pagan
   - Eclectic Wiccan
   - Feri
   - Heathen
   - Initiated Wiccan
   - Kemetic
   - Neo-shaman
   - Reclaiming
   - Religio Romana
   - Other (please specify)

8. Country

[standard country list]

Other (please specify)
9. Job type

- Administration
- Advertising, marketing and PR
- Animal and plant resources
- Arts, design and crafts
- Construction and property management
- Counselling, social and guidance services
- Education, teaching and lecturing
- Engineering
- Finance and management consultancy
- Health care
- Hospitality and events management
- Human resources and employment
- IT, economics, statistics and management services
- Information services
- Insurance and pensions and actuarial work
- Law enforcement and public protection
- Legal services
- Leisure, sport and tourism
- Logistics and transport
- Manufacturing and processing
- Natural resources and the environment
- Publishing, media and performing arts
- Sales, retail and buying
- Scientific services
- Carer
- Unemployed
- Other (please specify)

10. Subject(s) you have studied at a higher education level (PhD, Masters, postgraduate professional qualification, or undergraduate)

- Agriculture and forestry
- Anthropology
- Archaeology
- Architecture, design and applied arts
- Area studies
- Business
- Chemistry
- Computer sciences
- Earth sciences
- Economics
- Education
- Engineering
• Ethnic studies
• Family and consumer science
• Gender and Sexuality studies
• Geography
• Health sciences
• History
• Journalism, media and communication
• Languages and linguistics
• Law
• Library and museum studies
• Life sciences
• Literature
• Management
• Mathematics
• Military sciences
• Natural sciences
• Performing arts
• Personal service and related professions
• Philosophy
• Physics
• Political science
• Psychology
• Public affairs
• Social sciences
• Social work
• Sociology
• Space sciences
• Study of religions
• Theology
• Visual arts
• Other (please specify)

Appendix 2: Semi-structured interview questions and permission letter

1. What areas of science interest you and why? How do they make you feel?
2. Do you feel there is any overlap between the domains of religion and science?
3. How do you feel science fits in with your religious / magical / spiritual beliefs?
4. How does magic work, in your view?
5. How does your view of cosmology (gods, the nature of the the universe) fit with science?
Dear Participant

I am studying for a Masters degree in Contemporary Religions and Spiritualities at Bath Spa University, and am currently exploring the relationship between Pagans and science. As a Pagan, your views would be valuable for this research.

The major element of this research is conducted by personal interviews with people like yourself. In order to help me recall your views accurately, I would like to record the interviews and I anticipate that each interview will last about 45 minutes. You will be able to view any information you give me, or the transcripts of our conversation at any time, upon request. My contact address is given above.

The results of my investigation are for my dissertation, which may be published. If you prefer me not to use any of the information you give me for publication, I would be grateful if you could let me know at the outset of our interviews.

I would like to reassure you that you will never be identified in my report.

Any information you give me will be kept on my personal computer, to which no-one else has access. Information will be coded, so that, should the computer fall into other hands, your responses will not be traceable to you.

I would like to thank you for agreeing to take part in this project and stress that you are free to withdraw from the research at any time.

If you have any queries about the research, please feel free to contact the course director, Dr Catherine Robinson, by telephone (01225 875658), email (c.robinson@bathspa.ac.uk) or post (Bath Spa University, Newton Park, Newton St Loe, Bath, BA2 9BN).

Yours sincerely

Yvonne Aburrow

I (name) ……………………… confirm that I am willing to take part in research conducted by Yvonne Aburrow between 31-03-08 and 29-09-08.

I understand that I may withdraw from the project at any time.

Signed …………………………… Date ………………
### Appendix 3: Responses to web questionnaire

#### 1. The domains of science and religion

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science and religion deal with fundamentally separate aspects of human experience and so, when each stays within its own domain, they can co-exist peacefully.</td>
<td>12.8% (35)</td>
<td>38.5% (105)</td>
<td>15.8% (43)</td>
<td>26.4% (72)</td>
<td>6.6% (18)</td>
<td>273</td>
</tr>
<tr>
<td>Science and religion inevitably compete for authority over the nature of reality, so that religion has been gradually losing a war with science as scientific explanations become more powerful and widespread</td>
<td>15.0% (41)</td>
<td>37.0% (101)</td>
<td>14.7% (40)</td>
<td>27.8% (76)</td>
<td>5.5% (15)</td>
<td>273</td>
</tr>
<tr>
<td>Science and religion have things to say to each other about phenomena where their interests overlap</td>
<td>2.6% (7)</td>
<td>5.1% (14)</td>
<td>8.5% (23)</td>
<td>57.4% (156)</td>
<td>26.5% (72)</td>
<td>272</td>
</tr>
<tr>
<td>Science and religion should become a single field of enquiry</td>
<td>33.8% (92)</td>
<td>41.5% (113)</td>
<td>16.5% (45)</td>
<td>6.3% (17)</td>
<td>1.8% (5)</td>
<td>272</td>
</tr>
<tr>
<td>Religion and science are incompatible</td>
<td>41.5% (112)</td>
<td>38.5% (104)</td>
<td>9.3% (25)</td>
<td>7.0% (19)</td>
<td>3.7% (10)</td>
<td>270</td>
</tr>
<tr>
<td>Science without religion would lead to a person becoming totally materialistic</td>
<td>24.9% (68)</td>
<td>34.8% (95)</td>
<td>19.0% (52)</td>
<td>16.1% (44)</td>
<td>5.1% (14)</td>
<td>273</td>
</tr>
<tr>
<td>Religion without science would lead to a person falling into superstitious practices</td>
<td>9.5% (26)</td>
<td>25.6% (70)</td>
<td>19.0% (52)</td>
<td>30.0% (82)</td>
<td>15.8% (43)</td>
<td>273</td>
</tr>
<tr>
<td>One day, science will make discoveries that will confirm at least part of the spiritual world-view</td>
<td>3.7% (10)</td>
<td>4.8% (13)</td>
<td>30.5% (83)</td>
<td>37.9% (103)</td>
<td>23.2% (63)</td>
<td>272</td>
</tr>
</tbody>
</table>
Strongly disagree | Disagree | Neutral | Agree | Strongly agree | Response Count
--- | --- | --- | --- | --- | ---
Religious claims cannot be proved or disproved, and are therefore outside the domain of science | 7.0% (19) | 34.9% (95) | 27.2% (74) | 22.1% (60) | 8.8% (24) | 272

**Comments on section 1**

“The difference between science and religion is that science proves theories in black and white, and religion gives theories that can be interpreted in several different ways. Some interpretations can be proven by science, and one mistake that many religions seem to make is taking their myths or texts in a literal sense. Religion is made up of symbols and representations whereas science gets right to the point. The two do not contradict each other at all, and in my mind religious beliefs are scientific theories waiting to be tested. Another thought of mine is that religion guides you in your personal lifestyle choices, which makes it as important as science, as science gives you facts but no support in deciding what to do with them.”

“Magic is just technology we don’t understand yet, but that doesn’t make it any less magical. The world, physical, mental, and spiritual is all still the world, and a scientific approach is useful in all, but as is an intuitive approach. Balance is required.”

“I find the more we delve into quantum physics and other universal scientific truths, the more pagan views make sense.”

“The civilizationist-scientism worldview has become every bit as damaging, single-minded, destructive and toxic as the imperial-religionist worldview. Both are anaethema to a radically holistic life. I am willing to admit that there might be different definitions of “science” than the domineering, intrusive, heartless and mystery-refusing worldview that dominates contemporary scientific inquiry, but it is seen so rarely that, like it’s domineering, historically warmongering, body-hating and earth-destroying religious worldview counterpart, I have seen little evidence of a gentler, truly holistic scientific approach, so I find it hard to believe that’s what people are truly talking about when they use the word "science." I know many Pagans are happy with science and wed it happily into their theologies, but I do not. I am highly critical of science, as I consider it for the most part a symptom of civilization, and I think civilization has been and continues to be the root of unjustic, ecodestruction and malaise in the history of the earth. So...I guess what I’m saying is that questions of this nature are very complicated due to the difficulty surrounding definitions and underlying worldviews/philosophies. There are questions, like "what do you mean by superstitious practices?" - the spiritual traditions of pre-civilizational indigenous peoples have been categorized as "superstitions," and I would not consider these remotely bad, so under that definition I wouldn't care whether religion without science would lead to "falling into superstitious practices." Likewise, the word "religion" is rife with problems. Of course I think hegemonic, monotheistic imperialist religion is a problem as a world-force, but religion in the context of the praxis of small tribal societies is not. Just some thoughts. Thanks for the thought provoking survey, and good luck with your research! :) “
Do Pagans see their beliefs as compatible with science?

“Science and spirituality can co-exist as long as spiritual traditions are not dogmatic about their beliefs”

“The framework for these questions implies a model of "reality" which I do not accept”

<table>
<thead>
<tr>
<th>2. Your beliefs</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t have beliefs, I have working hypotheses based on my experience</td>
<td>6.5% (17)</td>
<td>40.4% (105)</td>
<td>15.4% (40)</td>
<td>25.0% (65)</td>
<td>12.7% (33)</td>
<td>260</td>
</tr>
<tr>
<td>I use the scientific method to determine whether my experiences are real or not</td>
<td>11.9% (31)</td>
<td>35.0% (91)</td>
<td>26.5% (69)</td>
<td>19.6% (51)</td>
<td>6.9% (18)</td>
<td>260</td>
</tr>
<tr>
<td>I hold several conflicting ideas in creative tension in my mind at the same time</td>
<td>4.3% (11)</td>
<td>10.5% (27)</td>
<td>15.1% (39)</td>
<td>52.3% (135)</td>
<td>17.8% (46)</td>
<td>258</td>
</tr>
<tr>
<td>I enjoy science because it reveals and explores the wonders of the natural world</td>
<td>0.4% (1)</td>
<td>2.7% (7)</td>
<td>5.8% (15)</td>
<td>47.5% (123)</td>
<td>43.6% (113)</td>
<td>259</td>
</tr>
<tr>
<td>I accept the scientific account of how the universe came into being</td>
<td>1.2% (3)</td>
<td>5.8% (15)</td>
<td>25.8% (67)</td>
<td>43.8% (114)</td>
<td>23.5% (61)</td>
<td>260</td>
</tr>
<tr>
<td>Life on earth is governed by only natural forces (like evolution)</td>
<td>8.1% (21)</td>
<td>36.2% (94)</td>
<td>23.5% (61)</td>
<td>22.7% (59)</td>
<td>9.6% (25)</td>
<td>260</td>
</tr>
<tr>
<td>There is no Creator</td>
<td>17.4% (45)</td>
<td>22.4% (58)</td>
<td>38.6% (100)</td>
<td>14.3% (37)</td>
<td>7.3% (19)</td>
<td>259</td>
</tr>
<tr>
<td>Creation myths are a metaphor for physical processes such as the Big Bang</td>
<td>5.0% (13)</td>
<td>20.8% (54)</td>
<td>26.6% (69)</td>
<td>36.3% (94)</td>
<td>11.2% (29)</td>
<td>259</td>
</tr>
<tr>
<td>The development of mind or spirit has shaped evolution</td>
<td>0.8% (2)</td>
<td>6.2% (16)</td>
<td>25.1% (65)</td>
<td>52.9% (137)</td>
<td>15.1% (39)</td>
<td>259</td>
</tr>
<tr>
<td>The Divine was present at the beginning of time as a conscious entity or entities</td>
<td>6.5% (17)</td>
<td>12.7% (33)</td>
<td>41.5% (108)</td>
<td>26.5% (69)</td>
<td>12.7% (33)</td>
<td>260</td>
</tr>
</tbody>
</table>
Do Pagans see their beliefs as compatible with science?

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deities and other spirits have developed out of our spiritual, ritual, magical, and social interaction with place and space</td>
<td>4.2% (11)</td>
<td>9.2% (24)</td>
<td>21.2% (55)</td>
<td>49.2% (128)</td>
<td>16.2% (42)</td>
<td>260</td>
</tr>
<tr>
<td>Deities (or the divine) and spirits are immanent in the universe</td>
<td>2.3% (6)</td>
<td>4.2% (11)</td>
<td>20.8% (54)</td>
<td>48.5% (126)</td>
<td>24.2% (63)</td>
<td>260</td>
</tr>
<tr>
<td>You can have a personal relationship with a deity (or aspect of the divine) or spirit</td>
<td>2.7% (7)</td>
<td>2.3% (6)</td>
<td>8.9% (23)</td>
<td>49.2% (127)</td>
<td>36.8% (95)</td>
<td>258</td>
</tr>
<tr>
<td>Pagan spirituality is based on metaphorical representations of internal or archetypal processes</td>
<td>4.2% (11)</td>
<td>16.6% (43)</td>
<td>35.5% (92)</td>
<td>31.3% (81)</td>
<td>12.4% (32)</td>
<td>259</td>
</tr>
</tbody>
</table>

Comments on section 2

1. “I believe that there are multiple layers of truth, with none being "more true" than the other, but all holding equal validity. For instance, I believe that deities and spiritual entities can be created by man through the creation of thought-forms, constructed from focused thought, and brought into being and continued existence through ritual energy, and can eventually gain an independent existence as a distinct sentient and autonomous being. But I also believe that some deities and spiritual entities already exist as a different form of life. I also believe that some deities and spiritual entities are psychological constructs that hold sway on the psyche via archetypes and metaphorical representations. None invalidates the others in my mind. They all exist, and co-exist, and are equally effective and valid. So, aspects of Pagan spirituality are certainly based on metaphorical representations of internal and archetypal processes, but that is one one layer of it.”

2. “Natural forces don’t exclude the divine or divine forces in my opinion”
## 3. The nature of reality

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suffering happens because of personal spiritual imbalance and disharmony</td>
<td>13.1% (33)</td>
<td>31.9% (80)</td>
<td>17.9% (45)</td>
<td>33.1% (83)</td>
<td>4.0% (10)</td>
<td>251</td>
</tr>
<tr>
<td>Suffering happens because of cosmic spiritual imbalance and disharmony</td>
<td>16.3% (41)</td>
<td><strong>35.1% (88)</strong></td>
<td>20.3% (51)</td>
<td>25.9% (65)</td>
<td>2.4% (6)</td>
<td>251</td>
</tr>
<tr>
<td>Suffering happens because of spiritual imbalance and disharmony in society</td>
<td>9.2% (23)</td>
<td>19.9% (50)</td>
<td>18.7% (47)</td>
<td><strong>46.6% (117)</strong></td>
<td>5.6% (14)</td>
<td>251</td>
</tr>
<tr>
<td>Human suffering has nothing to do with the supernatural or karma</td>
<td>8.8% (22)</td>
<td><strong>29.9% (75)</strong></td>
<td>25.1% (63)</td>
<td>26.3% (66)</td>
<td>10.0% (25)</td>
<td>251</td>
</tr>
<tr>
<td>Egoism (self-importance) leads to desire, craving, and attachments, which</td>
<td>3.6% (9)</td>
<td>12.7% (32)</td>
<td>18.7% (47)</td>
<td><strong>50.2% (126)</strong></td>
<td>14.7% (37)</td>
<td>251</td>
</tr>
<tr>
<td>can lead to unwholesome thoughts and behaviour, i.e., greed, hate, and</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>violence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human nature, psychology, sociology, criminology, etc., explain wrongdoing;</td>
<td>5.2% (13)</td>
<td><strong>35.9% (90)</strong></td>
<td>25.1% (63)</td>
<td>26.3% (66)</td>
<td>7.6% (19)</td>
<td>251</td>
</tr>
<tr>
<td>there is no need for supernatural or spiritual explanations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I revere nature and the environment</td>
<td>0.8% (2)</td>
<td>1.6% (4)</td>
<td>4.0% (10)</td>
<td>38.2% (96)</td>
<td><strong>55.4% (139)</strong></td>
<td>251</td>
</tr>
<tr>
<td>The divine is immanent in nature</td>
<td>2.0% (5)</td>
<td>2.4% (6)</td>
<td>8.4% (21)</td>
<td>39.4% (98)</td>
<td><strong>47.8% (119)</strong></td>
<td>249</td>
</tr>
<tr>
<td>The Gaia Hypothesis is a good explanation of the relationship of the divine</td>
<td>2.8% (7)</td>
<td>6.0% (15)</td>
<td>37.6% (94)</td>
<td><strong>41.2% (103)</strong></td>
<td>12.4% (31)</td>
<td>250</td>
</tr>
<tr>
<td>and the planet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly agree</td>
<td>Response Count</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>-------------------</td>
<td>----------</td>
<td>---------</td>
<td>-------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Magic can be explained by quantum mechanics</td>
<td>8.4% (21)</td>
<td>15.1% (38)</td>
<td>45.4% (114)</td>
<td>24.3% (61)</td>
<td>6.8% (17)</td>
<td>251</td>
</tr>
<tr>
<td>There is a hidden energy (such as ch'i or prana)</td>
<td>1.6% (4)</td>
<td>4.0% (10)</td>
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<td>This hidden energy (such as ch'i or prana) can be directed by human will</td>
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<td>Everything in Nature is conscious, but at different frequencies</td>
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<td>There are multiple levels of reality, which can be apprehended by the</td>
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<td>human mind</td>
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<td>String theory might be used to explain Pagan or shamanic otherworlds</td>
<td>4.8% (12)</td>
<td>5.6% (14)</td>
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<td>27.6% (69)</td>
<td>8.4% (21)</td>
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<td>There is more than one Universe</td>
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<td>6.0% (15)</td>
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<td>28.3% (71)</td>
<td>17.1% (43)</td>
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<td>Reality is an illusion</td>
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<td>35.9% (90)</td>
<td>19.9% (50)</td>
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<tr>
<td>Consciousness survives death</td>
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<td>31.6% (79)</td>
<td>34.0% (85)</td>
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<tr>
<td>The Universe itself is conscious in a way we can never truly understand.</td>
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<tr>
<td>It is engaged in a search for meaning, so it breaks itself apart,</td>
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<tr>
<td>investing its own consciousness in every form of life. We are the Universe,</td>
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<tr>
<td>trying to figure itself out.</td>
<td>4.4% (11)</td>
<td>6.4% (16)</td>
<td>34.4% (86)</td>
<td>34.4% (86)</td>
<td>20.4% (51)</td>
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Comments on section 3

1. Psychology is a science tells us there is one reality.--- Some of my "agrees" are actually "hope sos" I would like to believe there is energy to be directed. I would like to believe that sufferings are to create a balance, it would be much easier to take.
2. “about the last question on this page. I believe with all of my heart an mind that the entire universe is conscious, but I do believe that we can truly understand it. I have my own theory on the matter that explains this and how ch’i or karma is involved. It is through developing my scientific theories that I came to religion, as a way of expressing my reverence for the universe and looking at it in a more creative way. (I have a logical and a fantastical side that used to conflict, but since finding a religion that can be interpreted in the right way for me they no longer conflict and work together side by side)”

3. “What happened to cause and effect causing suffering? If I make a choice based on weak reason then the results are likely to be less than what I would desire. Also if I allow other people’s choices to affect my life, then I am likely to gain and lose because of it. Thought likely less than if I don’t interact with others. "We can never understand"??? How about currently don’t understand.... Also please read hidden as currently unmeasurable in linear causality”

4. “Oo! Lots of interesting questions. I think modern society is not at all balanced, and not at all sustainable as it is as it works against nature for its own ends rather than with nature for the betterment of everything. Some personal suffering is caused by imbalances in their own lives, but I don’t think these are necessarily spiritual imbalances, these are more like having one’s priorities in the wrong order, and only acting on part of themselves (being too career driven to look after one’s family properly, for example) but there are external causes of suffering (like the malevolent actions of others). Our actions are our own responsibility, as are our reactions, and we should try our best to live causing as little suffering and destruction as possible, and not only that, but trying to reduce the current amount of suffering, pain and destruction in the world. I don't know enough about quantum physics to say if it explains many supernatural things or not. My father was studying that area of science, and I still don’t know enough :P I don’t think we are the universe trying to figure itself out. I don’t think life needs meaning, I think it’s just great that we have it. The world is there to be experienced, existence is there to be revelled in. I don’t know if there are more universes than this or not. It wouldn’t surprise me if there was, but this one’s enough universe for me to be thinking about. All the multiverse, if there is one, would still constitute a Divine Whole to me, as would it if there were lots of multiverses. There are multiple levels of reality - three, the physical, the mental and the spiritual. I don't think there’s a great long list of different ‘planes’. There’s just this world we’re in now, and it happens to exist as one world in three ways. There’s definitely energy, I'm not sure if 'hidden' is the right word. It just requires at looking at more than just the physical. I know several people who can see auras, or pick up on the background energy of place. I certainly can, and am rather connected to the 'Sense of a Place'. I haven't figured out exactly what it is I am connected to yet, but I am connected to SOMETHING.”

5. “Everything in Nature is conscious but NOT at different frequencies (I’m a pantheist/animist) // I believe in 'Otherworlds', but not on ‘different levels of reality’, which is not coherent with a truly immanent worldview // I agree with some parts and disagree with others in the last statement, so I can't answer, it's too complicated”

6. “This is VERY hard to answer in this format. So many of these beliefs are partial - I work with energy, but would stop short of asserting categorically that it exists. It MAY exist, it may not, but it works for me to act like it does. Tanya Luhrmann got this one spot on, I think - many
pagans, including myself, "play" with belief. It is VERY hard to translate this to a likert scale without a string of "neutrals", which are so ambiguous.”

7. “If magic has any explanation in quantum mechanics, then it’s about tweaking probabilities and nothing deeper than that. This is only an explanation for a small part of how magic works.”

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<th>4. Magazines, books, films and TV shows that you enjoy</th>
<th>Dreadful</th>
<th>Poor</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
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<td>33.8% (76)</td>
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Page 88 of 128
1. My interest in fantasy and ancient civilisations made Paganism more appealing to me than other religions, but they haven't influenced my beliefs (I would like to be like Gandalf, but I don't believe Paganism will turn me into a wizard etc.). Obviously, the Pagan books and magazines have helped direct me and presented new ideas/directions to follow in my studies, but I wouldn't say they have shaped my beliefs - merely helped to focus/express them. Mon, 5/12/08 11:45 AM

2. Books on mythology have had the strongest influence on my beliefs. The recurring themes present throughout most (Indo-European) mythology serve as a basis for my own spirituality. Sat, 5/3/08 12:50 AM

3. None of these has cause me to search, it was actually my fundamental upbringing with christians who firmly believe the occult and curses and such. I always secretly wished for it. I was taught that this stuff was real, that my grandmother was a mystic or witchy, and was told that I had been delivered from it because they broke the "blood ties." I would have come to this searching long ago had I not had fear instilled in me about it. My favorite show used to be Tthe X Files once upon a time. I would have given it an excellent until toward the end of the series. Wed, 4/30/08 8:05 AM

4. Mists of Avalon is missing from this list!!!! Mon, 4/28/08 10:06 PM

5. The Edda did so most prominently Mon, 4/28/08 12:17 PM

6. Terry pratchetts discworld series has not conciously shaped my beliefs, but the logic he uses in his 'world building'shows amazing parallels to the logic my own mind uses in fitting my scientific beliefs with my spiritual beliefs. As you can probably tell, I am new to religious thought, and I do not go about belief in an orthodox way, but through my rather eccentric eyes religion brings a translation for the workings of the world and everything fits together. My religious beliefs are
Do Pagans see their beliefs as compatible with science?  

strenthened by scientific theory. Sun, 4/27/08 9:33 PM

7. No but magazines such as Sacred Hoop (shamanism) have. Sun, 4/27/08 8:10 PM

8. Yes. Can't say that anything absolutely doesn't, either positively or negatively. Sun, 4/27/08 9:34 AM

9. GEB has humbled me more than any other book. In 10 years I will read it again and see what I understand of it than. It symbolizes the interdependence and complexity of this universe in a mindboggling manner. Sat, 4/26/08 11:24 PM

10. none

11. Pentacle magazine, also... Fri, 4/25/08 7:49 AM

12. they've more confirmed my beliefs than shaped them! Thu, 4/24/08 11:20 AM

13. Terry Pratchett's Discworld series has strongly influenced my thoughts on the possibility that spirits and even the afterlife can exist and be influenced by a person's own beliefs or wishes. In some ways, Buffy has...but Willow's "powers" are vastly misinterpreted. With real magics, we would not actually *see* the flashes of light or spells but merely visualise them, and such things would be unlikely to have such an enormous effect on the environment as with the fun to be had within the show. Thu, 4/24/08 12:06 AM

14. Mostly Pagan books by the following authors: Ellen Dugan, Shekhinah Mountainwater, Z Budapest, Scott Cunningham, John Michael Greer, John & Caitlin Matthews Magazines: Pangaia, Sagewoman & a local one, Open Ways Other: "Promethea" by Alan Moore "Deities & Demigods" by Gary Gygax Bullfinch's Mythology All promoted individuality, imagination and "what's beyond"...i.e. more than what the 3 abrahamic religions offer currently. Tue, 4/22/08 8:55 PM

15. My route to paganism was from fantasy books (like LotR) through role playing games (like D&D) to mythological stories (like the Book of Invasions) - all mixed in with environmental politics (I note that politics & other beliefs are missing from this survey) and alternative music, festivals etc. Mon, 4/21/08 3:14 PM

16. no Mon, 4/21/08 6:46 AM

17. Chaos (book) - James Gleick = emphasises that 'reality' has more complexity (in technical sense) than Paganism generally recognises. Ditto science books in general - esp. work cognitive neuroscience. Sun, 4/20/08 12:26 PM

18. Probably all have. At some level. Sun, 4/20/08 2:42 AM

19. I would say that they have entertained me and helped me to think about things, but my beliefs were in part shaped by being raised Pagan and in major part by my own expereinces in adulthood. Sat, 4/19/08 8:43 AM
20. Food for thought... Fri, 4/18/08 2:07 PM

21. Ronald Hutton is a brilliant scholar and I incorporate some of his ideas into my practice. Fri, 4/18/08 10:40 AM

22. Ronald Hutton’s books have been very influential in how I perceive Wiccan and Pagan (as well as pagan) history, though I find his approach to mythologized Pagan practice (as opposed to who did what to whom when) a bit too skeptical to be useful. Sometimes he seems to go out of his way to utterly dismiss the possibility a past people found something numinous at an architectural site! However, this is surely better than the reverse--he is, after all, a historian. Fri, 4/18/08 12:08 AM

23. Books on mythology, particularly Norse Mythology, and poetry relating to Pagan mythology (Yeats, etc), shaped my Heathen beliefs. Thu, 4/17/08 10:53 PM

24. Books about mythology and folklore have helped to shape some of my beliefs in that they discuss the beliefs of past societies. Those past societies have helped to shape the world today, and so looking back to see how we got to where we are today is helpful in self examination of spiritual beliefs Thu, 4/17/08 3:43 PM

25. which books on pagans, wicca, myths and chaos magic? the good are very good- the bad horrid. Also the old or new Who? Narrowing down your questions will allow for more meaningful data-do you really want "sixty second" belief books lumped in with detailed and well researched tomes? I left many blank due to the overly broad question- all of a genre isn’t anything- far better when you chose examples B5 vs all scifi or space opera even. Book titles vs lumping genres or even just series together, love a few of the discworld books, can’t stand others. Farce needs careful balance which is often hit or miss. Thu, 4/17/08 5:04 AM

26. They are for entertainment only. My family shapes my beliefs and the facts that I gather from experience. I am only 30 and therefore still considered a student in my circle. Wed, 4/16/08 4:09 PM

27. Not so much shaped as solidified or reinforced. I must say I am partial to books that support my own views. BUT the support needs to be backed up buy fact or well thought out hypotheses. And ANYTHING that promotes an open mind is good. we cannot ever presume we know all or we doom ourselves by no longer attempting to learn. Wed, 4/16/08 2:55 PM

28. Probably TP and popular science books as much as actual pagan books Wed, 4/16/08 7:02 AM

29. Yes, I take what fits me from every source I’m exposed to, but view everything with a logical, rational eye. Tue, 4/15/08 7:41 PM

30. confirmed rather than shaped Tue, 4/15/08 5:35 PM

31. Well, Terry Pratchett has the closest representation in fantasy to the mindset of an actual witch than any other author I’ve read, but that’s not something that has necessarily shaped my belief. Reminded me that leaving my body unattended is not a good idea, maybe :P ’A Hat Full Of Sky’ Ronald Hutton’s books have done an excellent job in educating me as to the real origins of many modern Pagan
practices. As I'm a Romantic Pagan (with Romantic in the sense of the ideals of the artistic/philosophical movement of the late 18th through to mid 19thC, not meaning 'dreamer' or in a sense of relationships here) the 19thC origins of some of the things I do don't bother me in the least. I'm quite against mixing fantasy and religion. Religion is about understanding the real world and communicating with real gods, and too much use of the mythological and fantastical can cloud the issue, and Paganism should never, ever be escapism. I have nothing against being imaginative - I'm an artist/illustrator, musician and poet! I love watching nature documentaries, and documentaries in general. It's a reminder of just how majestic and glorious the world when I can't see that majesty for myself, and an understanding of how the physical and mental world is and works is useful for investigating how the spiritual world works and is, as they are all part of the same thing. The only Pagan magazine I read is Pentacle. I've always been Pagan, I think. It's just part of how I see the world. Of course, I didn't know what my beliefs were until I picked up 'Wicca: A guide for the solitary practitioner' by Scott Cunningham when I was 13. I'm not Wiccan anymore, different denomination/tradition of Pagan now, but it showed me a group of religions which incorporated my beliefs about the world. Even when I was Christian as a small child, I questioned how God could be only male, if there was a Heaven or Hell (I think there is only this world.), and why Nature wasn't revered. My religion has probably been more shaped by the poems of Keats, Wordsworth and Shelley and their Romantic contemporaries than by books on Paganism. Tue, 4/15/08 1:47 PM

32. yes, all books shape my beliefs in some way. all books expand my world view. anything that tempts and teases the imagination is a good thing. Tue, 4/15/08 12:07 PM

33. They often pose interesting hypothetical questions, and also remind me to not take myself too seriously! Tue, 4/15/08 9:02 AM

34. Initially pagan books led me to paganism and the myriad of traditions, folk lore and the slightly more factual history behind it. It led me to study what could be found regarding spirituality in pre-Babylonian Sumerian times. It is always an ongoing experience. Tue, 4/15/08 2:26 AM

35. No, my beliefs have been shaped by experience and my own philosophising. Tue, 4/15/08 12:03 AM

36. No, but they are entertaining, especially Harry Potter. But in no way do I connect them with my beliefs. Mon, 4/14/08 3:50 PM

37. Riane Eisler: The chalice and the blade (book) Adler: Drawing down the moon Starhawk: The spiral dance Mon, 4/14/08 8:47 AM

38. developed what was there already Mon, 4/14/08 2:44 AM

39. Many books have shaped my beliefs, but not the ones that you have listed here. Sun, 4/13/08 9:28 PM

40. I have learned quite a lot from Pagan Dawn since I joined the PF Sun, 4/13/08 9:20 PM

41. The pagan based books helped me explain and define my beliefs Sun, 4/13/08 8:14 PM
42. No, I found interesting parallels with life today. Sun, 4/13/08 8:00 PM

43. Yes, mythology books and archaeology magazines. Because with the former, I believe there is a kernel of truth to every myth. In the latter, there are many things still questionable about history that people using science cannot answer. So, it is interesting to read the 'safe' theories and it makes me wonder if an archeologist ever thought outside the box, if questions could then be solved. My favorite authors who have shaped my thoughts and my beliefs (somewhat) are Graham Hancock and Zecharia Sitchin. Sun, 4/13/08 5:51 PM

44. Why did you not include "Charmed". They give additional input for me to possibly work into my daily practices. Not so much with the sci-fi. Sun, 4/13/08 4:17 PM

45. no. Sun, 4/13/08 4:02 PM

46. You should have included _Mists of Avalon_ by Marion Zimmer Bradley in pagan influencing books. Sun, 4/13/08 2:30 PM

47. Fiction-No they are just a lot of fun. Non-Fiction- Not really but it's always good to be open minded and take other ideas on board. Sun, 4/13/08 1:30 PM

48. They serve as positive affirmation that my ideas are shared by others. They help to bind/connect separate threads of information and thoughts together into something more coherent. Sat, 4/12/08 11:56 PM

49. In most cases no. Some of them, such as Dawkins' The God Delusion, fitted in with my existing beliefs, but may have refined them a little, or perhaps reinforced them by providing an external (to myself) referent. Others, such as the Discworld books (and other authors/producers/etc not mentioned) have shaped my beliefs to varying extents. Usually by providing a new lens through which to examine ideas etc. I might then agree or disagree with the author (producer, whatever), but my beliefs, values, etc have been affected or shaped by the arguments presented. Sat, 4/12/08 1:40 PM

50. Adams: The HItchhikers' Guide Trilogy. Excellent, working ideas Fri, 4/11/08 12:08 AM

51. This is slightly embarrassing but, I first came towards Paganism after reading JRR Tokien's Lord of the Rings and The Silmarillion because it was the first time I ever heard about Goddess worship and the female divine. Thu, 4/10/08 8:48 PM

52. It's not about the shows or books. what they're doing in projecting these fantasy worlds is a really long shamanic otherworld journey so that they can step inside the characters and their world. If one is able to take those and manipulate their circumstances, it becomes a form of magick working. Thu, 4/10/08 7:48 PM

53. to some extent, i tend to digest things internally for a while, and based on what i think and/or feel about them decides whether or not it gets incorporated into my belief system. Thu, 4/10/08 3:30 PM
54. Some of my beliefs have been shaped in part by Pagan and Heathen books and some lore/mythology. I have also been influenced by Hindu scriptures which do not appear above, such as the Puranas and Bhagavad Gita. Thu, 4/10/08 12:55 PM

55. Some of them have given me questions which I have investigated which have broadened my understanding Thu, 4/10/08 10:49 AM

56. no Thu, 4/10/08 9:51 AM

57. Hutton has shaped my beliefs, as have other books about Paganism. "Buffy" has, too, but not in any direct or literal sense; metaphorically, it has rich insights into embodiment and incarnation. Thu, 4/10/08 4:07 AM

58. Everything I read, hear, or see affects my spirituality. Spirituality does not develop in a vacuum. Science and archeology books/material have the biggest impact on my worldview. Everything else opens me to other ideas and affects my comparative analysis. (By the way, I was really affected by "The Way of the Peaceful Warrior"). Thu, 4/10/08 3:18 AM

59. I would say no, except for the books on Paganism... but for the most part, my ideas were only solidified by those books, not created by them. I just like to read and experience other forms of media, for entertainment purposes. Still, I feel like our spirituality is constantly being shaped by the world around us, so I'm sure there was some sort of influence. Thu, 4/10/08 2:32 AM

60. Only LoTR - - I'm too old for the rest. And many of the TV shows are not available in the U.S. Ask me about Thomas Burnette Swan, though: he was HUGE! And what about Diane Duane & Charles deLint? Thu, 4/10/08 1:22 AM

61. No, not really. Wed, 4/9/08 11:46 PM

62. I think the options should have allowed us to say how much we enjoyed these books etc - not how 'good' we consider them. Also, quality within each genre (where applicable) varies enormously. Good pagan books have shaped my beliefs - but my own experiences more so. Wed, 4/9/08 7:18 PM

63. Well there are some Pagan books abot Heathenry/Asatru that have been important to me as well as the Prose and Poetic edda. As for scientific works I only apply those into my spirituality that already seem to "fit" if you will. For other forms of science I generally believe in them though I feel there is still too many unanswered questions to say it is "truth". Wed, 4/9/08 7:18 PM

64. No, most are just for pleasure. Wed, 4/9/08 7:11 PM

65. I suspect the various mythology books I've read have shaped much of my attitude to deity, might or might not exist, probably do, if they do there's multiple cause in nature there's seldom 1 of anything, but it's not relevant or important to my life whether they exist and whether I or others "believe" in them. Wed, 4/9/08 6:08 PM
66. Yes literature has developed my learning and so help shape my beliefs, but not the TV/film here. I would not have used the headings "good", "poor" etc, but "disliked", "enjoyed" etc; just because I didn’t like something doesn’t mean it’s poor, it’s just not my taste. It may still be good and enjoyed by others. And just because I enjoy something doesn’t mean it’s particularly good! Wed, 4/9/08 5:58 PM

67. The books on science and the new scientist magazine have had an influence on my views on paganism. There are occasionally articles on the Cauldron that have had an influence on me. Triumph of the Moon is a book which has had an impact on my views of the Craft. While I love Doctor Who, Buffy and Star Trek they don’t impact on my spiritual beliefs. Wed, 4/9/08 4:23 PM

68. No, what, no comments invited? I judge The Pom on entirely different grounds to those I use for Pagan Dawn. Likewise, Tolkein is a different genre to Hutton (much as he would like to think otherwise!) This section is very problematic to me. Wed, 4/9/08 4:13 PM

69. None have shaped them. I merely enjoy them. Wed, 4/9/08 2:49 PM

70. Fantasy has had an effect on my belief in a world that is more than just material. I think that fictional universes and characters open up my emotional world which almost touches upon the spiritual. Books on mythology and religion have shown me that there are both similarities and differences in religious practice and religious experience, and generally all religious paths can lead to sacred reality. I choose Paganism because it gives me more freedom to choose how I approach the divine, spirit, etc, without having to restrict myself to a specific path, such as Christianity or Buddhism. While I can appreciate such traditions, which have been tried and tested throughout the ages, I need something that is less, I guess, dogmatic. To be honest Paganism for me is a kind of default or foundational religion, which I can build upon through my own personal practice and experience. Wed, 4/9/08 1:41 PM

71. I had my beliefs on a deep level before seeing or reading any of these. However some books and films do echo and/or expand my beliefs. Wed, 4/9/08 1:30 PM

72. not at all Wed, 4/9/08 5:25 AM

73. Some of the Pagan books have shaped my beliefs, however the type of Paganism that I believe will always be changing. It may stay the same for a number of years and change slowly, but yeah. Wed, 4/9/08 3:50 AM

74. Yes, each in its own way. I realize there is a vast power in the Universe, something I know as the Divine. The more scientific knowledge we gain, the more we can physically connect to this power. When I meditate, I reach a different conscience level where my mind explores/joins this power. The potential of combining the two is incredible. I believe humans are on the verge of discovering this natural phenomenon and that my Pagan worship combines the physical with mental ability to achieve a greater evolution of that which I call self. Wed, 4/9/08 3:18 AM

75. Though I have read a few of these, I don’t think any of them have influential on me.... Wed, 4/9/08 12:48 AM
76. you forgot my favourite TV show Charmed. That, Harry Potter and the Lord of the Rings reflect my sentiments and some of the booka about paganism als did and have confirmed my resolution to become Wiccan Tue, 4/8/08 10:06 PM

77. "The Spell of the Sensuous" by David Abram most definitely had the biggest impact on my pagan beliefs of any book I've read. Starhawk's "Dreaming the Dark" would come second, but already to a much lesser extent. Tue, 4/8/08 6:49 PM

78. Yes, pagan books have given me a "name" for what to call myself. I have never believed in the Christian beliefs and thought I was the only one. Tue, 4/8/08 6:32 PM

79. The Lord of the Rings probably did, and some of the others but it would be hard to put my finger on specifics; it’s more a case of they affirm certain feelings and gave me the confidence to accept my own thoughts and feelings about paganism. Tue, 4/8/08 5:24 PM

80. not really, though many other books have; this is a pretty limited selection here. Tue, 4/8/08 4:17 PM

81. My viewpoints(don't like your word 'beliefs' were originally shaped by the writings of Gertrude Levy in archaeology, Jo Campbell and R.Graves in mythology, M.Eliade and E.O James in Comparative Religion. I don’t watch much TV.hardly ever read science fiction/fantasy or films in that genre (escapist literature) so much of the above list I have been unable to tick at all. Most of the populist books on Paganism are lightweight. Tue, 4/8/08 4:10 PM

82. Not as such however wisdom about the way things are and what makes them so can be found in the most strange places sometimes -e.g. sci-fi TV shows. Tue, 4/8/08 1:06 AM

83. This is a fascinating list. As Pagans aren't "People of the Book", we have to look to our own cultural imagination. It is clear that, upon digging, there are many sources for myth and theology for us. Mon, 4/7/08 11:40 PM

84. Many, like Pratchett, resonate with it - I see similarities, and I often feel like quoting Pratchett to explain/illustrate ideas. I have studied Paganism at an academic level, and this has certainly helped refine introspection about my own beliefs. And, with many of them (Pratchett, Gaiman, etc) it seems crucial to keep a sense of humour! I can’t say why over breakfast, but I definitely respect a Pagan who can laugh about their beliefs or things that relate to it more than one who can’t. It indicates balance within one’s belief, I suspect - it isn’t that furtive defensiveness that some seem to have. I cultivate this humour through reading Pratchett etc, and am proud that I can relate my beliefs to fiction without feeling that they are belittled by this. Mon, 4/7/08 11:26 PM

85. The books about Paganism introduced me to the ideas of Paganism. Fantasy books gave me a 'knowledge' of some of the basics of magic (including different kinds of psychic gifts, grounding, and centering). Mythology tells me more about various pantheons, and factual science books gave me something to build spiritual beliefs on. Mon, 4/7/08 11:17 PM
86. There are many fiction novels and nonfiction books that I cherish that I know have had a critical impact on my perception of the world. I can think of no TV show or movie that has had the same impact. Mon, 4/7/08 11:06 PM

87. The great variety of perceptions and hypotheses that creative imagination and science expresses helps keep me from taking hard "truth" positions about the nature of reality. I much prefer living with ambiguity and mystery. Mon, 4/7/08 10:58 PM

88. Not certain I could answer this in a short forum Mon, 4/7/08 9:35 PM

89. yup! <G> loved Star Trek as a young adult - it gave me a window to the future....books on myths helped to shape my religious beliefs. Mon, 4/7/08 9:03 PM

90. Triumph of the Moon has brought a lot of insight into the beginnings of the Craft which were not so widely known Mon, 4/7/08 8:15 PM

91. Nope, it's just a genre that interests me in all it's forms. I don't find Buffy or Harry Potter to be particularly educational or inspirational, just fun! Mon, 4/7/08 8:08 PM

92. Egyptian mythology, the sky at night and Dr. Who all share a place in helping shape my pagan beliefs from childhood....Gods as archetypes, the infinity of the universe and parallel dimensions in time and space.. all interwoven in life Mon, 4/7/08 8:01 PM

93. None, of the above, but Robin of Sherwood introduced to Paganism in the 80’s. Mon, 4/7/08 8:00 PM

94. Not sure if I have any 'pagan' beliefs; have in general been influenced more by books on WMT (e.g. Fortune/Butler/Knight) and on native spirituality/shamanism than by books on paganism per se, with one or two exceptions. Mon, 4/7/08 7:50 PM

95. Yes, of course. Reading books on paganism have helped me think about and develop my own beliefs. Mon, 4/7/08 7:36 PM

96. No Mon, 4/7/08 7:09 PM

97. 2001: A Space Odyssey - awareness of the potential of the human spirit Mon, 4/7/08 6:11 PM

98. a little - but not sufficiently to be able to say - btw i'm confused by the term genre - "genre science" would mean popular science Mon, 4/7/08 5:58 PM

99. I feel that everything I experience changes or adds weight to my beliefs by adding varied perspectives Mon, 4/7/08 5:57 PM

100. books and websites acted as an introduction to pagan beliefs, however i didnt find them very useful beyond an introduction and developed much of my belief system myself Mon, 4/7/08 5:30 PM
101. Some pagan/wiccan books have helped shape my personal beliefs. Incidentally, although I have put "dreadful" against "2001 A Space Oddessy" this is only because I have tried to watch it three times and fallen asleep each time! Hi Yvonne - it's Jeremy :-) Mon, 4/7/08 4:50 PM

102. I think there's a good chance that The Lord of the Rings has to some extent as first read them when I was 9. Also as a young person I read everybit of celtic mythology I could get my hands on and I'm sure it influenced me. One Show you left out that I know influenced my beliefs was x-fiels, especially season 7 (i think?) the discussion of religion effected me in a profound way that only became clear when I rewatched the series a couple years ago. Mon, 4/7/08 4:49 PM

103. Sometimes I aspire to be Granny Weatherwax! - no, not really! Mon, 4/7/08 4:31 PM

104. Books such as The Tao of Physics definitely validate for me the effectiveness of Magick...I mean, I use it, it works - but this allow me to be able to point people who are sceptical to informational sources that appeal to those who take a more purely scientific bent. I have found Star Trek:TNG to deal with many themes that are relevant to the mystical and spiritual experience, and love being able to point to a particular episode when in discussion with others, as it helps illustrate a point that others might not be familiar with outside of that context. I think fantasy novels are great for feeding the Inner Child, the Imagination, that is the main powerhouse of Magick. It helps you feel that you can truly be connected to forces bigger than yourself and outside of the current mainstream. Keeping your imagination bright, quick, and expansive is vital to magickal work. Mon, 4/7/08 4:19 PM

105. The genres of sci fi and fantasy have let me have an open mind, and a curiosity about the world. Science books or magazines have filled me with wonder about all things around me, especially nature. These things are what I define as the fundamental parts of my beliefs. Mon, 4/7/08 4:11 PM

106. Genre questions are shaky - marking them Average is a compromise (and flies in face of Sturgeon's Law: 90% of everything is crap). Mon, 4/7/08 4:09 PM

107. Some of these have sparked an initial curiosity which has led to further research. This, in turn has shaped my Pagan beliefs. Mon, 4/7/08 3:23 PM

108. not that I am aware of Mon, 4/7/08 3:23 PM

109. Star Trek and Babylon 5 , Tolkien, fringe/pseudo /new wave sciences (ie Quantum science) Mon, 4/7/08 3:16 PM

110. By increasing my sense of wonder and optimism. Mon, 4/7/08 2:50 PM

111. Fantasy books and fairy tales probably spiked my original interest in paganism. Mon, 4/7/08 2:47 PM

112. No, the media has yet to show a positive/true facet of the Pagan culture/society. Mon, 4/7/08 2:42 PM
113. American Gods and Discworld have given me explanations of how deities might come into being, and interact with the world Mon, 4/7/08 2:38 PM

114. God Delusion - very concisely showed how any belief (inc Paganism) had exactly the same flaws as Christian belief. Triumph of the Moon - that Paganism can be approached via scholarship Mon, 4/7/08 2:15 PM

115. Didn’t tick what I’ve not read. Everything I interact with shapes my beliefs. Mon, 4/7/08 1:12 PM

116. Not that I’m aware of. Terry Practchett has some interesting ideas. Mon, 4/7/08 1:01 PM

Summary of the above

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<td>Pagan (eclectic, eco, non-theist, Unitarian Pagan, Quaker Pagan)</td>
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### 8. Country

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</tr>
<tr>
<td>Antarctica</td>
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<tr>
<td>Belgium</td>
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<tr>
<td>Canada</td>
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<tr>
<td>Germany</td>
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<td>Hungary</td>
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<tr>
<td>New Zealand</td>
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<tr>
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</tr>
<tr>
<td>South Africa</td>
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<tr>
<td>Sweden</td>
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<td>2</td>
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<tr>
<td>Trinidad and Tobago</td>
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<tr>
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<tr>
<td>Other (please specify)</td>
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</table>
- Kentucky
- (ex-pat Brit)
- via America
- Irish
- Australia
- Scotland
- CANADA
- Wales
- Scotland
- England

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<th>9. Job type</th>
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<tr>
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<tr>
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<tr>
<td>Arts, design and crafts</td>
<td>7.60%</td>
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<tr>
<td>Construction and property management</td>
<td>2.20%</td>
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<tr>
<td>Counselling, social and guidance services</td>
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<td></td>
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<tr>
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</tr>
<tr>
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</tr>
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<td>Law enforcement and public protection</td>
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</tr>
<tr>
<td>Leisure, sport and tourism</td>
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<td>Logistics and transport</td>
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<tr>
<td>Manufacturing and processing</td>
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<tr>
<td>Natural resources and the environment</td>
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</tr>
<tr>
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<tr>
<td>Scientific services</td>
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Do Pagans see their beliefs as compatible with science?  

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<tr>
<td>Total:</td>
<td>61</td>
<td>20.40% 299</td>
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</table>

- retired
- Unitarian Minister
- Full time mom, part time volunteer for various organizations
- Sorry, don't fit any of these. Long story, but I don't work of my own choosing.
- Full time mum
- Student
- Student
- also, gardener.
- I'm *supposed* to be a fantasy novelist, but hey that takes time. I also hope to be a freelance proofreader when I can get it kickstarted.
- Homemaker and lifelong community volunteer
- college student
- Student
- Writer and artist
- Student
- Student
- software tester
- Real Estate Title and Escrow Abstracter
- I'm an artist/illustrator/musician, but that doesn't pay well enough to live off, so I work in the supermarket until I leave college and can spend more time on my professional art.
- student
- Grant Consulting, Writing & Administration
- Computer Support / Webmaster / Desktop Publishing
- Military
- Retired
- student
- retired therapist
- Pensioner (disability)
- Military
- warehouse
- student
- Student
- i am a practicing herbalist with a retail herb shop
- Writer, cat herder, and farm hand.
- psychology student
- Technical writer for an e-commerce company
- I am a cantor at two Catholic churches, a singer, a college student, and I work at a metaphysical gift store
- Student
Well, performance management in the police service combines the two above!
Public Library, Children's
I just moved from LA to NY
Student
and holistic therapist
Marketing
Full time student
university student
Disabled
Student
graduate student
graduate student
Student
Full time student at the moment, tutor some semesters
Student, not yet in the work force
Administrative Support (i.e. Secretarial)
Student
Student
I clicked the closest box, as clergy / spiritual care was not on the menu
student
College student
Retired
Civil Service
Third Sector: Chief Executive Officer
therapeutic and creative computing
student - aiming for career as an archaeologist
Retired Civil Servant
Public sector change management
Student of Biology
All sorts. Catering, Agriculture, Plumbing to name but 3
Studying in College
Student
Ticked a number of boxes as I have several different jobs!
Author
Retired Registered Mental Nurse
Student
### 10. Subject(s) you have studied at a higher education level
(PhD, Masters, postgraduate professional qualification, or undergraduate)

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<tr>
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<tr>
<td>Other (please specify)</td>
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<td>39</td>
</tr>
</tbody>
</table>

- Creative Writing BA Honours
- Art History
- Pursuing MS in IT Systems Management - cross between MBA and IT.
- History of science, technology & medicine
- Well, I haven’t finished my A levels yet, but I shall be off to study art soon :)
- No institutional degree
- I have ticked journalism because of professional qualifications - - not university - this is too university centred a list
- statistics
- Public Transit
- none
- Copy Writing
- phD in Clinical Psych, MEd in Family counselling, MDiv and BS in Math and Chemistry
- Science
- Drama and film studies
- working on diploma of master herbalist, will be going after doctorate sometime next year
- Software applications
- I will be studying Environmental Science in September
- I’m about to pick up a minor in Religion in Society
- Art History
- Theatre, Film and Television
- nursing
- Zoology
- Religious Studies
- Will have an undergraduate in Chemistry shortly
- World Literature, Mythology, Folklore
- Museum Education
- Liberal Studies
• Fashion Arts
• Social Policy, Welsh
• orientalism
• University of Life!!! :-)
• Where does Biology fit?
• Literary Theory
• biological sciences inc microbiology and food science
• Astronomy
• Town and Country Planning
• Extensive 30+years study of magic and religions equal to many, many degree level courses!
• Finance
• professional writing, community development,
Appendix 4: Responses to email (semi-structured interview) questions

Interviewee A

1. What areas of science interest you and why? How do they make you feel?

I love astronomy, I think it is amazing how much information we can gain for a place so far away by just the light it sends us. I also think it’s cool how we see everything so long after it happened. It is like everything is in slow motion. Plus, I think it is amazing as comforting to think of how small we are compared to the universe. It kinda calms me down, like, even if I screw up it is ok b/c I’m such a tiny spec in the universe that I’m not going to ruin anything. (I mean I may have some messed up karma, but at least the world isn’t going to end or anything! ;).)

2. Do you feel there is any overlap between the domains of religion and science?

Yes and no, I think science is something that must be used without preformed thoughts and beliefs, making it separate from religion and VERY VERY different. But I do think that it could be useful in looking at religions and proving various aspects true or false (Ex. Christ’s crusifiction, The lost city of Atlantis, Holy Grail, etc) But I think that when religion and science are mixed we get very bad and skewed results, kinda of like religion and politics!

3. How do you feel science fits in with your religious / magical / spiritual beliefs?

I believe so, I am a very fact based person, so if I can’t see or feel something, or be able to explain it in some way then I have a hard time believing. But for the most part science has shown that energy (which is magic) exists, so then why can’t I direct it? It also shows that no religion can be proven true which underlies my belief that all paths are valid for the person walking it... there is more then one type of person, so there should be more then one way to worship.

4. How does magic work, in your view?

Magic is energy, science has proven that energy is in everything and makes up everything. So if all the physical stuff is made up of energy then all the spiritual stuff is made up of energy (makes sense right...) Well, you can direct and move energy in physical things, so why not in spiritual things. I believe magic is just that. A person redirecting energy to a specific pattern, location, time, etc. (I know it is oversimplified, but i’m no brainiac!LOL!)

5. How does your view of cosmology (gods, the nature of the the universe) fit with science?
My religion allows me to bend and shape what I believe so I can make sense of the physical and spiritual world around me. This includes the web of life belief I hold, which says everything is interconnected and there for valuable. Science has shown that all animals, plant and people and environments are interconnected. (Just look at global warming and all the scientists predictions on that)

**Interviewee B**

1. *What areas of science interest you and why? How do they make you feel?*

Sub-atomic, astro- and metaphysics interest me most. When I explore these areas I feel they confirm my spiritual beliefs, although I feel there is a long way to go before my beliefs are fully confirmed by science. I do hope however, that one day these things will tarry completely.

2. *Do you feel there is any overlap between the domains of religion and science?*

I believe that these two domains were once far more closely linked before religion became overrun by politics. I feel there IS an overlap which is largely ignored nowadays. It seems to me as if science and religious scholars have agreed to disagree and gone their separate ways which I think is a shame as a more open-minded approach from both parties could result in spectacular discoveries. (See Q5.)

3. *How do you feel science fits in with your religious / magical /spiritual beliefs?*

I'm going to cut and paste from one of my posts on the [forum] to answer some of the following questions:

I believe that there is an energy deep inside the atom that we don't yet understand. In any object, the collective force of this energy embibes the object with a 'spirit' or energy pool that is specific to that object and is similar to the spirit of a similar object. These spirits overlap and interact so that there is also a universal and even an eternal energy spirit. As energy is neither created nor destroyed, these spirits can exist even after the object itself no longer exists as we know it (for example when a person dies their spirit can still exist as it was). I am inclined to believe that these spirits may exist in another dimension, such as a parallel universe.

4. *How does magic work, in your view?*
I believe it is possible to interact with these spirits and use them to influence what happens in the world we can sense with our everyday physical senses. If such energy/spirits exist as described (as I believe they do), our own spirit is intrinsically connected to all the other spirits around us. It is through this connection that we are able to interact with and influence events and/or other spirits around us. This is what and how I believe magic to be.

5. How does your view of cosmology (gods, the nature of the universe) fit with science?

I believe that the mysterious 'energy/spirits' I have spoken of may one day be explained scientifically and that we will be able to use this energy in a way similar to the way we once harnessed the 'power of lightening' to make and use electricity. This may open up incredible possibilities: perhaps deep space travel, telepathy, the use of kinetic energy etc. I also believe that this same energy is responsible for the effects of astrology and prayer-power. I think modern science has directed our attentions away from that which has not yet been proven and it is only through those few scientists who have been prepared to make a leap of faith that we have made many of our significant scientific advances. It is therefore very important to our evolution to be open-minded.

Interviewee C

1. What areas of science interest you and why? How do they make you feel?

I am interested in Computer Science (I majored in that in college), as well as Physics, Biology, Astronomy, Zoology, and Anthropology, and Psychology. I find the subjects fascinating and humbling at the same time. There is so much learn about so many things so it makes me feel confused, overwhelming, and exciting at the same time.

2. Do you feel there is any overlap between the domains of religion and science?

There does seem to be a gray area where the two overlap. I know science deals with the natural world, while elements of faith commonly introduce the supernatural.

3. How do you feel science fits in with your religious / magical / spiritual beliefs?
Science forces me to question my religion which is a good thing. I don’t see any conflict with my neopagan faith.

4. How does magic work, in your view?

Magic is part positive thinking, part psychology, and part assistance from the divine. I consider it to be the ability to bend the rules of statistical possibility.

5. How does your view of cosmology (gods, the nature of the universe) fit with science?

I cannot prove that any deity exists. I know that what I understand of the deities is based on my personal experience which is not always reliable and is worthless in justifying the existence of deities to anyone else. While I don’t think the universe is guided or designed by the divine, I do believe the universe exists as it does (without conflicting with science) as a byproduct of the divine. They set the ball in motion and let it roll from there.

Interviewee D

1. What areas of science interest you and why? How do they make you feel?

Particle physics and astrophysics are my main areas. I suppose because I find them enjoyable really. But they do show how incredible our universe is, things happen all by themselves with precision and scale far beyond what we can do.

2. Do you feel there is any overlap between the domains of religion and science?

There doesn’t have to be, but they often do end up overlapping. Religion used to play a bit role in explaining how the universe worked, science has now filled nearly all of that. Where religion tries to override science, it invariably ends up looking stupid so that role is well and truly obsolete. Science sometimes tries to ask why (usually when scientists say "why?" they mean "how?", I’m talking about when they actually mean "why?") which I think it stepping on the toes of religion a bit. Some questions about the Big Bang have yet to be answered by science and currently do look very like the intervention of a deity, but that might be just because we don’t have enough information yet. They’re currently up for speculation by both sides.

3. How do you feel science fits in with your religious / magical / spiritual beliefs?

Science is the how, religion is the why. I don’t have any conflicts between the two in my belief system.
4. How does magic work, in your view?

I see it as tweaking the probabilities, and the better you do it, the further you can bias things your way. It won’t actually break the laws of physics. I’ve heard people speculate it being something to do with quantum mechanics, QM involves probabilities as well so there could be a link there but exploring it too far usually declines very rapidly to pseudoscience of the most hideous variety. Maybe what drives QM also drives magic rather than one working by the other.

5. How does your view of cosmology (gods, the nature of the the universe) fit with science?

The god/s set the laws and sometimes give things a push, but probably only in the adjusting probabilities way rather than breaking their own laws once set. I don’t see them as omnipotent. Creating something which basically creates itself sounds to me much more like the work of an intelligent being than something ready-made and static. As the human race advances, it’s more automation rather than higher levels of intelligence which drive our technology. So why wouldn’t something so much greater than us create the ultimate automatic machine? This is why I have a problem with creationists who think a god would bother with the very tedious and very dull process of hand-crafting everything completed, which would take much fewer godly powers than fine-tuning the laws of the universe, (metaphorically) pressing the big red button to set a formless singularity expanding and watch it all work perfectly!

Interviewee E

1. What areas of science interest you and why? How do they make you feel?

Physics, specifically quantum theory.

I want to know what the universe is and how it works, and the latest moves in physics seem to be heading in that direction.

I struggle to get my arts-graduate head around it, but when I do get the gist of it, I feel awed and mystified, but also joyful and hopeful that we may be getting to the bottom of this ultimate mystery. I’m also a little hopeful that the knowledge may have practical applications that will benefit all of us.

2. Do you feel there is any overlap between the domains of religion and science?

Absolutely – as long as one understands both terms as being endeavours aimed at understanding the nature of ‘life, the universe and everything.’ (Religions that focus on kneeling in devotion before the bones of saints become ossified themselves, and science that
finds a few regularities and then stops looking goes blind. Neither will have a lot to say to the other.)

3. How do you feel science fits in with your religious / magical / spiritual beliefs?

a. The ‘scientific method’ isn’t just for science; it is a rational way of making sense of the world. I apply it to my spiritual practices.

b. Some sciences (psychology, biology, etc.) can give complementary explanations for experiences I have during spiritual practices. Being complementary, one explanation does not necessarily exclude others. For example, stimulating a point in the brain makes you think god is talking to you. It does not follow from that, that god does not talk to you. By way of counter example, stimulating certain neurons will make me think I see a table in front of me, but that does not mean that I never see a table. However, what science says about the causes and effects can sometimes be interpolated into the spiritual explanation, revealing things that have not yet been directly experienced and can then be looked for – and possibly vice versa.

c. More importantly, I think science, especially the latest advances in physics, is getting to the same place as I am trying to get to with my spiritual practices; understanding the underlying nature of the universe.

4. How does magic work, in your view?

a. Psychological explanation: It engages the subconscious mind which can be thought of as a supercomputer – huge memory and ultrafast processing, particularly good at working out probabilities from partial input data. Example: when I ask my pendulum where I left my keys, my subconscious either remembers seeing them or works out where I am most likely to have left them, and gives me a yes/no answer by imperceptibly small movements of the fingers holding the pendulum. There is no invisible demon-savant pushing the pendulum. I call it ‘this side of the door’ magic, alluding to a model of mind whereby our consciousness at the deepest level is connected – as if through a door hidden in the depths of our minds – to the rest of the universe.

b. ‘Other side of the door’ magic involves interactions between our own minds and the consciousness which underlies the universe. For me, this is pure theory as yet. It is based on the possibility that consciousness is either a fundamental property of the universe – along with mass, gravity and electrical charge, say (see D Chalmers, *The Conscious Mind*) – or whatever the fundamental ‘stuff’ of the universe is, it can manifest itself as consciousness, mass, gravity, etc. So far, I am still looking for a convincing instance, or even what set of circumstances could represent a convincing instance. Rational, non-mystical, this-side-of-the-door explanations for potential b-type phenomena pop up with all the persistence of Descartes’ deceiving demon!
5. How does your view of cosmology (gods, the nature of the universe) fit with science?

I’ve adopted (one or other of) the panpsychic position(s) described above in 4b as a working hypothesis. I’m still learning about quantum theory, but I think it seems to be heading to a view of the universe which is essentially similar, albeit described in different terms. A conscious universe is just way too big for a human mind to interact with. One has to conceptualise it in some way to make it more manageable. (Analogy: when addressing a crowd, one imagines one or two typical listeners and addresses them.) With my arty, folkloric background, I imagine it as any number of gods, spirits and what have you. A more mathematically trained mind might be more comfortable with pure mathematical definitions.

If it turns out that the universe is not only conscious but also has things like intentions and volitions, I rather suspect I will be in a better position to understand them and do something about them than a mathematician, but I stand to be corrected on that; it’s a doubly hypothetical situation, and I know too little about mathematical understanding to speak with authority.

Interviewee F

1. What areas of science interest you and why? How do they make you feel?

My greatest interest is in the Philosophy of Science because it considers the ruleset(s) which define why science is what it is and how it works. It is my nature to be more interested in the causes of things than in the outward symptoms that arise from these causes.

I have a professional interest in the application of the hard sciences (chemistry, physics etc) as they impinge directly on my work as an engineering consultant. This interest wanes considerably for ‘pure’ science with no practical applications.

‘Soft’ sciences, in particular those to do with the mind, personality etc, I enjoy, though as often as not it is clear that the practitioners are groping in the dark and there is much work still to be done before anything concrete can be concluded - if it ever can. It allows for interesting mind-games, but I wouldn’t ever want to trust my life or sanity to such people.

2. Do you feel there is any overlap between the domains of religion and science?
To the extent that both science and religion seek to provide an overall worldview or paradigm, it is inevitable that there will be considerable overlap between the two. However, in that the two paradigms stress different things as being the key features of underlying reality, there are many areas in which one or other paradigm can be seen as 'dominant' (i.e. those areas which one paradigm sees as being core to its worldview, while the other sees as peripheral). The only areas of real interest are those which both paradigms see as highly significant, and in which they don't agree. In such areas I tread with great care.

3. How do you feel science fits in with your religious / magical / spiritual beliefs?

My religico-magical/spiritual beliefs mostly relate to areas of interest which are at best peripheral to the core scientific paradigms, and in such instances I am happy to apply another paradigm in these areas which more directly addresses these topics.

The interface between 'magic' and what science would call 'placebo effects' is an area of considerable interest.

In the application of operative magic, I generally seek to influence the probabilities of events, rather than seek to achieve anything which the scientific paradigm would dismiss as 'impossible', but that is as much because I like to seek 'the line of least resistance' as because I believe such things are actually impossible.

4. How does magic work, in your view?

Two different strands.

Petitional magic, in which some Power/Godform/Spirit or whatever is petitioned through prayer, sacrifice or similar to assist in allowing a defined outcome to occur. I doubt the physical existence of the relevant Power/Godform/Spirit in any sense that we would be capable of understanding, preferring to see these images as metaphors for some underlying thing beyond my comprehension, which could be anything from an entity in the classical sense to a peculiar set of laws of nature yet to be discovered which have the relevant consequences. I do not believe that the actual form of that which underlies is knowable, so speculation is fairly academic. For practical purposes, if I treat the 'image' as real, it works well enough without having to worry myself about the underlying unknowable.
Direct operative magic, in which in return for effort of a particular kind expressed in carefully defined ways, goals can be achieved. To be honest, I have no idea how this works, but it seems to, at least at a probabilistic level. Again, belief in the efficacy of the system seems to be a fairly general pre-requisite for this kind of work (though there are exceptions), so if I do this kind of work (which I don’t very often) I simply try to find a way to suspend disbelief for long enough for the magic to work. Much of the ritual surrounding this kind of work seems to have this aim in mind.

5. How does your view of cosmology (gods, the nature of the universe) fit with science?

How? Humility. Not believing I know (or even can know) the answers in any absolute sense, being willing to listen to all viewpoints with an open mind and to see what seems to 'work' for me, then being willing to listen again to opposing views, and to test them where there is doubt. That is the basis of both any science and any religion I’d be willing to give floorspace to.

Of course, I don’t always live up to that ideal, but at least I try.

Interviewee G

1. What areas of science interest you and why? How do they make you feel?

~ Any of the natural sciences; zoology, botany, geology, mineralogy, paleontology, etc. They’re all interactive/interdependent. Archaeology and anthropology serve to show us where we came from and how we got here, and to help sort through the murk that is often a result of human ignorance or bias mucking up recorded history.

2. Do you feel there is any overlap between the domains of religion and science?

~ Sure. Science is meant to illuminate the universe; religion is meant to help us relate to it. I feel that trying to make them disassociated departments is the same kind of fractured thinking that tries to say that one’s physical, mental, emotional, and spiritual aspects are not related. More of that “spiritual self is divine; physical self is base” crap getting all over everything, I suspect.

3. How do you feel science fits in with your religious / magical / spiritual beliefs?
In my personal view, science is just figuring out how magic works, with the term “magic” as a broad generalization of various takes on universal energies.

4. How does magic work, in your view?

There are frequencies/vibrational wavelengths/patterns of energy that are part of the makeup or driving influences in the universe’s collective existence, on personal up to cosmic levels. Until a particular flavor has a name to identify it’s usual or most common qualities, it’s magic. I do feel that you should always be careful of falling into the trap of letting your definition of a thing limit it; today’s Ironclad Rules of Science may be tomorrow’s quackery. And when the bird and the bird book disagree, always believe the bird.

5. How does your view of cosmology (gods, the nature of the universe) fit with science?

All the energies stem from an energy of self-awareness that at some point, said “Hey . . . I’m here; I could be EXISTING! You know, doing stuff”, and then proceeded to have one hell of an imagination. I also think that order and chaos in balance are both necessary and complementary; chaos keeps order from becoming static and stagnant; order keeps chaos from being, well, too chaotic. Different human belief systems have idealized positions at either extreme. I define my beliefs as pagan because paganism (with nods to Taoism) seems to allow for a happy medium between the two.

Should also note: I blame human stupidity, greed, and arrogance for screwing up Christianity’s relationship with science. I personally feel that Yahweh and Jesus are out there somewhere (in between munching pizza and playing poker with Buddha, Woden, Isis, and others) shaking their heads and saying “WTF are you people thinking?!"
### Appendix 4a: Discourse analysis

<table>
<thead>
<tr>
<th>Science and religion are based on two different paradigms (NOMA)</th>
<th>A</th>
<th>B</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think that when religion and science are mixed we get very bad and skewed results, kinda of like religion and politics! ...I think science is something that must be used without preformed thoughts and beliefs, making it separate from religion and VERY VERY different.</td>
<td></td>
<td>I feel there IS an overlap which is largely ignored nowadays. It seems to me as if science and religious scholars have agreed to disagree and gone their separate ways</td>
<td></td>
</tr>
<tr>
<td>the two paradigms stress different things as being the key features of underlying reality, there are many areas in which one or other paradigm can be seen as 'dominant' (i.e. those areas which one paradigm sees as being core to its worldview, while the other sees as peripheral). ...My religico-magical/spiritual beliefs mostly relate to areas of interest which are at best peripheral to the core scientific paradigms, and in such instances I am happy to apply another paradigm in these areas which more directly addresses these topics.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Science and religion are two different ways of looking at the same thing (complementary)</th>
<th>B</th>
<th>E</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>a more open-minded approach from both parties could result in spectacular discoveries.</td>
<td></td>
<td>as long as one understands both terms as being endeavours aimed at understanding the nature of ‘life, the universe and everything.’</td>
<td></td>
</tr>
<tr>
<td>Science is meant to illuminate the universe; religion is meant to help us relate to it. I feel that trying to make them disassociated departments is the same kind of fractured thinking that tries to say that one’s physical, mental, emotional, and spiritual aspects are not related.</td>
<td></td>
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<table>
<thead>
<tr>
<th>We are tiny compared to the universe</th>
<th>A</th>
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</thead>
<tbody>
<tr>
<td>I think it is amazing as comforting to think of how small we are compared to the universe. It kinda calms me down, like, even if I screw up it is ok b/c I’m such a tiny spec in the universe that I’m not going to ruin anything.</td>
<td></td>
</tr>
<tr>
<td>Science and religion are in conflict (POMA)</td>
<td>A</td>
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<tr>
<td>------------------------------------------</td>
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<tr>
<td>There doesn’t have to be, but they often do end up overlapping. Religion used to play a bit role in explaining how the universe worked, science has now filled nearly all of that. Where religion tries to override science, it invariably ends up looking stupid so that role is well and truly obsolete. Science sometimes tries to ask why (usually when scientists say “why?” they mean “how?”), I’m talking about when they actually mean “why?”) which I think it stepping on the toes of religion a bit. Some questions about the Big Bang have yet to be answered by science and currently do look very like the intervention of a deity, but that might be just because we don’t have enough information yet. They’re currently up for speculation by both sides.</td>
<td>I do think that it [science] could be useful in looking at religions and proving various aspects true or false</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nothing can be proven so all beliefs are valid (relativism)</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>It also shows that no religion can be proven true which underlies my belief that all paths are valid for the person walking it... there is more then one type of person, so there should be more then one way to worship.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Everything is interconnected according to science (holism)</th>
<th>A</th>
<th>B</th>
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</thead>
<tbody>
<tr>
<td>This includes the web of life belief I hold, which says everything is interconnected and there for valuable. Science has shown that all animals, plant and people and environments are interconnected. (Just look at global warming and all the scientists predictions on that)</td>
<td>If such energy/spirits exist as described (as I believe they do), our own spirit is intrinsically connected to all the other spirits aroundus. It is through this connection that we are able to interact with and influence events and/or other spirits around us.</td>
<td></td>
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<tr>
<td>A</td>
<td>B</td>
<td>G</td>
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<td>---</td>
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</tr>
<tr>
<td><strong>Science shows that magic works (realism)</strong></td>
<td>science has shown that energy (which is magic) exists, so then why can't I direct it? ... Magic is energy, science has proven that energy is in everything and makes up everything. So if all the physical stuff is made up of energy then all the spiritual stuff is made up of energy (makes sense right...) Well, you can direct and move energy in physical things, so why not in spiritual things. I believe magic is just that. A person redirecting energy to a specific pattern, location, time, etc.</td>
<td>I believe that there is an energy deep inside the atom that we don't yet understand. In any object, the collective force of this energy embibes the object with a 'spirit' or energy pool that is specific to that object and is similar to the spirit of a similar object. These spirits overlap and interact so that there is also a universal and even an eternal energy spirit. As energy is neither created nor destroyed, these spirits can exist even after the object itself no longer exists as we know it (for example when a person dies their spirit can still exist as it was). I am inclined to believe that these spirits may exist in another dimension, such as a parallel universe.</td>
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<tr>
<th>C</th>
<th>B</th>
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</thead>
<tbody>
<tr>
<td><strong>Science makes me question</strong></td>
<td>Science forces me to question my religion which is a good thing.</td>
</tr>
</tbody>
</table>

One day, science will confirm magical and mystical worldviews (realism) Sub-atomic, astro- and metaphysics interest me most. When I explore these areas I feel they confirm my spiritual beliefs, although I feel there is a long way to go before my beliefs are fully confirmed by science. I do hope however, that one day these things will tarry completely. ... I believe that the mysterious 'energy/spirits' I have spoken of may one day be explained scientifically and that we will be able to use this energy in a way similar to the way we once harnessed the 'power of lightening' to make and use electricity.

**Science makes me question** Science forces me to question my religion which is a good thing.
Do Pagans see their beliefs as compatible with science?  

<table>
<thead>
<tr>
<th>Paganism is non-dogmatic and subjective (relativism)</th>
<th>A</th>
<th>C</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>My religion allows me to bend and shape what I believe so I can make sense of the physical and spiritual world around me.</td>
<td>I can not prove that any deity exists. I know that what I understand of the deities is based on my personal experience which is not always reliable and is worthless in justifying the existence of deities to anyone else.</td>
<td>being willing to listen to all viewpoints with an open mind and to see what seems to 'work' for me, then being willing to listen again to opposing views, and to test them where there is doubt.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Science and religion overlap (POMA)</th>
<th>B</th>
<th>C</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel there IS an overlap which is largely ignored nowadays. It seems to me as if science and religious scholars have agreed to disagree and gone their separate ways</td>
<td>There does seem to be a gray area where the two overlap. I know science deals with the natural world, while elements of faith commonly introduce the supernatural.</td>
<td>I think science, especially the latest advances in physics, is getting to the same place as I am trying to get to with my spiritual practices; understanding the underlying nature of the universe.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science and Paganism do not conflict (complementary)</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don't see any conflict with my neopagan faith.</td>
<td>Science is the how, religion is the why. I don't have any conflicts between the two in my belief system.</td>
<td>Some sciences (psychology, biology, etc.) can give complementary explanations for experiences I have during spiritual practices. Being complementary, one explanation does not necessarily exclude others. For example, stimulating a point in the brain makes you think god is talking to you. It does not follow from that, that god does not talk to you.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Using quantum mechanics to justify belief in magic</th>
<th>A</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>I've heard people speculate it being something to do with quantum mechanics, QM involves probabilities as well so there could be a link there but exploring it too far usually declines very rapidly to pseudoscience of the most hideous variety. Maybe what drives QM also drives magic rather than one working by the other.</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Practical applications of science are good</th>
<th>A</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’m also a little hopeful that the knowledge may have practical applications that will benefit all of us.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magic works by bending the rules of probability</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>Magic is part positive thinking, part psychology, and part assistance from the divine. I consider it to be the ability to bend the rules of statistical possibility.</td>
<td>I see it as tweaking the probabilities, and the better you do it, the further you can bias things your way. It won't actually break the laws of physics.</td>
<td>In the application of operative magic, I generally seek to influence the probabilities of events, rather than seek to achieve anything which the scientific paradigm would dismiss as 'impossible', but that is as much because I like to seek 'the line of least resistance' as because I believe such things are actually impossible. ...Direct operative magic, in which in return for effort of a particular kind expressed in carefully defined ways, goals can be achieved. To be honest, I have no idea how this works, but it seems to, at least at a probabilistic level.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Science helps us to appreciate the wonder of the universe (Naturalism?)</th>
<th>A</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>I love astronomy, I think it is amazing how much information we can gain for a place so far away by just the light it sends us. I also think it's cool how we see everything soo long after it happened. It is like everything is in slow motion.</td>
<td>I find the subjects fascinating and humbling at the same time. There is so much learn about so many things so it makes me feel confused, overwhelming, and exciting at the same time.</td>
<td>they do show how incredible our universe is, things happen all by themselves with precision and scale far beyond what we can do.</td>
<td>I feel awed and mystified, but also joyful and hopeful that we may be getting to the bottom of this ultimate mystery.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sometimes science and religion are as bad as each other</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religions that focus on kneeling in devotion before the bones of saints become ossified themselves, and science that finds a few regularities and then stops looking goes blind.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The underlying reality is unknowable (antirealism)</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not believe that the actual form of that which underlies is knowable... Not believing I know (or even can know) the answers in any absolute sense,</td>
<td></td>
</tr>
<tr>
<td><strong>Magic and spirit and consciousness are forms of energy</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>I believe that there is an energy deep inside the atom that we don’t yet understand. In any object, the collective force of this energy imbues the object with a ‘spirit’ or energy pool that is specific to that object and is similar to the spirit of a similar object. These spirits overlap and interact so that there is also a universal and even an eternal energy spirit. As energy is neither created nor destroyed, these spirits can exist even after the object itself no longer exists as we know it (for example when a person dies their spirit can still exist as it was). ... I also believe that this same energy is responsible for the effects of astrology and prayer-power.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>I apply the scientific method to my spiritual practice</strong></th>
<th><strong>E</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The ‘scientific method’ isn’t just for science; it is a rational way of making sense of the world. I apply it to my spiritual practices.</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 5: some of Margot Adler's 1985 survey results

<table>
<thead>
<tr>
<th>Job title</th>
<th>Number</th>
<th>Science-oriented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer programmer, systems analyst or software developer</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>Student (either college or graduate)</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Secretary/clerical</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Psychotherapist or counselor</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Teacher, professor, instructor</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Writer</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Typesetter, typographer, printer</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Priestess, teaches Wicca or Occultism</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Salesperson</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Craftsperson</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Artist</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Auditor, financial or market analyst</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Own small business</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Social worker</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Bookkeeper, accountant</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Massage, dance or body work</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Occult/book supplier, book seller</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Scientist</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Technical writer</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Forestry, landscaping, gardening</td>
<td>3</td>
<td></td>
</tr>
<tr>
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<td><strong>Total</strong></td>
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Appendix 6: responses to a question about science, magic and religion in Wyntergreene magazine

TITLE: Science and Magic and Religion: What do they mean to you?

The science fiction author Sir Arthur C Clarke once said that “any sufficiently advanced technology is indistinguishable from magic”. But do you agree? How do your ideas of science, magic and religion interact? Are they reconcilable? Does one lead to the other? Are they intertwined or at they completely independent and separate? Here are some responses:

"Well... that's the thing... it is all the same. We just forgot and are slowly learning it again.”
(WG1)

One of the Young Pagans told me that for him, “science has confirmed his faith in the Goddess, especially biology. He said that when he started learning about DNA, the way the body works at a cellular level and so on he thought it was so amazing and beautiful that he couldn't imagine it wasn't Divine inspiration. He was in awe and he told me, to myself it has proven the existence of the Goddess. (WG2)

Scientific exploration of the brain indicates that there is a fundamental wiring for ethical behaviour which our various cultures and religions then reshape as to details. There is a fundamental logic and structure underlying all philosophy which comes out of our biology - that is "the universe is not only stranger than we perceive, it is stranger than we can perceive" because of the kind of animals we are. This humble understanding of our biology and our interdependence with the universe which necessarily springs from it, I believe, where humankind both is and is not the measure of all things, is a great gift to spirituality from science. Because the social universe of morality is real, grounded in our biology, and the universe we interact with is limited but meaningful because of the biology which shapes how we are able to interact with it. So the concerns of religion with meaning and ethics are grounded, potentially, in something more fundamental than one culture or prophet - how wonderful. (WG3)

In 19th and early 20th century anthropological and religious research there was a belief that Magic came first in the development of understanding in a society. As the society developed further, they moved from magical practices to religious practices. Evolution and intellectual understanding then brought society to science, the ultimate truth. This however is not necessarily the way of things; nor do contemporary academics believe this mode of thinking. Personally, I define magic as an energy that is part of all things. Something we can manipulate to create change in our lives. Religion is the ritualized means my which I enact this change. Science is the skills I have learned in order to make change happen with energy. We see that science can measure various forms of energy. Often, we label magic as we do for the energy
that humans have yet to learn how to measure. To me, there is little difference between Magic, Science and Religion. In all three we explore the effects of our actions and will repeat the ones we feel give us the best results. Some call it magic for the un-measurable energy being manipulated. Some call it religion for the repeated ritualized actions and spirit beings we call upon and have faith in. Some call it science for the skills learned and used over and over to see results. (WG4)

Science and religion are not really that different. They both seek to understand the universal mystery; and both assume some underlying natural order to the cosmos. Each relies in it own way on faith to do this; and each—like many religions—has different approaches and answers. In many ways, I feel that science is simply another religion. Both are valid ways of giving meaning to the world we live in, in the same way that different branches of science explore and explain life differently according to their respective disciplines, yet each have the same over-arching goal. (WG5)

Whether or not science and religion are reconcilable depends on each individual person. Faith is faith, whether it is Jesus, Buddha or the Great Molybdenum, it does not matter what anyone else tells you as long as your faith resonates with you. If you feel that science can contribute to the overall development of your faith, then by all means weave them together. (WG6)
## Appendix 7: Discourses about science and religion

<table>
<thead>
<tr>
<th>Tanya Luhrmann’s four modes</th>
<th>Science and religion debate</th>
<th>My questionnaire</th>
<th>Discourses identified in email interviews</th>
<th>WynterGreene short pieces</th>
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</thead>
<tbody>
<tr>
<td>Realism</td>
<td>Realism</td>
<td>1b, 1d, 1h, 2a,</td>
<td>Science will eventually show that magic works</td>
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<td></td>
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<td>2b, 2i, 2j, 2k,</td>
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<td>2l, 2m</td>
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<td>Two worlds</td>
<td>NOMA</td>
<td>1a, 1e, 1i</td>
<td>Science and religion are based on two different paradigms</td>
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<tr>
<td></td>
<td>POMA</td>
<td>1c</td>
<td>Science and religion overlap; Paganism is not in conflict with science, but Christianity is</td>
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<tr>
<td>Relativism</td>
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<td>-</td>
<td>Nothing can be proven so all beliefs are valid; Paganism is non-dogmatic and subjective</td>
<td>WG6</td>
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<tr>
<td>Metaphor</td>
<td>Antirealism</td>
<td>2c, 2e, 2f, 2g,</td>
<td>The underlying reality is unknowable</td>
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<td>2h, 2n</td>
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<tr>
<td>Naturalism</td>
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<td>2k</td>
<td>Science helps us to appreciate the wonder of the universe</td>
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<td>Humanism</td>
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<td>1f, 1g, 2d</td>
<td>Science and religion are complementary</td>
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