

CHAPTER 30

THE PSYCHOLOGY OF ATHEISM

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INTRODUCTION

I was born in a time when the majority of young people had lost their belief in God, for the same reason their elders had had it: without knowing why. And then, since the human spirit naturally tends towards judgements based on feelings instead of reason, most of these young people chose Humanity to replace God.

Fernando Pessoa, *The Book of Disquiet* ([1998] 2001: 11)

THERE have been two major misconceptions in recent writings on the psychology of atheism. The trend was started by Beit-Hallahmi (2007) when he suggested that the psychology of religion was also the study of irreligion—one simply had to conceive of an atheist as scoring zero on a continuous religiosity scale (0–100). An earlier psychological analysis of atheism, denounces this position as conceptually untenable—for how can one elaborate a science of a negative phenomenon (Vergote 1996).¹ Methodologically, his suggestion is no less suspicious: it confounds a zero score on a religiosity scale with denial of a supernatural dimension, and it completely obliterates the varieties of atheism. The second misconception is a general shortcoming of psychological studies, which have been criticized for an almost exclusive use of North American educated

¹ There is, of course, a negative theology in Hinduism and Christianity where God is defined by what he is *not*. I don't think Beit-Hallahmi (2007) had in mind suggesting a link between mysticism and atheism; however, this link exists, and with considerable force, in the Jewish followers of the prophetic figure of Sabbatai Zevi (1626–1676). Within the space of a few generations, mystical beliefs were transformed, first into disillusionment, and then into a nihilistic movement (see Scholem [1944] 1995: 287–324).

participants (Henrich et al. 2010). In what concerns atheism, the case is particularly severe because there is a paucity of research and most of the existing studies are from the US. If one adds to this sampling bias the particularly negative image of atheists in that country and the prejudice or distrust they have to face (Gervais and Norenzayan 2012), the scientific value of the US studies on atheism count for little more than an anthropological vignette on the beliefs of an exotic group.² Other than culture, social learning factors, like parental beliefs, are crucial to understand the development of an individual's atheism. After all, religious people generally come from religious families, and atheists from non-religious families.³

The psychology of atheism cannot be a mirror image of the psychology of religion for another reason: Atheists have beliefs that deserve to be studied in their own right. By this I don't simply mean that they hold strong moral values or different attitudes about their atheism (see Zuckerman 2009), but that they have distinct ontological, epistemological and ethical beliefs about reality. This is true for both positive and negative atheists, as they are defined in the *Oxford Handbook of Atheism*. An individual who denies or lacks beliefs in gods will hold other, *meaningful*, types of beliefs, that can provide a basis to distinguish what is right and wrong, as well as offer emotional reassurance, very much like supernatural beliefs do for a religious individual.

In this essay, I will explore atheists' beliefs by looking at recent psychological experiments on belief in science and in progress. This topic is of special relevance for a psychology of atheism, for two reasons: first, beliefs work not only at the cognitive, but also at the motivational and emotional levels. This means they can, like Freud and Marx highlighted, have a comforting role in our lives by alleviating uncertainty and anxiety (for recent evidence, see Kay et al. 2009; Norenzayan and Hansen 2006). Second, despite rational attempts to articulate why one is a Christian, an atheist or an agnostic, the causes of our beliefs (or lack of) are, as Pessoa wrote in the early 1920s, largely unknown to us. In other words, the process of believing is largely an implicit and automatic one, not only in the way beliefs are acquired, but also how they function in everyday life.

² To give an example of the difficulties of generalizing from the US studies, let us consider the positive association between atheism and level of education, which is often quoted in review articles of atheism (Beit-Hallahmi (2007); Streib and Klein, in press; Zuckerman, 2009). A cursory look at the references shows that these data come almost entirely from US studies, going as far back as the early 20th century (Leuba, 1934). Now, if we look at the UK, which at the cultural level is the closest to the US in Europe, such correlation becomes ambiguous: the older group (>35) shows a U pattern between religiosity and education; that is, both the highly secular and highly religious have had more years of education. But for younger people (<35), the data from the same national survey indicates that the highly religious are the best educated (Voas and McAndrew, 2012). An earlier study using a British large sample (>16,000) of young people (aged 13–15) reported that 38% of atheists came from working class homes, as opposed to 32% of theists. Atheist youngsters also felt considerably more alienated from their school than theists (Kay and Francis 1995).

³ The 2001 Census in England and Wales shows that 88% of infants whose parents are Christian are also reported being Christian. In contrast, when both parents have no religion, only 5% of their offspring are identified as Christian (Voas and McAndrew 2012).

This claim is not a novel one. Whether looking at the roots of violence or developing neuro-cognitive models of decision-making, one of psychology's major accomplishments has been the discovery of how so many of our feelings, thoughts, and behaviours are driven by mental processes taking place beneath our conscious awareness. Along these lines, it has been suggested that religious belief is the outcome of a generally intuitive and non-reflective process (Barrett 2004). Can the same be said of atheism and the types of non-supernatural beliefs held by atheists? The 'deconversion' into atheism data are contradictory, with some research showing that this is preceded by rational doubt rather than emotional crisis (Caldwell-Harris et al. 2011; Hunsberger and Altemeyer 2006), and other studies reporting an underlying emotional process of losing one's religion (Exline and Rose 2005). Other data on deconversion favour the intuitive hypothesis; a greater proportion of individuals leave religion behind for motivational rather than rational reasons, and the majority of deconversions happen at adolescence and young adulthood, i.e. at a time when one is emotionally particularly volatile (Streib and Klein, *in press*).

Recent evidence from social-cognitive psychology has strengthened the case for the intuitiveness of religious beliefs. Religious people tend to make more errors in probability-reasoning tasks and to increase their belief in God when experimentally stimulated to value past intuitions (Shenhav et al. 2011). This conclusion has been confirmed by another study that found an association between lower performance on analytical tasks, and religious beliefs. Unconventional views of God, agnosticism and atheism were, on the other hand, positively associated with analytical thinking (Pennycook et al. 2012). Yet another study, which used a variety of experimental techniques, found that stimulating analytical thinking decreased religious belief (Gervais and Norenzayan 2012). While these studies show atheists' higher reliance on analytical thinking, they do not imply that atheists are more conscious or reflective of their own beliefs, or that atheism is the outcome of a conscious refutation of previously held religious beliefs.⁴ They may simply be showing that analytical thinking inhibits the expression of one's intuitive beliefs—and while the focus of these studies was on religion, it is likely that they can be generalized to other kinds of beliefs, including naturalistic ones. The evidence I present in this essay, on the implicit compensatory role of belief in science and in progress, indirectly supports this idea.

Other than the propensity towards analytical thinking, there are other potentially distinctive psychological implications of being an atheist, particularly at the motivational level. In the second part of this essay, I propose that contemporary atheists are specifically driven by a Gnostic motivation, which seeks self-mastery through knowledge;

⁴ The same applies to religious people who can be highly analytical, and still hold largely non-rational supernatural beliefs. There is, of course, a rationalization of belief through theology and philosophy; however, generally, this merely strengthens a previously held belief system rather than lead to its initial endorsement.

secondarily, they also present a higher sensation seeking need to engage in intense and pleasurable activities.

THE BELIEF REPLACEMENT HYPOTHESIS: FAITH IN PROGRESS AND IN SCIENCE

In the second part of the opening quotation by Pessoa, he suggests that people are naturally predisposed to believe; and that those who reject religion, intuitively choose something else to replace it with. This can be briefly enunciated as the *belief replacement hypothesis*. Whether explicitly or implicitly, atheists will espouse various types of naturalistic beliefs that are meaningful, help them to explain the world and, ultimately, can play a compensatory role in dealing with adverse circumstances. Existentialism, New Atheism, Humanism and Marxism are examples of beliefs systems associated with atheism.⁵ But even less structured beliefs, like conspiracy theories, can also appeal to atheists, echoing Popper's suggestion that when the gods are abandoned powerful men or groups take their place ([1945] 2003). Indeed, a study on Dan Brown's *Da Vinci Code* conspiracy novel suggests that atheists may be more inclined to believe in conspiracies (Newheiser et al. 2011). The novel claims that Jesus had been married to Mary Magdalene, that their descendants were protected throughout the centuries by a secret group called *The Priory of Sion*, and that the Catholic Church is aware of this and has tried to hide the truth from the public. The study found that the more anxious a person was about death the more they believed in the *Da Vinci Code* conspiracy, except if they were strongly religious. Furthermore, the atheist part of the sample (35 per cent) showed a higher belief in the conspiracy than religious participants.⁶

If the belief replacement hypothesis is true, that is, if atheists espouse naturalistic beliefs, whether explicitly or implicitly, that take the place of supernatural ones, then we'd expect these beliefs to be particularly relevant, not only at the cognitive, but motivational and emotional levels. In other words, if they are as meaningful as supernatural beliefs are for religious people, they should fulfil similar psychological functions to those observed for religious beliefs, such as emotional reassurance in the face of adversity.

In 2009 and 2010, Bastiaan Rutjens and his Dutch colleagues published two articles about the psychological role of belief in progress that provides support for the belief

⁵ That psychologists have neglected the variety of atheistic belief systems is of no great surprise, since they have also generally turned a blind eye to differences between religious faiths (for exceptions at the motivational, social-cognitive and perceptual levels, see Schwartz and Huisman 1995; Li et al. 2012; Colzato et al. 2010).

⁶ This was not reported in the original paper. Atheists ($M = 49.38$, $SD = 15.51$) had significantly stronger beliefs in the *Da Vinci Code* conspiracy than religious participants ($M = 40.01$, $SD = 18.83$), $t(130) = 2.99$, $p = .003$.

replacement hypothesis. They reported a series of studies where, using various procedures which included laboratory and field experiments, they showed how the humanist belief in moral progress helped secular individuals to cope better with existential anxiety and uncertainty (Rutjens et al. 2009; 2010). What Rutjens did was to put John Gray's (2004) suggestion to the test—that the idea of progress is, for atheists, what providence was for theists: that having faith in a progressive course of history (i.e. that we are progressing not just technologically and scientifically but also morally) provides people with emotional reassurance. Thus, secular people may use this sense of faith in humanity's moral progress to find comfort or security, in the same way religious people use their belief in God.

They tested this using two main paradigms that either stimulated lack of control or existential anxiety. To elicit existential anxiety the participants were asked to write about the feelings and thoughts concerning their own deaths. This popular social psychology task is based on the premise that human beings are terrified of death; and that one way of alleviating the anxiety provoked by our awareness of death is to affirm our beliefs or world-views (Greenberg et al. 1997). Typically, when stimulating anxiety in this way, people react by strengthening their beliefs.

In the first experiment of the 2009 paper, half of the participants filled in the mortality salience task while the rest wrote about an experience of dental pain. Then, participants read a short essay which argued that progress was an illusion, and had to rate how much they agreed with the author's views. This is an excerpt of the essay:

There's plenty of evidence that we haven't witnessed real progress since the Middle Ages: we fail to find answers to environmental problems, political systems do not function better than say 100 years ago, there is still poverty in the world and so on. We don't seem to learn from history and keep making the same mistakes over and over again... People are people, and morally, politically, and socially, we simply do not make any progress. All in all, I think we have to face reality: progress is an illusion!

People stimulated with death thoughts agreed less with the author of the essay than those in the control condition. In a second experiment, they found that showing this anti-progress essay made people more aware of death, supposedly because their belief in progress was being undermined. In a third—and crucial — experiment, they tested whether increased belief in progress alleviated death anxiety. To increase belief in progress, they asked half of the participants to read a text describing progress in society through human efforts; after this they had to think about ways in which they felt there had been progress in the last decade. As expected, participants whose belief in progress had been enhanced experienced fewer death related thoughts than those in a control condition. It is then likely, the authors conclude, that the belief in human progress can offer a secular version of faith that alleviates our fear of death.

In the 2010 paper, Rutjens and colleagues again looked at belief in progress, but now used a paradigm where they tested how a felt lack of control may lead to increased belief in progress. This paradigm is rooted in the concept of secondary control—when you can't directly control your environment, you will resort to your beliefs to ascertain

a sense of subjective control and predictability over events (Kay et al. 2009; Rothbaum et al. 1982). They found that stimulating lack of control led people to more vigorously defend the concept of progress, as well as valuing more progressive scientific and environmental research (such as stem cell research and development of electric cars). Amongst the studies, there was a field experiment where they looked at people's faith in progress when they were aboard a plane—a situation where most of us would feel to have lesser control than in everyday life. When comparing this group of airplane participants with those of a grounded group, they again found increased belief in progress.⁷

One could say that belief in progress entails a kind of hope in a utopian society. In that sense, it is understandable that it brings about emotional comfort. Allegiance to science, on the other hand, doesn't necessarily involve any positive hope in the evolution of society and is in direct conflict with supernatural explanations. Science is, for many atheists, more than a method of acquiring knowledge about the world, the only legitimate way of ascertaining truth. As a belief system, science promotes not only a physical reductionist view of nature, but extends itself into the area of morality. For example, New Atheist philosopher Sam Harris claims that science can tell us what's objectively right and wrong, while traditional morality can't (Harris 2010). Ideas about science have permeated the whole fabric of modern culture and many atheists, explicit or implicitly, mention science as a belief system that replaces religion. In a recent sociological paper, which includes a profusion of statements from Scandinavian and US atheists about their views on God, some interviewees justify not believing in God because they are scientists, they have been 'convinced by science', or because they believe that 'everything is created by science' (Zuckerman 2012).

Recent social-cognitive evidence suggests that belief in science can, for atheists, replace religion as a provider of meaning and emotional reassurance. This hypothesis was recently tested by means of a field and a laboratory experiment (Farias et al., in press). In the field study, rowers in two different stress conditions were assessed. They were either minutes away from competing (high stress condition) or simply about to start their usual training (low stress condition). Individuals in both conditions filled in a short questionnaire that included measures of stress and belief in science.⁸ We would expect people in the high stress condition to intuitively heighten their beliefs in order to alleviate the stress of the imminent competition. That is exactly what happened: competing rowers showed greater levels of stress and increased belief in science than the rowers that were having a usual training session. In a separate laboratory experiment, the death anxiety paradigm described above was used to increase anxiety in half of the participants. Again, it was found that people who had to write about their own deaths

⁷ This was assessed via a short questionnaire that included items like 'In two decades, we will live in a better world than that of today'.

⁸ Some of the items for belief in science were: 'Science tells us everything there is to know about what reality consists of', 'All the tasks human beings face are soluble by science', and 'The scientific method is the only reliable path to knowledge'.

had a stronger belief in science. Further, amongst the participants who had been primed with thoughts about their deaths, those with higher beliefs in science also endorsed a particularly deterministic view of how natural laws shape us (Paulhus and Carey 2011). So, perhaps belief in science is emotionally reassuring when an atheist faces adverse situations, because it provides a tightly ordered understanding of the world that eschews randomness—similar to what religion achieves through the idea of a governing deity (Kay et al. 2010).

These findings are supported by other experimental evidence. Another set of experiments, which explored preference for various types of scientific theories, suggests that when we feel threatened we prefer theories that describe an orderly sequence of stages, such as Freud or Piaget's theories of development, over discontinuous development (Rutjens et al. 2013). One of the experiments discloses that, when faced with unpredictability, we rather choose a theory of Alzheimer's disease which describes a straightforward decline, than one which stresses individual variability. We know that we are creatures of habit, and detest uncertainty. Can this also account for the survival and moderate success of Intelligent Design over Evolution theory? Apparently, yes, even amongst secular university students. Although generally preferring Darwin's theory, when students had their sense of control undermined, they were more likely to prefer Intelligent Design over Darwin's theory of evolution (Rutjen et al. 2010). This also is true when students were stimulated to think about their own deaths (Tracy et al. 2011).

The very notion of 'believing in science' is naturally open to criticism. Scientists and philosophers who claim the superiority, or even exclusivity, of scientific methods and results have been accused of dogmatism, or scientism (Stenmark 2001). After all, it is one thing to use science as a method, and another to grant it metaphysical status. The accusation of dogmatism, which is traditionally held against religious people, is probably less related to the content of belief than to its strength and resilience. That is, the more central beliefs are for one's structuring of the world, including meaning-making, the more likely they are to be inflexible to counter-evidence. Related to this, although atheists have been portrayed as more rational and open minded, in the very same study they also showed to be dogmatic about their beliefs and prejudiced against religious people (Hunsberger and Altemeyer 2006).

The social psychological studies reviewed above provide supporting evidence for the claim that atheists do have beliefs, albeit of a non-supernatural type, and that these beliefs are not dissimilar to religious ones in their psychological function. This clearly lends support to the belief replacement hypothesis. Further, this finding has a relevance which extends far beyond the study of atheism and religion. It tells us something about the nature and role of beliefs. It seems that it is not so much the content of the belief, but its meaningfulness and strength that truly matters. Despite the difficulty in deliberately choosing what we believe in, beliefs offer structure to our lives, and we cling on to them when facing trying and uncertain situations.

In this section, I have focused on psychological commonalities between atheist and religious people. I will now turn my attention to what differentiates them.

MOTIVATIONS IN ATHEISTS: SELF-MASTERY AND SENSATION SEEKING

If I were to use a single term to characterize what psychologically distinguishes modern atheists from other people, I would say: a *Gnostic* drive. By Gnostic, I refer both to the etymology of the word—knowledge—and the theological system that proposes a strong dualism between humankind and the world; the world being a place of ignorance created by a minor demiurge, which we can only be liberated from by knowledge. Rational knowledge is, of course, very different from the knowledge Gnostics were seeking, and I am also not implying that atheists believe in a wicked demiurge. However, at a plain psychological level, both modern atheists and Gnostics are deeply driven by a desire for self-mastery—and knowledge acquisition is a privileged way of attaining mastery. But it represents something else: knowledge, as the Gnostics rightly argued, also allows for transcendence of the world, a transcendence which, for modern atheists, can be simple existentialist self-reflection, but can also be an attempt to break with or transform our biological nature—through the application of knowledge. In this context, modern atheists' reliance on science carries deeper layers of meaning; science can indeed work as a psychological crutch because it has an added metaphysical value. It is 'a candle in the dark,' in Carl Sagan's statement, the knowledge that liberates us from ignorance and the threateningly void universe, once it has been emptied of deities.

In Hans Jonas' analysis of the parallels between Gnosticism and modern Existentialism, he stresses how both movements are characterized by a dualistic mood: humans are inexorably separated from the universe (1952). The idea of a divine will at work behind nature has been replaced by rules of power and necessity. This inexorable rift between humankind and the universe makes self-mastery an absolute necessity. The Existentialist movement expressed this in a crystal-clear way: our autonomy from God means that we are free from all constraints, but at the same time utterly alone (see Camus [1942] 2000; Sartre 1946). We are left with no choice but to master ourselves. The somewhat introverted, or intellectual, expression of self-mastery in Existentialism has become an extraverted one in twenty-first century atheism: self-reflective autonomy has given way to competitive individualism, the desire to master and portray oneself as distinct from the rest of humanity.⁹

There is a plethora of research on individualism in the social sciences, but little that focuses on atheism. Nevertheless, the available evidence is unambiguous: self-reported atheists and agnostics are more individualistic than religious individuals, and value more motivations of self-direction, hedonism, and stimulation (Farias and Lalljee 2008; Houtman and Mascini 2002). A psychological correlate of individualism and self-mastery, in particular, is the need to feel in control of your own life.

⁹ Individualism is not the only possible outcome of atheism, as collectivist Marxist regimes have shown.

Although perceived control has been heavily researched in social and health psychology (Levenson 1981), there is almost no investigation of this construct in atheists. In a recent analysis of individual differences in atheism, Caldwell-Harris references two articles which suggest that atheists have a higher internal locus of control, but neither of them actually present the data to support this view (2012). In my own doctoral thesis, I compared internal and external perceptions of control in atheists, Catholics, and New Agers (Farias 2005). As expected, atheists thought of themselves as more in control of their lives than the other groups, though Catholics did not score higher than atheists on external control (whether it was chance/fate or powerful others).¹⁰

There is another psychological literature of particular significance to the discussion of individualistic motivations, which finds its roots in psychoanalytical thought. Bakan proposed that individualism is a motivation towards separation and autonomy; the opposite pole being communion, which is characterized as a motivation towards union, cooperation and contact with other human beings (1966). Following Weber, he traces the modern western emphasis on agency and individualism to the Protestant revolution, not only because of Protestantism's notion of a private and unmediated contact with God, but also due to its theological interest in the world, which gave rise to the expansion of science as a way of studying the manifested glory of God.¹¹

Bakan's dual model of motivations has been refined and extended by Dan McAdams, one of the leading authors in the narrative study of personality (McAdams et al. 1996). This model has been used to analyse autobiographical narratives of atheists, Catholics and New Age individuals (Farias and Lalljee 2006). When asked to write about a high point in their lives, people express agency or communion motivations. Self-mastery is the prototypical theme of agency as separation, as the individual seeks isolation to perfect and control the self. The following excerpt shows a narrative of self-mastery:

Whilst reading a book my perspective on life and my place in it shifted... I became more philosophical! I read the book in my room, on a bus and on a train journey, digesting each of the chapters and their wisdom over those days. I was the only person involved, I don't think that I spoke to anyone about the book for a few weeks afterwards. I arrived at a mindset, albeit a shaky one, where I realized that I dictated what I felt and how I reacted to certain situations and fundamentally I was able to, in small and large ways, control my feelings.

An atheist wrote this. By contrast, Catholics wrote significantly fewer narratives centred on self-mastery.¹² However, New Age participants had an even higher proportion

¹⁰ Atheists ($M = 36.22$, $SD = 4.98$) were significantly higher on internal control than Catholics ($M = 31.25$, $SD = 5.22$) and New Agers ($M = 30.80$, $SD = 6.31$), $F(2, 138) = 10.62$, $p < .001$.

¹¹ Since Bakan, other authors have analysed the relationship between the Protestant Reformation and science (Brooke 1991), and with modern individualism (Lukes 1973).

¹² Atheists ($M = .20$, $SD = .41$) had significantly more narratives of self-mastery than Catholics ($M = .02$, $SD = .14$), $F(1, 138) = 5.87$, $p = .017$. The original article compares the results for the three groups only (Farias & Lalljee 2006).

of self-mastery stories, though not significantly different from atheists. Consider the following story by a New Age individual:

Last spring inspired by a book I drastically changed my diet which after about 15 years of existing rather than living left me with heaps of energy, my headaches stopped and my digestive problems literally disappeared. Because I also had emotional problems I started listening to self-help tapes, read more books, started to meditate and use affirmations/positive thinking.

The change in me was so profound that it's difficult to put into words. I couldn't recognize myself and neither could others. I became more confident, happy, efficient in every way and stopped isolating myself from others. Unlike a year ago now I really do accept and believe that we create our experiences and things don't just happen to us.

The similarity between the two stories is not a coincidence. Concerning motivations, atheists are practically indistinguishable from New Age individuals. The characterization of atheists as more individualistic, non-conformist, liberal and open to new experiences (Caldwell-Harris 2012) applies equally to individuals engaged in modern spirituality.¹³ Even more explicitly than atheists, they cultivate self-mastery and endeavour to acquire knowledge, either intellectual or experiential, in order to transcend the abyss between the self and the world (see Heelas 1996).

On the other pole of self-mastery through knowledge lies a different kind of motivation. As mentioned earlier, atheists were also found to adhere more strongly to hedonistic and stimulation motivations. The concept of stimulation simply means a search for novelty, excitement and challenge in life (Schwartz 1992). In addition, atheists score higher on openness to experience (Gallen 2009), a personality trait which is defined by a drive towards curiosity, engagement with various activities, and trying out new ideas and experiences. There is an intellectual—or rather imaginative—aspect in these various concepts, but they are predominantly sensorial, which is why I will refer to this as a *sensation seeking* motivation (adapted from Zuckerman 1990). This motivation entails a desire to express one's physical nature and can be characterized as a search for new, intense and pleasurable sensations and feelings. That atheism may lead to greater personal freedom and even hedonism is not a new idea. If the gods are out of the picture, if we are truly alone and free, why shouldn't we do as we please? Most atheists do not follow this to its nihilistic consequences; nevertheless, we would expect less behavioural constraints, especially if they are not associated with social sanctions.

¹³ Openness to experience is also positively associated with modern spirituality, and negatively with traditional religiosity (Saucier and Skrzypinska 2006).

In particular, if atheists are motivated by a desire for new and intense experiences this ought to be reflected in their sexual behaviour.¹⁴ This wouldn't translate necessarily in the frequency of sexual practice, but in its variety—including variety of partners. The available evidence, from US sources alone, confirms this hypothesis. An exhaustive report on a national US sample shows that people without religion are more likely to engage in uncommon heterosexual practices, like anal sex (35 per cent), and to have had a greater number of sexual partners than religious people (Laumann et al. 1994). Non-religious men, but not women, also have twice as high a preference for sexual voyeurism (10 per cent) than religious men. Another US national survey reports that non-religious people are the most likely to engage in extramarital sex (44 per cent) and to have had an earlier sexual initiation (82 per cent of men and 69 per cent of women before the age of 18) (Janus and Janus 1993).

Despite the limited nature of these data, it gives us a glimpse of how atheism may be linked with different sexual behaviours. It is quite possible that other factors may help account for these differences. A lower sense of guilt about sexual experimentation, for example, may influence atheists' behaviour. Future research can address this by assessing both feelings of guilt and sensation seeking motivations. Another possibility is to experimentally stimulate religious disbelief and assess to what an extent this has an impact on motivation.

CONCLUSION

Christ and progress are, for me, similar myths. I don't believe in the Virgin Mary or electricity. —Fernando

Pessoa, *The Education of a Stoic* (1999: 26)

It's very likely that no functioning human can live without beliefs. Old and new religions show a deep awareness of how difficult it is to break one's established beliefs, whether in the Old Testament the wrath of Jehovah upon the adoration of the golden calf, Jesus' admonition of the importance of believing without seeing, Zen Buddhism's use of physical and cognitive strategies to challenge one's beliefs of reality, or even Scientology's gadgets to assess and deprogram beliefs.

The benefits of beliefs, both cognitive and emotive, are not driven by their distinctive supernatural content but instead stem from the process of believing, which structures reality in a causal and meaningful form (Preston and Epley 2005). I have suggested

¹⁴ One interesting historical anecdote connecting atheism and sex concerns the early French atheist pamphlets. These used to be distributed together with pornographic pamphlets (Haug et al. 2011). See also the recent issue of *Philosophical Forum* on early modern libertinism and atheism (Lackey and Nematollahy 2011).

that atheists, in shedding off the skin of supernatural beliefs, end up internalizing other types of beliefs. It is unclear how this process occurs, since it does not consist of a conscious replacement. One possibility is that the congruence, or proximity, between one's atheism and non-supernatural beliefs an individual is exposed to leads to an implicit endorsement of these beliefs. This process occurs regardless of one being a positive, God denying, atheist or a negative one, who simply lacks belief in gods.

This is a new field, poorly researched, and in dire need of cross-cultural research. Above, I suggested that atheists have a Gnostic drive. Some have indicated that this movement has provided a wealth of 'holy' iconoclastic inspiration throughout the centuries (Silva 1997). Perhaps modern atheists are, in some subtle and veiled manner, heirs of this tradition and are thus helping to illuminate biases in religious people's perceptions of God.

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