How Religion Resists the Challenge of Science

Our evolved tendencies toward prestige bias, conformist bias, and punishing behaviors explain how social norms are maintained in cultural selection. They also explain why religious belief is immune to scientific criticism.

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During the past few years we have witnessed a lively exchange of ideas between critics of religion and theologians defending religion (e.g., Dawkins 2006; Dennett 2006; McGrath 2007; Keller 2008). One line of argument is that science and religion are two “nonoverlapping magisteria,” and thus there is no conflict between science and religion (Gould 1997). Science explains how the natural reality works, whereas religion deals with meaning, purpose, and value.

This argument comes in different forms. For example, it is argued that religious language does not refer to any extra-mental entities but rather gives symbolic form to our “feeling states” (Munz 1959). Or, religion is a “form of life”
that can be understood only from within through participa-
tion. In this view, religious belief does not necessitate any spec-
cific nonreligious beliefs about the nature of reality. Religious
language is an autonomous system that can be used without
having any nonreligious beliefs concerning the existence of
supernatural entities (Phillips 1965; 1988; 2000); as one
writer put it, “To know how to use this language is to know
God” (Phillips 1965, 50).

Such arguments are meant to save religion in the face of sci-
centific criticism. Before the advent of science, religious beliefs
were mostly taken literally, as there was no alternative expla-
nation for things such as the origins of the universe or the ev-
olution of life on Earth. Advances in science have forced the-

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ologians to redefine God as a mere symbol instead of the ruler
of the world existing in the heavens. As John Wisdom (1944)
observed over fifty years ago, the existence of God is no longer
an experimental issue in the way it used to be, because people
have better knowledge of why things happen as they do. While
questions such as “Do dogs think?” are partly metaphysical
(conceptual) and partly scientific (empirical), questions about
God have gradually become wholly metaphysical.

A nonbeliever may wonder why theologians do not simply
admit that their beliefs have been erroneous. Why continue to
argue that the ultimate truth still is in God and religion when
it has become difficult to say what these concepts actually
mean? As Kai Nielsen (1985, 37) argues, it has become
“utterly unclear what, if anything intelligible, is being affirmed
that a skeptic could not affirm as well.” Although, for exam-
ple, Paul Tillich claims to “believe in something mysterious
and profound and crucial to the human condition” of which
the nonbeliever has no real understanding, he seems to be
incapable of articulating what this something is. So, why is it
that such commitment persists? Theories from evolutionary
anthropology might help explain why it does.

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Biases in Cultural Transmission

Three interrelated factors help explain why theology seems so
immune to scientific criticism. These are what anthropologists
and biologist studying the evolution of human cooperation call
prestige bias, conformist bias, and punishing behaviors (Rich-

Prestige bias means that people are selective about those
from whom they adopt ideas and beliefs. We use various kinds
of cues related to skill, success, and prestige to figure out who
are most likely to have useful ideas, beliefs, values, preferences,
or strategies to be gleaned through observation. Social norms
are preferentially learned from individuals who share the same
ethnic markers, such as dialect or dress. Prestigious individuals
are often trusted and imitated, even when their domain of
prestige is unrelated to the opinion domain in question
(Henrich and Henrich 2007, 11–12, 20).

Conformist bias means that people often copy the behaviors,
beliefs, and strategies of the majority. When, for example, the
accuracy of information acquired through individual learning
decreases, reliance on conformist transmission increases.
“Informational conformism” means that people actually change
their beliefs and opinions, while “normative conformism” means
that people alter their superficial behavior but not their true
beliefs and opinions. Conformist cultural transmission can
maintain behaviors only when they are neutral, not too costly,
or if the costs are ambiguous (Henrich and Henrich 2007,
22–30, 66). Conformism works because it makes intra-group
cooperation possible, and groups that are capable of cooperation
tend to outperform groups that are not (Richerson and Boyd
2005; Bell et al. 2009). Prestige bias can either support con-
formism or compete with it, depending on the status of the
prestigious persons imitated. Both biases, however, lead mem-
bers of a social group to adopt similar mental representations.

Punishing refers to any behavior by which people signal dis-
approval of others’ behavior or thinking and force them to pay
a cost for their norm violation. People shun norm violation
because they do not want to be punished. Thus, they may
behave in accordance with social norms even if they do not
truly believe in the rightness of certain norms. Punishing is a
cheap strategy because it is possible to punish violators of a
norm without adhering to the norm itself (Henrich and Henrich
2007, 64–67).

When this does not work, another option is to punish those
who refuse to punish violators. As norm violation is rare, and fail-
ing to punish violators is rarer still, it is necessary to punish those
who refuse to punish only when the first two conditions are met.
Punishing those who refuse to punish is cheap in the sense that
it is not needed too often. This strategy can get people “locked in”
on almost any social norm. The norm itself can be beneficial,
neutral, or even outright harmful and yet become stabilized
(Henrich and Henrich 2007, 66–68). One example is the noto-
rious practice in many societies of giving daughters clitoridec-
tomies. Families that refuse to do this risk a bad reputation
among their social group and run the risk of not receiving aid
from others when in need. Thus, reputation effects are linked with cooperation behavior (Henrich and Henrich 2007, 71).

Many scholars argue that religion evolved because it has made cooperation among genetically nonrelated individuals possible, especially through the idea of an all-seeing god that can reward and punish deeds that otherwise would go unnoticed (for a review, see Boyer and Bergstrom 2008). Even if this fails as an evolutionary explanation, it is true that religion can have adaptive functions in the modern world despite the fact that religion does not seem to have much effect on morality (Pyykkäinen and Hauser 2010; Sinnott-Armstrong 2009). Conformist bias, prestige bias, and punishing behaviors may help us understand why explicit commitment to theological doctrines, alongside intuitive religious beliefs (Boyer 2001, 2004), survives even when the doctrines have become rather empty of content.

Defenders of the Truth

A religious person knows that God exists and yet argues that it is utterly silly to ask for any kind of evidence of this; natural disasters such as tsunamis can be explained naturally, but people pray to God to protect them from these disasters; religion is not superstition, and yet a blessing administered by a minister or priest is believed to protect people from harm; the universe emerged from a big bang according to the laws of physics, but God is its creator; and so on. The point is, for liberal-minded theologians, God exists and acts in the world, but everything that happens can be explained without God. God is merely an unnecessary and causally impotent add-on, and yet at the same time the highest and ultimate truth. Why not say that God is no longer needed in descriptions and explanations of the universe, although people may have emotional reasons for sticking to an illusion?

Theological doctrines are defended against scientific criticism because their rejection would mean nonconformism, giving up admiration for prestigious representatives of theology, and acceptance of punishment. Whether these doctrines are true or not, or are good or bad, religious people are “locked in” on them.

Some individuals may be less prone to conformism, but at the population level conformism works—doubting or rejecting belief often necessitates finding a new social group within which conformism operates in the direction of doubt. It may also be accompanied by finding prestigious individuals from whom to learn nonreligious behavior, especially when individual learning is difficult.

Punishment for rejecting belief can take different forms. Combined with conformism, it may mean stigmatization, ostracism, and isolation from friends and relatives who are believers. It may also involve a threat of losing “salvation.” It does not matter that most people have only a vague idea of what salvation actually means; to the extent that losing salvation is defined as something utterly undesirable, conformism can maintain fear of losing salvation. The medieval witch hunt is of course one of the most drastic examples of punishment, and it also involved punishing those who refused to punish (Pyykkäinen 2009, 87–88).

Criticizing critics of religion can also be viewed as a form of punishment. The interesting thing here is that it is not necessary to actually defend religious beliefs rationally or even adhere to them personally. It is enough that one criticizes those who criticize belief and those who refuse to criticize the critics of belief (punishing the nonpunishers). Criticism of the critics of religion can signal one’s own commitment even when this commitment is only normative, that is, at the level of superficial behavior, rather than genuinely informational.

These factors help explain why explicit commitment to theological doctrines tends to survive despite scientific and philosophical attacks on religion and theology that force theologians to endlessly redefine religion and belief. A debate that to an outsider often seems baroque goes on and on. The issue simply is not only philosophical or one of rational debate. Our evolved psychology provides constraints that guide people to try to save religion even at the cost of religion losing its practical relevance. These biases work quite irrespective of whether religious beliefs actually are true or not. We do not accept beliefs because they are true but rather because they seem to be true. And what seems to be true is affected by our evolved psychology both at the levels of intuitive beliefs and of explicit commitment to commonly accepted beliefs.

References