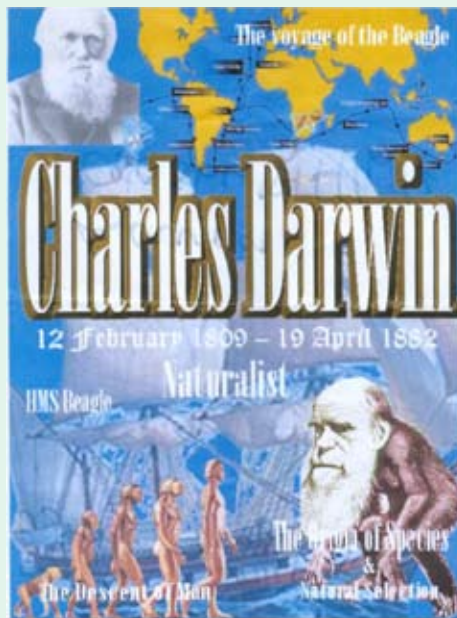


## 'Designing Darwin' Winners

The Outreach and Education Committee is pleased to announce the winners of its 2008 competition 'Designing Darwin'. This prize was awarded in three age categories for original designs that best illustrate the significance of Charles Darwin's birth bicentenary and the 150th birthday of his most famous work, *On the Origin of Species* in 2009. For details of runners up, please visit [http://bshs.org.uk/bshs/outreach/competitions/2008/designing\\_darwin\\_winners/index.html](http://bshs.org.uk/bshs/outreach/competitions/2008/designing_darwin_winners/index.html).



Age Category 19+  
Winner: Simon Crowhurst,  
Cambridge



Age Category 11-14  
Winner: Laura Crosby,  
Middlesbrough



Age Category 15-18  
Winner: Paroma Guha,  
St Albans

## Readers' views Is Al-Ghazali (really) the Halagu of science in Islam?

Jamil Ragep's article in *Viewpoint* 85 prompted this response from Muhammad Sabieh Anwar.

It is generally agreed that the Arabs enjoyed a remarkable ascendancy in science for about five centuries. This supremacy was unrivalled by any contemporary civilization. However, equally strong is the perception that the Muslim scientists were mere outcasts living at the fringes of a society that was under the grip of the 'mullahs' who shunned and resisted scientific thought. This line of thought has now become a fashionable premise for squarely blaming the Islamic orthodoxy as the major cause behind the current state of intellectual and scientific atrophy in the Muslim world.

Not surprisingly, these acquisitions gain more credence when they come from the world's leading scientists. For example, the Nobel Laureate and physicist, Steven Weinberg in his book review pronounced quite comfortably, 'After Al-Ghazali, there was no more science worth mentioning in Islamic countries [emphasis added].'<sup>1</sup>

Jamil Ragep has criticized this position in *Viewpoint* (Feb 2008), recounting the illustrious scientific tradition that flourished well after Al-Ghazali. I would like to add to this, drawing upon Al-Ghazali's own writings. I have come to recognize that far from strangulating the spirit of free, scientific inquiry, this great theologian, in fact promoted the learning of exact sciences.

For example, in numerous places, Al-Ghazali makes it very clear that his task is not to question the established truths in the natural order. Disputing these facts of nature, far from being a disservice to the scientific method, will be a disservice to religion itself. An instructive example is provided in the second introduction to his monumental *Tahafat-ul-Falasifa* (Incoherence of the Philosophers), where Al-Ghazali discusses the solar and lunar eclipses.<sup>2</sup> After stating the 'scientific' facts that the solar eclipse results from the moon intervening the sun and the earth and the lunar eclipse from the earth coming in between the sun and the moon, he writes, 'Whosoever thinks that to engage in a disputation for refuting such a theory is a religious duty harms religion and weakens it. For these matters rest on demonstrations, geometrical and arithmetical, that

leave no room for doubt’.

According to Al-Ghazali, mathematics and arithmetic are ‘exact’ sciences with no connection with metaphysical or religious principles. Therefore using mathematics to prove religious beliefs is, at best, absurd. These sciences are based on demonstrative proofs and their implications cannot be denied or affirmed in any religious connotation. In his autobiography, the *Deliverance from Error*, Al-Ghazali states, ‘A grievous crime indeed against religion has been committed by the man who imagines that Islam is defended by the denial of the mathematical sciences, seeing that there is nothing in revealed truth opposed to these sciences by way of either negation or affirmation, and nothing in these sciences opposed to the truth of religion.’<sup>3</sup>

The theologian also claims that metaphysics and religion are not in need of mathematics, just as poetry is not in need of mathematics, or philology or grammar can be mastered by anyone who is totally ignorant of the mathematical sciences.

Al-Ghazali warns his readers that every discipline of study has its experts, an expert in mathematics may not be an expert in grammar and an expert in geometry may fail miserably when it comes to matters of religion. In short, Al-Ghazali’s truck is not with mathematics, but with philosophers who could potentially lead people astray in matters of pure religion. Al-Ghazali makes this very clear in the introduction to the *Tahafat-al-falasifa*: he is not contradicting philosophers on points of semantics and definitions, nor does he disagree with them on issues that have no religious significance (such as eclipses). His major disagreements pertain to questions with three fundamental theological implications: (a) has the universe existed forever, (b) does God know all particulars, and (c) is bodily resurrection possible! ‘It is in this topic and its likes, not any other, that one must show the falsity of their doctrine.’<sup>4</sup>

In his book, *Revival of the Religious Sciences*, Chapter 1, Al-Ghazali includes mathematics, arithmetic and medicine in the category of the praiseworthy (mamduh) sciences, regarding them as community obligations (faraid kifayah).<sup>5</sup> Al-Ghazali even laments the fact that Muslims prefer a study of Islamic law over medicine and it becomes hard to find Muslim physicians even though the population was in dire need of health care. For example, according to him, an individual deciding to take up study of fiqh when there is a population in dire need of health care is someone, ‘who neglects to give his attention to the calamity which has befallen a group of thirsty Muslims [and] is like the person who devotes his time to debate while several fard kifayah duties remain neglected in town.’<sup>6</sup>

A major problem of Al-Ghazali’s times was that all forms of knowledge had acquired

religious significance and so, points of intellectual dispute would often slip into bitter religious disagreements, leading to brandings of unbelief, excommunication and heresy. Al-Ghazali addressed this situation by carefully proposing a classification scheme of all common forms of knowledge. He placed Islamic jurisprudence at the level of ‘worldly disciplines’, not any superior to mathematics and medicine.

Al-Ghazali was a supporter of the Ash’arites who battled with the Mu’tazilites over important metaphysical and theological questions. In present-day historiographies, the Ash’arites are generally presented as dogmatists, as the orthodoxy engaged in blind imitation of the ‘tradition’, with no latitude for the rational thought required for scientific inquiry. On the other hand, the Mu’tazilites are posed as the rationalists, upholders of Greek logic, abstract thought and hence the true heirs and modern day avatars of the scientific method.

This reductionist approach, however, requires careful analysis. Sherman Jackson in his introduction to Al-Ghazali’s text *The Decisive Criterion of Distinction Between Unbelief and Masked Infidelity* writes, ‘Meanwhile, Rationalist writings reflect a clear and sustained recognition of the authority of the Aristotelian-Neoplatonic tradition, including the propriety of following it by way of taqlid. Traditionalists, on the other hand, use reason – even aspects of Aristotelian reason – but they do not recognize the tradition of Aristotelian reason as an ultimate authority.’<sup>7</sup>

As far as I can see it, the real distinction between the two Mu’tazilite and the Ash’arite approaches is actually based on the Hellenophilic glorification of Aristotelian reasoning – a hellenophilia that is all the more evident in several modern accounts of the history of science.

David Pingree in no unequivocal language writes about this attitude, ‘Hellenophiles, it might be observed, are overwhelmingly Westerners, displaying the cultural myopia common in all cultures of the world but, as well, the arrogance that characterized the

medieval Christian’s recognition of his own infallibility and that has now been inherited by our modern priests of science.’<sup>8</sup>

Last, I come to the point of what Ragep calls ‘political spin’ or ‘preconceived views’. In my opinion these are ideological frameworks that suit our conceptions of Islam and religion. The biased treatment Al-Ghazali has received over the many years now reminds one of ethnocentric modernization theories. These theories are based upon the conjecture that societies seeking inspiration from tradition, culture and religion are bound to remain underdeveloped. For example in my own country, the physicist Pervez Hoodbhoy echoes the same sentiments. In his latest article on the subject published in *Physics Today*, he preaches, ‘The faithful must participate in five daily congregational prayers, endure a month of fasting that taxes the body, recite daily from the Quran, and more. Although such duties orient believers admirably towards success in the life hereafter, they make worldly success less likely. A more balanced approach will be needed.’<sup>9</sup>

Remember that this sermon is also a strict piece of advice to all practising Christians, Buddhists, Hindus and Jews who desire worldly success in their scientific careers!

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1. S. Weinberg, ‘The deadly certitude’, *TLS*, 17 Jan 2007.
2. Al-Ghazali, *Incoherence of the Philosophers* (tr. Tahafat-ul-Falasifa, tr: M.E. Marmura) (Lahore, 2005), p. 6.
3. Al-Ghazali, *Deliverance from Error*, (translation of Munqidh Min-al-Dalal, tr: W.M. Watt in *The Faith and Practice of Al-Ghazali*), (London, 1953), pp. 34-35.
4. *Incoherence of the Philosophers*, op. cit., p. 7.
5. N.A. Farris, *Revival of the Religious Sciences*, Bk 1, (Delhi, 1962), p. 30.
6. *Ibid.*, p. 105.
7. S.A. Jackson, ‘On the boundaries of theological tolerance in Islam’, *Abu Hamid al-Ghazali’s Faysal al-Tafriqa*, ed: S. N. Haq (Oxford, 2002).
8. D. Pingree, ‘Hellenophilia Versus the History of Science’, *Isis*, 83 (1992), pp. 554-563.
9. P.A. Hoodbhoy, ‘Science and the Islamic world: quest for rapprochement’, *Physics Today* (August 2007), p. 49.

## BSHS Grants

This photograph shows three recipients of BSHS care grants (l-r: Rebekah Higgitt, with Jack, Aileen Fyfe, with Lucy, and Emily Winterburn, with Sam). See [www.bsbs.org.uk/grants](http://www.bsbs.org.uk/grants) for more information about this scheme and other BSHS conference, care and research grants.

