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Should Religion Be Kept Out of the Science Classroom?

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The issue at hand is whether or not religion should be kept out of the science classroom in the Muslim world and in particular at the level of university education. This is a controversial subject in view of today's science legacy, as a result of centuries of successful practice, and in view of the dire state of science in the Muslim world today. I will first make some preliminary remarks dealing with science instruction in the University setting that will hopefully sufficiently contextualize the topic before dealing with the main problem.

Science Education and Muslim Higher Education

The Impact of science at the University leaves a lot to be desired

It is my strong belief that science education didn't create an impact of the desired degree on the minds of students in the Muslim world. This assessment can be readily confirmed when asking science and technology related questions to students; we most often receive answers that betray a marked ignorance of contemporary scientific thought.

It is not because students shun the sciences, on the contrary a rather large fraction of University students go in science related fields, as is the case in Algeria and in the Arab world. Somewhat paradoxically, students tend to have a positive attitude towards science and are often eager to learn about it; its wider implications like climate change, the wonder of modern medicine, science policy making and technology and its impact on the way and quality of life. It is an act of extreme negligence to fail to provide curious young minds with meaningful and attractive ways to approach these issues.

The fact that science doesn't percolate to students at large (the future decision makers!)

is worrisome because in a world where we increasingly rely on scientific logic to make decisions, a lack of capability and achievement for a country in this field, may delay the process of development in countries, perhaps even halting the process altogether. The lack of excellence in science also means ultimately the inability of Muslim academic institutions to leave their imprint on humanity's legacy in those neglected areas. Now, a country which does not leave some enduring imprint on science and technology can only be a considered a second zone country.

Even for science students, it is as if a dichotomy exists between what is taught and its accompanying values, and the world outside. They might specialize in a given field impervious to the wider picture and how their field may impact the economy and society at large. Of course, such a demarcation has always existed between academia and real life, but somehow bridges exist in developed countries, which efficiently erase this dividing line when students enter the job market. The fact is that most science students in our countries upon graduating won't make it to a profession in the field they chose and trained for. As for the students in non-scientific disciplines, they are strongly affected by what has been called the Two Cultures syndrome⁵¹ and this gap has to be addressed in appropriate manners.

Firing up imagination and producing inquiring minds

Going to the university should be made a unique experience in the life of any student from which they should draw inspiration for the remaining of their life. It implies the possibility of interacting with gifted teachers, scientifically and humanly. From this comes the importance of having well known academics teach large first and second year classes even

51 Snow, Charles Percy [1959]. *The Two Cultures*. London: Cambridge University Press.

if it is not what those teachers, quite advanced in their career, want to necessarily do. Of great importance too is favoring extra-curricular activities like acquiring extra skills, learning foreign languages, performing community work and the like, which should be made part of that higher education experience.

In my opinion, the least we should expect from a modern University education is that it endow the student with an inquiring, even a doubting, mind. As R.Feynman stated, "Science is the culture of doubt". Indeed, progress in science comes from constantly reassessing and challenging the knowledge one has acquired; the more vigorous the reassessment, the better.

A corollary to that lack of an incisiveness and inquiring mind is a widespread superstitious attitude that comes to exist among students, and gullibility is certainly not an intellectual quality. This includes magical thinking (non-causal behavior of objects and subjects), superstitions, and beliefs in out of body experiences, divination, and the like, all abhorrent to Islamic values. The propensity of many to invoke miracles "à tout bout de champ" must be replaced with an investigating attitude of seeking evidence by proper scientific methodology, genuinely seeking standard explanations. One has to add to this predicament the fact that in our countries the media scene is saturated with predicators often with superstar status, whose unreasonable if not irrational discourse on science and religion may further alienate people and deepen the problem. Quality education available for all should be put at the forefront of societal change initiatives, as it is the solution to not only a stagnating interest and aptitude in science but other challenges facing the developing world as well!

Another obstacle is the culture of rote learning; the tradition of "copy and paste" has created a mentality that is fostered in the minds of the students from a young age and is mistaken as "research work".

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Is the Muslim world a special case?

This question of the place of religion in the science classroom needs to be tackled in the

context of the Muslim world where it is of particular relevancy. But let us begin by asking whether there is a Muslim specificity that makes religion a necessary ingredient in any debate related to culture, education, and society at large? True that in Islam, religious precepts strongly impact society at large and even if the secularizing trend in modern Muslim societies has taken its toll, this intertwining is very much present and perhaps more so than in any other society. It is thus legitimate to consider whether the religious dimension should be incorporated in the practice and teaching of science. In addition, one may argue that historically speaking there have never been in Muslim lands any conflict between science and religion unlike the case in the West where a warfare between both domains led to a total divorce.

This said, one has to realize that modern science has developed in this warfare context and it is difficult to imagine a situation where religion could be reintroduced. Yet, save for mostly the perennialist vision of a Sufi oriented thinker like Syed H.Nasr⁵² and his followers, no one is really talking about reintroducing spiritual teachings in science. What we are really talking about is a cultural approach whereby we contextualize science by injecting some religious precepts in the scientist's endeavor.

NOMA or SOMA?

One defender of this latter option is N. Guessoum for which he coined the term SOMA⁵³ (Softly Overlapping Magisteria) in contradistinction with the "hard" separation of magisteria NOMA (Non Overlapping Magisteria) as propounded by S.J.Gould. His starting point is that "...Muslims find it difficult to digest any "separation" of domains, widely believing that Islam is a complete system," that such a mild compromise would facilitate the

52 S. H. Nasr, "The Traditional Sciences, the Scientific Revolution, and its Aftermath" in *Religion and the Order of Nature* (Oxford University Press, 1996, Ch. 4, pp. 126-162.

53 N. Guessoum, "Nidhal Guessoum's Reconciliation of Islam and Science", *Zygon*, vol. 47, no. 2 (June 2012

acceptance of science by students.^{54 55} This is defended within the framework of reviving the Rochdian methodology in exegesis whereby any conflict between scripture and confirmed science is settled in favor of the latter with the understanding that the contending passage in the scripture needs reinterpretation. While I won't contest the usefulness of the Rochdian approach, and in fact I subscribe in large part to it, I think that its applicability is restricted to theological debates that one may have in an academic setting or during informal discussions with students. It is hard to imagine that it can be formalized in a somewhat unified way and institutionalized.⁵⁶

The difficulty is further compounded by a geographical divide within the Muslim world: the educational system in the Malay world and to some extent in the Urdu speaking one has incorporated this humanizing and contextualizing of science within the Islamic universe of values in their curriculum. On the other hand, in most of the Arab world⁵⁷ and in other parts of the Muslim world like in Africa, the Balkans, a much stricter division is been enforced closely following the Western curricula and with no foreseeable reconciliation.

It is perhaps useful at this point to state the author's position. I see the act of mixing religion with science a no-go endeavor, as it brings no benefit for either side. What I mean by this is not the kind of general statement or religious devotional formula that a teacher might utter to set the stage to his courses, or side discussions within the course itself, which routinely go on in the Islamic world⁵⁸, but rather about the encroachment

of theological considerations to naturalistic explanations⁵⁹. The point is that theological issues, except perhaps some concerned with ethical considerations on the borderline of the discussion, can't bring a cogent coherent view on those issues dealt with using the usual scientific corroboration methods as it doesn't have the tools or the authority for that. Any messing up with the separation of magisteria is bound to be detrimental to the proper dealing with the issues at hand. Now, upholding this concept may be difficult as many educators and opinion makers in the Muslim world are so used to concordist thinking that they naturally feel that proper Islamic world-view should be given and that the two magisteria should blend "harmoniously". It also doesn't have the favor of some secularists, and in particular of the atheists or agnostics kind, who may want to settle the scores with religion in an epic battle as empowering this principle robs them from their impending victory that a confrontation will, in their view, result in.⁶⁰

I believe that the adoption of the "Non-overlapping magisterial" principle in our Universities, in the natural sciences at least, corresponds to a middle way, as it is also crucial, when implemented, to efficient science education.

Bridging the Gap

We may try to soften the divide without crossing it. We may develop within the curricula bridging courses in the humanities and social

54 A. Berghout, *Revelation and Science*, Vol. 02, No.02 (1434H/2012) 85-94

55 *Islamic Cultural Identity and Scientific--Technological Development*, Klaus Gottstein, Ed., Baden-Baden, 1986

56 One has to remember that people have different views on the issue and that it is really like opening the Pandora box

57 Yet in detail, the situation much more patchy and needs qualification. The Gulf countries for example have a dual system.

58 Unstructured discussions or «religion chatting » which goes on at time when a student brings up a religious text in science class will have to be left to the appreciation of the teacher as it depends much

on his wisdom, capability to deal with the issue and the context. Ideally the general philosophy to adopt in such cases would be not to avoid the issue altogether which could leave frustration and hard feeling of «escapism » from the student, but rather to take it as an opportunity to review the scientific mode of inquiry in what it differs from the religious one, while at the same time pointing out to possible other explanations within one's the religious tradition. Finally, one needs to avoid concluding peremptory, rather leaving it as much as possible to each one's appreciation.

59 That's most clearly seen in the so called I'jaz trend of Koranic interpretation which purportedly claims to bring both together, and that even in some instances, religious texts could help choose the right scientific theory among competing ones.

60 Dawkins, Richard (1998). "When Religion Steps on Science's Turf", *Free Inquiry*. Vol. 18, Nb 2

sciences (History of science with an emphasis on the History of Islamic science, ecology with cross references with the Islamic teaching on the preservation of the environment as a religious duty...) so as to give a wider vision to science students than the narrow one they get out of their specialty.

Another corrective measure would be encouraging multidisciplinary studies for science students in particular. This is indeed one of the objectives of the LMD system⁶¹ adopted in Europe in the past decade and which many countries followed suit, most notably the Maghrebian countries. Yet for those latter countries, this truly revolutionary step only exists on paper and has never really been applied, as the so-called "passerelle" system is notoriously nonfunctional.⁶²

If we want to take the bull by the horns, and some way towards SOMA, specific courses on Islamic education can be developed so as to teach students Islamic core values especially on ethics and generally speaking on the Islamic vision of society and its higher goals, with some emphasis on the importance of a scientific and technological literacy. The point is that such "ideological" courses, even if taught by highly motivated and gifted teachers (Where are they?), might still be perceived by students as a burden and lead to a lack of interest in them. Such a compulsory course in Islamic ethics

was taught to the first year science students at Algerian Universities a few decades ago but it didn't achieve any measure of success as it became an extra load for students and was quickly phased out. Furthermore, it can be difficult to introduce such a course in the curriculum of private universities, where tuition money devoted on compulsory "fringe" courses not directly related to the diploma the students are seeking, is considered a waste. Clearly injecting Islamic and generally speaking ethical values in a University environment too often molded along Western patterns is challenging.

All these considerations need to be vigorously debated among educationists and academics, and we certainly don't pretend to have found the answers to the delicate issue set forth in the title.

61 Launched on May 1988 to mark the 800th anniversary of the Sorbonne and adopted in Bologna in 1999 by 29 European Ministers for Education the LMD's avowed purpose was to harmonize the architecture of the European system of education (including unifying European recognition of diplomas) so as to make it competitive with the American universities, promote the mobility of European students. Externally, it makes it similar to the Anglo-Saxon University system with its Bachelor (License), Master and PhD degrees.

62 The LMD requires considerable human and material resources as well as a rather advanced development of scientific research, all these prerequisites which are absent or problematic in the countries which followed suit. Thus its brutal implementation in those countries brought much trouble but ultimately when all the dust settled down, what was applied was a patchy system going by the European name of LMD, functioning as much as possible like the old so called "classical" system, but emptied from its most attractive features (extended the stays by students in labs at the Master level, multidisciplinary through a bridge system,...).