

Paper Title: Integration of Religion and Science in the Indonesian State Islamic Universities

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Abstract:

It is said, as commonly accepted until now, that religion and science are two entities that cannot be integrated. Simply understood, religion produces “religious sciences” on the one hand, while science produces “secular sciences” on the other. Hence, religion and science are regarded as independent – they each have their own sphere in terms of what matters they approach, research methods, and truth criteria – until an institution integrates the two. For the later, in case of education in Indonesia, the Ministry of National Education is responsible for teaching the “secular sciences” such as physics, mathematics, biology, and so forth that produce skillful graduates without including any religious teachings, whereas the Ministry of Religious Affairs is responsible for teaching the “religious sciences” that produce “religious” graduates without mastery in a science and modern technology. The dichotomy of this education system in Indonesia dates back, if we were to name a scapegoat, to over three centuries of colonization that happened in Muslim countries, including Indonesia. In line with this dichotomy, it can be understood that the establishment and the rise of “Islamic Studies” in universities cannot be separated from the impact of colonialism. Generally speaking, the Islamic Studies deal traditionally with the science of Qur'anic exegesis (tafsir), the science of traditions (ilm al-hadith), jurisprudence (fiqh), falsafah, and metaphysical theology (kalam), and excluding the natural sciences like astronomy, physics, and chemistry. In the classical period of Islamic civilization, there was no separation in mastering of religion and science. To be a religious man is to be a scientist at the same time as Ibnu Sina, al-Farabi, and many Muslim scholars of the golden age of Islam proved. More recently, some Muslim scholars have tried to introduce projects like Ismail al-Faruqi’s “Islamization of Knowledge”, Hossein Nasr’s “Islamic Science”, and Sardar’s “Islamic Science”. Following the ideas that were introduced by the Muslim scholars as mentioned above, the Indonesian Islamic scholars nowadays seek and formulate an ideal format to integrate science and religion in university’s curricula. Three state Islamic universities in Jakarta, Yogyakarta and Malang have existed to make this dream comes true. Besides seeking an ideal format for an Islamic university, there are also pragmatic reasons for integrating science and religion by establishing Islamic university. The question is, will this transformation reconstitute in this age what was lost in the golden age of Islamic civilization?

Biography:

Ismail Yahya is chairperson of Indonesian Society for Religion and Civilization (ISRAC) STAIN Surakarta, one of the LSI groups in the Indonesian network. He received B.A. (1997) in Islamic Studies from the State Institute of Islamic Studies (IAIN) Semarang, and M.A (2003) in Comparative Religion from graduate program of Religious and Cross Cultural Studies, Gadjah Mada University. His wife, Fajar Sri

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Paper:

Islam is full of praise for knowledge and the learned. The prophet Muhammad (peace be upon him) once said: “the acquisition of knowledge is incumbent on every Muslim”, and “seek knowledge even it is in China”. Even the Qur’an places the faithful persons and the learned in the same level: “Allah will raise up to (suitable) ranks (and degrees) those of you who believe and who have been granted Knowledge...”(58: 11).

The word “ilm” and its derivatives are frequently used in the Qur’an. It means “knowledge” in its general sense, including the sciences of nature and humanities. It also includes both revealed and acquired knowledge. Hence, seeking knowledge is a religious quest in the Islamic perspective. The aforementioned verses and prophetic sayings, for Golshani, “indicate clearly that the acquisition of knowledge in the Islamic view is not to be confined to the specifically religious sciences, as, e.g. China was not a proper place to learn Islamic teachings. However, there is a constraint on the type of knowledge recommended by Islam.”<sup>1</sup>

In other verse of the Qur’an (9: 122), it was mentioned that a group of Muslim should study religion (*tafaqquh fi al-din*), “it is not for the believers to go forth together, if a contingent from every expedition go forth to devote themselves to *studies in religion*, and admonish the people when they return to them, that thus they (may learn) to guard themselves (against evil).” Here is a good explanation of Abdullah Yusuf Ali:

“Fighting may be inevitable, and where a call is made by the ruler of an Islamic State, it should be obeyed. But fighting is not to be glorified to the exclusion of all else. Even among those who are able to go forth, a party should remain behind-for purposes of study, so that when the fighters return home, their minds may be attuned again to the more normal interests of religious life, under properly instructed teachers. The students and teachers are soldiers of the jihad in their spirit of obedience and discipline.”<sup>2</sup>

Believed or not, in the Islamic worlds including Indonesia sciences were divided into religious and secular sciences. In Indonesia, this differentiation has affected to the rise of the dual system of education in Indonesia; religious education managed by the Ministry of Religious Affairs on one hand and secular often called “general” education managed by the Ministry of National Education on the other. It was resulted from the long political struggle between the secular nationalist groups and the Islamic nationalist groups. In the beginning of independence, the government of Soekarno gave Gadjah Mada University as the “gift” to the secular nationalist groups and established PTAIN<sup>3</sup> latter becoming IAIN as the “gift” to the Islamic nationalist groups.<sup>4</sup> Hence, the establishment of Ministry of Religious Affairs and IAIN were to fulfill the aspirations of Islamic nationalist groups. For IAIN’s case,

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<sup>1</sup> For further details see Mehdi Golshani, *Science and the Sacred: Sacred Science vs. Secular Science*, paper presented at International Conference on “Religion and Science in the Post-Colonial World”, Yogyakarta, January 2-5, 2003

<sup>2</sup> *The Holy Qur’an: English Translation of the Meanings and Commentary* (al-Madinah al-Munawarah: Complex for the Printing of the Holy Qur’an, 1413 AH), p. 541

<sup>3</sup> PTAIN stands for Perguruan Tinggi Agama Islam Negeri established in 1950

<sup>4</sup> Komaruddin Hidayat dan Hendro Prasetyo (eds), *Problem and Prospek IAIN: Antologi Pendidikan Tinggi Islam* (Jakarta: Ministry of Religious Affairs, p. xiv-xv)

Johan Meuleman, a Dutch intellectual, refused this political reason, for him the establishment of IAIN was a continuation of higher education institutions pioneered by Indonesian Muslims before.

It is true that speaking on Islam and science nowadays in Indonesia is speaking the on going process of “big project” of conversion or transformation of IAIN<sup>5</sup> and STAIN<sup>6</sup> becoming UIN.<sup>7</sup> There are pragmatic and idealistic reasons for that conversion. The pragmatic reasons vary from the decrease of the number of students admitted yearly, difficulty of job for graduates, raising “self dignity”, until getting funds from fund agencies and local government. While idealistic reasons are to (re)integrate of religious sciences and secular sciences and to produce perfect human being (*insan kamil*).

Azyumardi Azra, rector of UIN Jakarta explicitly stated that his university reintegrates sciences in the level of philosophy and epistemology, curriculum, and the level of faculty and academic program.<sup>8</sup> Amin Abdullah, Rector of UIN Yogyakarta said that the conversion of IAIN become UIN is not perfunctorily change, not just imitation, not a physical project. The conversion is momentum for arrange and recover the old “injuries” of dichotomy of religious and secular sciences.<sup>9</sup> For Abdullah, the idea of reintegration comes from the belief that in the golden ages of Islamic civilization the sciences were integrated, but later scattered and fragmented at the same time with the decline of Islamic civilization.

However, Zainal Abidin Bagir, Ph. D has questioned this idea of reintegration. For him, there are some questions should be proposed. What kind of sciences in the golden age of Islamic civilization? Is it true they were “integrated” or it is only an idealization? If they were integrated, how were their forms? Why later the decline happened for centuries up to our age that urges to reintegrate them? Is it still possible for us (Muslims) after the long history of science dominated by Europeans and Americans to go back to ideal form as in the past?<sup>10</sup> Of course, it is not easy to answer these questions, and this paper just describes the thoughts dealing with the concept of Islamic university.

Furthermore, Bagir suggested that IAINs should remain becoming IAIN. IAIN should be seen as specialization focusing only in Islamic studies as practiced so far. Thus IAINs do not “compete” to transform becoming UIN. IAIN can maintain its characteristic as center of Islamic studies.

Even though there is not yet a blue print describing the form of (re)integration of religion (Islam) and science in the Islamic universities, each university is still searching an ideal model, but there are some similarities in levels of epistemology, faculty, and curriculum.

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<sup>5</sup> IAIN stands for Institute Agama Islam Negeri (State Institute of Islamic Studies) there are 15 IAINs in Indonesia according to statistical data year 2004 from the Ministry of Religious Affairs the Republic of Indonesia, p. 49

<sup>6</sup> STAIN stands for Sekolah Tinggi Agama Islam Negeri (State Islamic College) there are 32 STAINs

<sup>7</sup> UIN stands for Universitas Islam Negeri (State Islamic University) there are 3 UINs in Jakarta, Yogyakarta and Malang

<sup>8</sup> Azyumardi Azra as quoted in Zainal Abidin Bagir’s paper, p. 2

<sup>9</sup> Amin Abdullah as quoted in Zainal Abidin Bagir’s paper.

<sup>10</sup> Zainal Abidin Bagir, *Kebangkitan dan Kemunduran Sains Islam: Belajar dari Sejarah*, paper presented at Studium Generale of STAIN Surakarta, March 5, 2005, p. 2-3

## I. Integration in the level of epistemology

Imam Suprayogo, rector of UIN Malang said it is not the time to maintain the system developed as in IAIN or STAIN with only focusing on Islamic studies and ignoring other sciences: social and natural sciences. He explained that from his depth reflection, he found an appropriate perspective with the Islamic spirit, namely an integrated and holistic science. With this perspective epistemologically there is no separation of religious sciences and secular sciences, there is no dichotomy or dualism, the only exists is categories.<sup>11</sup> Sciences are divided into three categories: natural, humanities, and social sciences. Furthermore, sources of study and inquiry differentiate between sciences developed at Islamic universities with non-Islamic universities.

In non-Islamic universities, the development of sciences and the scientific truths based on observation, experimentation, and epistemologically attributed to the power of reason. In Islamic universities, however, two sources are used together namely *al-ayah al-qowliyyah* (the Qur'an and the Hadith, the revelation) and *al-ayah al-kawniyyah* (the universe, and the reason). Thus, both observation and experimentation are used, but the Qur'an and the Hadith should be read and understood first. Suprayogo gives a simple illustration about the creation of human being. In Islamic university, he said, before a researcher goes to laboratory, he/she reads first how the Qur'an and the Hadith told that problem. In fact, the Qur'an globally tells the creation of human being that needs to be continued in laboratory to find its detail problems. But, it is realized that the Qur'an is not a book of science, it is a guidance book for the believers. The Qur'an gave the general signals, and scientists later explore those signals. Furthermore, Suprayogo draws his concept of integration of religion and science in Islamic university like a tree (see appendix 1).

For Suprayogo, the successfulness of his university to integrate science and religion (Islam) must be supported by mastering Arabic and Islamic traditions and heritages. This caused him to establish *pesantren* (Islamic boarding school). In this *pesantren* all students informally study Arabic and Islamic studies, because Islamic studies studied formally in class regarded not sufficient. *Pesantren* is part of Islamic university and located within it.

In addition, modernism and secularism, for Amin Abdullah, that want tight and narrow differentiation and specialization in all fields of life are not appropriate with the spirit of our age. In the post modernism, this perspective must be changed. The change aspired is *resacralization* and *deprivatisation* of religion, and *dedifferentiation* that want the reintegration of religion with other sectors of life including religion and science.

Science that comes from religion becomes objective science (experiencing the objectification process). In this sense, such a science is not felt by other religious followers or even by anti-religion group as a norm, but as an objective-scientific phenomenon. Science that comes from a religious person is for all human beings, not only exclusively for those religious persons, or especially for certain religious followers. Thus, following this idea, hence I agree in this case, that there is no "Islamic sciences" or "Christian sciences". All objectified sciences that released from its original religion are for all. Here are the examples: shari'a banking with profit sharing system is able to be implemented by whoever without belief in Islamic

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<sup>11</sup> Imam Suprayogo, *Perubahan STAIN menjadi UIN Malang (Pengalaman Melelahkan untuk Mewujudkan Niat Mulia)*, paper presented at Seminar Nasional of STAIN Surakarta, September 22, 2004

ethics on economy, mechanic and astrophysics can be learnt without dealing them with Judeo-Christian tradition, etc.<sup>12</sup>

## II. Integration in the level of faculty and department

Traditionally there are five faculties in IAIN and STAIN, i.e. faculties: *Shari'a* (Islamic Law), *Tarbiya* (Islamic Education), *Ushuluddin* (Islamic Theology), *Adab* (Language and Letter), and *Da'wa* (Islamic Communication). Each faculty has departments and studies program reflecting skill and expertise, but all departments and studies program remain in scope of Islamic studies.

Since 1990s, however, with the *wider mandate*, all faculties in IAIN and STAIN are allowed to open non-Islamic studies' departments and studies program. Thus, in IAIN and STAIN there are studies program: e.g. mathematics, physics, chemistry, economy, etc. But this new study programs cannot resolve the fundamental problem of integration of religion (read: Islam) and science. The Islamic studies remain dominant, while non-Islamic studies are supplemental.

As can be seen in appendix 2, with the rise of the state Islamic universities, faculties and departments in IAIN (see appendix 3) are mixed with faculties and departments in general universities. Thus, we can find a "new" faculties and departments such as: *Tarbiya and Teaching Sciences*, *Ushul al-Din and Philosophy*, *Adab and Humanities*, *Shari'a and Law*, *Da'wa and Communication*. With this new model it is hoped that student becomes a religiously professionalism and at the same time a professionally religious person.

## III. Integration in the level of curriculum

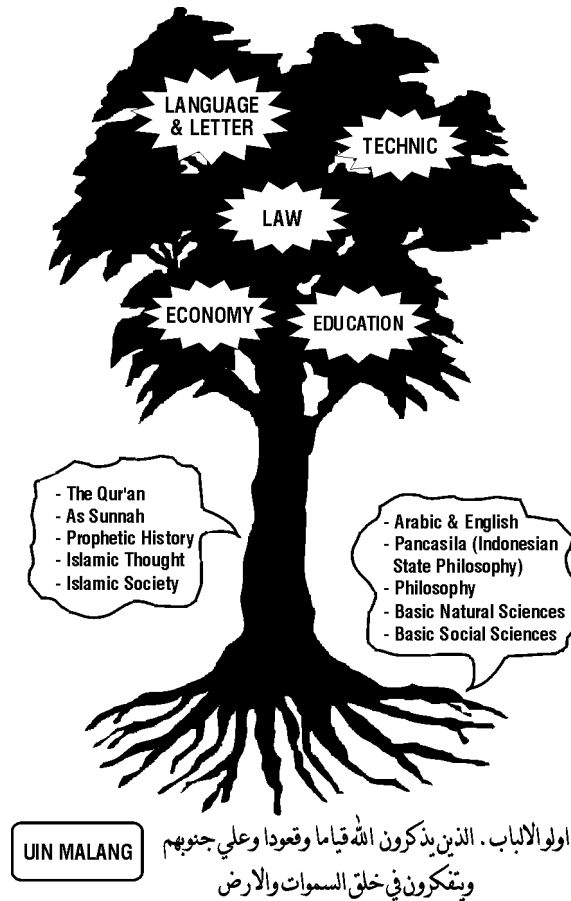
In appendix 4 of curriculum of Faculty of Science and Technology, Department of Physics, we are able to see more practical how religion and science are integrated. Compared to curricula prevailed in general universities so far, subject of religion is only 2 credits for 8 semesters. While in the context of integration of science and religion in the state Islamic universities, all basic of Islamic studies e.g. Arabic, *Fiqh*, *Qur'an*, *Hadith*, etc are studied about 39 credits for 8 semesters. As mentioned above this curricula are hoped that state Islamic universities can produce a religious scientist and scientific pious person at the same time.

Of course, this concept of integration is a new effort and time will prove whether this concept succeeds or not to bring back of Islamic civilization in the future. *Wallahu a'lam bis showab*.

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<sup>12</sup> Amin Abdullah, *Etika Tauhidik Sebagai Dasar Kesatuan Epistemologi Keilmuan Umum dan Agama in Menyatukan Kembali Ilmu-ilmu Agama dan Umum* (Yogyakarta: Suka Press, 2003), p. 10-11

Appendix 1: The concept of science and religion (Islam) in UIN Malang (a sample)



The aim of education in Islam is to be *Ulul Albab* as mentioned in the Qur'an (3: 191) i.e. Men of understanding: “men who remember Allah standing, sitting, and lying down on their sides, and contemplate the (wonders of) creation in the heavens and the earth, (with the saying): “our Lord not for naught hast thou created (all) this! Glory to Thee! Give us salvation from the Chastisement of the fire.”

To reach that aim, a student should have strong bases reflected as ROOT of tree, e.g. mastering in Arabic (as Muslim language) and English (as international and communication language), philosophy, basic natural and social sciences. Later, a student should understand the Qur'an, As Sunnah, Prophetic History, Islamic Thoughts, and Islamic Society as a TRUNK of tree. LEAF and FRUIT are results from root and trunk, without differentiation of religious and “secular” sciences.

Appendix 2: Integration in the level of faculty and department in Islamic university. Sample of Faculty and Department in UIN Syarif Hidayatullah, Jakarta **after mixed** with IAIN's faculties.

No	Faculty	Department
1	<i>Tarbiya*</i> and Teaching Sciences**	1. Teaching Islamic Sciences 2. Teaching Arabic Language 3. Islamic Educational Studies 4. Tadris with study program: teaching mathematics, teaching biology, teaching chemistry, teaching physics and teaching English
2	<i>Ushul al-Din*</i> and Philosophy**	1. Comparative religion 2. Sociology of Religion 3. Theology and Philosophy 4. Islamic Political Thought 5. Tafsir and Hadith
3	<i>Adab*</i> and Humanities**	1. Arabic Language and Literature 2. Islamic History and Civilization 3. Translation 4. English Language and Literature 5. Library Sciences
4	<i>Shari'a*</i> and Law**	1. Al-Ahwal al-Shakhsiyya with study programs: Islamic court and Administration of Islamic Personal Law. 2. Islamic Criminal Law and Legal Political Sciences 3. Comparative Jurisprudence and Law 4. Mu'amalat with study programs: Shari'a Banking and Islamic Insurance
5	<i>Da'wa*</i> and Communication**	1. Communication and Da'wa 2. Islamic Guidance and Counseling 3. Management of Da'wa 4. Community Development and Social Welfare
6	Dirasat Islamiyya	Focuses on comprehensive Islamic Studies (Ushul al-Din, Shari'a, Arabic Language)
6	Psychology	
7	Economic and Social Sciences	1. Accounting 2. Management
8	Science and Technology	1. Information technology 2. Mathematics 3. Chemistry 4. Physics 5. Biology
9	Medicine and Health sciences	
10	Graduate Studies	Masters and Doctorate Program

\* Originally faculties in IAIN before mixed.

\*\* Faculties in general universities

Appendix 3: For comparison with faculty and department in IAIN and STAIN

No	Faculty	Department
1	Tarbiya	<ol style="list-style-type: none"> <li>1. Teaching Islamic Educational Studies</li> <li>2. Teaching Arabic Language</li> <li>3. Tadris with study program: teaching mathematics, teaching biology, teaching chemistry, teaching physics and teaching English**</li> </ol>
2	Ushul al-Din	<ol style="list-style-type: none"> <li>1. Tafsir and Hadith</li> <li>2. Aqidah and Falsafah</li> </ol>
3	Adab	<ol style="list-style-type: none"> <li>1. Arabic Language and Literature</li> <li>2. Islamic History and Civilization</li> </ol>
4	Shari'a	<ol style="list-style-type: none"> <li>1. Mua'amalah</li> <li>2. Al-Ahwal al-Shakhsiyya</li> <li>3. Comparative Mazhab and Law</li> <li>4. Shari'a Economy**</li> </ol>
5	Da'wa	

\*\* with *wider mandate* given by the Ministry of National Education, IAINs and STAINs are able to perform non-Islamic studies.



Appendix 4: Integration in the level of curriculum in state Islamic university. Sample of Subject in UIN Malang, East Java

Faculty of Science and Technology, Department of Physics

Semester 1

Subject	Credit
<i>Arabic Writing I</i>	2
<i>Arabic Reading I</i>	2
<i>Arabic Speaking I</i>	3
<i>Arabic Listening I</i>	2
State Philosophy Pancasila	2
Basic Mathematics I	3
Basic Physics I	3
Basic Chemistry I	2
General Biology	2

Semester 2

Subject	Credit
<i>Arabic Writing II</i>	2
<i>Arabic Reading II</i>	2
<i>Arabic Speaking II</i>	3
<i>Arabic Listening II</i>	2
<i>Qur'anic Studies</i>	2
<i>Hadith Studies</i>	2
Basic Physics II	3
Basic Mathematics II	3
Basic Chemistry II	2

Semester 3

Subject	Credit
Basic Social/Cultural Sciences	2
<i>Fiqh/Islamic Law</i>	2
English I	3
Indonesian	2
Application of Computer Science	2
Mathematical Physics I	3
Basic Electronic I	3
Basic Statistics	2
Basic Instrumentation	2

Semester 4

Subject	Credit
<i>History of Islamic Civilization</i>	2
English II	3
Modern Physics	3
Mathematical Physics II	3
Basic Electronic II	3
Wave	3
Mechanic	3
Optional	2

Semester 5

Subject	Credit
<i>Methodology of Islamic Studies</i>	2
Research Methodology	2
Thermodynamics	3
Quantum Physics	4
Physical Experimentation I	2
Magnet Electricity	3
Digital Electronic	2
Optics	2
Optional	2

Semester 6

Subject	Credit
<i>Islamic Philosophy</i>	2
Physical Experimentation II	2
Statistical Physics	3
Introduction to Solid Physics	3
Introduction to Core Physics	3
Computational Physics	3
Optional	2

### Semester 7

Subject	Credit
<i>Islamic Thoughts</i>	2
<i>Islamic Theology</i>	2
Earth and Aerospace	2
Applied Physics	6
Entrepreneurship	2
Optional	2

### Semester 8

Subject	Credit
<i>Tasawwuf</i>	2
Field Study	4
Seminar Physics	2
Thesis	6

### Optional Courses

#### Interest of Theoretical Physics

Subject	Credit
Core Physics	2
Atom Physics and Molecule	2
Relativity Theory	2
Computational Physics	3
Fluidal Mechanics	3
Quantum Mechanics	2
Electrodynamics	2

#### Interest of Instrumentation and Measurement

Subject	Credit
Microprocessor	2
Transducer	2
Signal Processing	2
Simulation Physic system	2
Analysis Physic system	2
Electrical combination	2
Workshop Electronics	2
Interfacing	2

#### Interest of Biophysics

Subject	Credit
Biophysics	2
Physics Radiation	2
Biomechanics and Bioelectricity	2
General Physiology	2
Topography	2
Instrumentation	2
Environmental Physics	2
Physical Chemistry	2

#### Interest of Geophysics

Subject	Credit
Geophysics	2
Data Processing of Geophysical	2
Seismology Exploration	2
Remote sensing	2
Geology	2
Geoelectricity	2
Instrumentation geophysics	2
Gravitation and Earth Magnet	

#### Interest of Material Physics

Subject	Credit
Polymer Physics	2
Crystallography	2
Superconductor	2
Semi Conductor Physics	2
Material Physics	2
Analysis Polymer	2
Silicon Amorf	2
Technology thin layer	2

#### Interest of Computational Physics

Subject	Credit
Algorithm	2
Analysis Physic System	2
Simulation Physic System	3