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# Philosophy and Methodology of Science Integration Studying the Transformation of Islamic Universities in Indonesia

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**Abstract**

This article try decipher by philosophy and methodology a transformation college the emergence of Islam in Indonesia from conception idea integration science . Transformation of Islamic Higher Education into State Islamic University (UIN) demands a change in scientific thinking. Previously, the practice of Islamic higher education was generally related to the teaching of Islamic sciences, not including the teaching of general sciences, such as Natural Sciences and Social Sciences. Whereas both (Islamic science and natural-social science) must be integrated into the practice of Islamic higher education to build a new integrated scientific paradigm. Method research used in this paper is *Library Research* ( research bibliography ) with technique analysis descriptive qualitative . The analysis is carried out on related data or content with theme discussion and problems under study from sources bibliography .This post critically examines the integration of Islam and Science. Based on the study of three State Islamic Universities (UIN), this article will elaborate on the application of the concept of integrating science and religion in these universities. Each university offers a specific character of integration. UIN Malang, for example, initiated the integration as reflected in the "Tree of Knowledge". UIN Yogyakarta offers the metaphor of the "web of spiders" for connected and integrated Islamic and science projects, while UIN North Sumatra offers the idea of *Wahdatul Ulum.*

**Keywords : Integration of Science , Philosophy , Transformation.**

# Filosofi dan Metodologi Integrasi Ilmu: Menelaah Transformasi Perguruan Tinggi Islam di Indonesia

**Abstrak**

Artikel ini mencoba menguraikan dengan filosofi dan metodologi sebuah perguruan transformasi munculnya Islam di Indonesia dari konsepsi ide integrasi ilmu. Transformasi Perguruan Tinggi Islam menjadi Universitas Islam Negeri (UIN) menuntut perubahan pemikiran ilmiah. Sebelumnya, praktik perguruan tinggi Islam pada umumnya berkaitan dengan pengajaran ilmu-ilmu keislaman, tidak termasuk pengajaran ilmu-ilmu umum, seperti IPA dan IPS. Padahal keduanya (ilmu keislaman dan ilmu alam-sosial) harus diintegrasikan ke dalam praktik pendidikan tinggi Islam untuk membangun paradigma keilmuan baru yang terintegrasi. Metode penelitian yang digunakan dalam penulisan ini adalah Library Research (penelitian kepustakaan) dengan teknik analisis deskriptif kualitatif. Analisis dilakukan terhadap data atau isi yang berkaitan dengan tema pembahasan dan permasalahan yang diteliti dari sumber-sumber kepustakaan. Posting ini secara kritis mengkaji integrasi Islam dan Sains. Berdasarkan kajian tiga Perguruan Tinggi Islam Negeri (UIN), artikel ini akan mengelaborasi penerapan konsep integrasi sains dan agama di perguruan tinggi tersebut. Setiap universitas menawarkan karakter integrasi yang spesifik. UIN Malang, misalnya, menginisiasi integrasi yang tercermin dalam "Pohon Pengetahuan". UIN Yogyakarta menawarkan metafora "jaring laba-laba" untuk proyek-proyek Islam dan sains yang terhubung dan terintegrasi, sedangkan UIN Sumatera Utara menawarkan gagasan Wahdatul Ulum.

**Kata Kunci : Integrasi Ilmu , Filsafat , Transformasi.**

**PRELIMINARY**

Discourse transformation Islamic College _ very much fast , especially in two decade last . Change this too has researched by scholars from various discipline knowledge with focus different studies . _ Study Arifa focus on field management institutional[1] whereas Sari 's research focuses on roles and functions institutional [2]. Suyatman explore ambition change institutional[3] whereas study Muffihin study change curriculum [4]. There are also studies that use paradigm scientific change institution by Lukman [5]. because of it happened _ change in the status *of State Islamic Religion/STAIN* and State Islamic *Institute /IAIN* to become Islamic *State/UIN* no must understood only as *sich transformation institutional* Next , change institutional need transformation in thinking scientific and eye lesson .

For example , STAIN and IAIN teach eye the main lesson related with sciences Islam (Islamic Studies), such as Islamic education ( *tarbiya* ), Islamic law ( *sharia* ), history , civilization and literature (' *adab* ), da'wah ( *da'wah* ) and theology . ( *ulal - dn* ). After transform become UIN, eyes studying the growing and encompassing sciences nature , science social and humanities . In UIN 's view , the sciences islam must integrated with sciences general . View the reject separation science and religion because Thing this part still occurs , and is expressed , in ' public university ' division below administration Ministry of Education and 'Islamic universities' under shade Ministry of Religion [6]. Obviously , direction change addressed for build system integral and comprehensive education in various discipline science [7].

Integration of science and Islam as PTKI wanted later bring up problem just concluded _ in two question big : what base philosophical and theological religion-science integration that ? How methodology integration of religion and science , and how apply method this ? Problem integration During this inviting debate Among agreeing party _ with the refusing party . Controversy the especially triggered by a number of issues ; *First* , history tragic connection Among science and religion ( as reflected in tradition church century middle ) [8], and its implications for the Islamic world or resurrection Islamic [9]science . Although in principle Islam does not know dichotomy science and religion, however integrated knowledge _ with Islam is inherited modern sciences culture and civilization Western secular , is n't it product the resulting knowledge from Islamic civilization . By epistemology , integration science and Islam in context this of course is complex problem .

*Second* , integration science and Islam are idea philosophical that is not easy realized even in education high . Take for example , rejection idea Islamization knowledge contemporary by Al-Attas [10]and al-Faruqi [11]. Issue this get response large of Muslim scholars , such as Idris [12]. Sayyed Hosen Nasr is a scholar who also discussed difference fundamental Among science from Western perspective and from Islamic [13]perspective . Argument next say that consider knowledge that comes from from the West only as continuation from sciences islam is something error big because both of them adhere to different epistemology _ about knowledge knowledge and revelation . Sardar promotes idea the need paradigm new as a parameter of the sciences Islam , by more firm . A number of Indonesian Muslim scholars are also involved in conversation these , such as Bakar, Soewardi , Kartanegara , and Heriyanto .

*Third* , there is object or even denial from scientists _ to idea Islamization science . Muslim Scholars like Rahman, Salam and Hoodbhoy reject Islamization knowledge . According to Rahman, *' ilm* that alone fine , so no need Islamic [14]. However , abuse knowledge knowledge could happen for a purpose certain . Implementation knowledge depends on moral priority because moral is the most important from everything . Rahman refers to several verses of the Koran for support the argument , like *Sura al -Azab [* (72) and *Sura 'Abasa* 23). Scholar others , such as Hoodbhoy even write book certain for reject idea Islamization knowledge . According to him , only there is one universal science . Not there 's a name Islamic science or Hindu science , science Judaism , science Confucianism , and Christian [15]science . The book also got Support from scholar another . Indonesian Scholars Kuntowijoyo and Usep Fathuddin , was among _ those who are sharp criticize Islamization knowledge knowledge and promote other terms according to they more match , that is knowledge Islamic knowledge . Whereas Fathudin consider Islamization knowledge as *contradiction in terminus* or wrong concept _ terminology because contain meaning that there is Islamic and non-Islamic knowledge .

Controversy idea Islamization knowledge knowledge , however , is not dampen civitas Islamic academics from PTKI for think that problem this solved so course . Integration of Islam and knowledge still can debated , and efforts for integrate it by theoretical Keep going continues . Enthusiasm this especially driven by problems knowledge Islamic knowledge and science today this is not give answer on something problem social , so gave rise to the idea of integration . Problem social new that appeared need knowledge integrative for find solution holistic-comprehensive . For destination this , Muslim scholars then build base theology and philosophy that unites Islam and science . During this base theological and philosophical integration science and Islam have interesting attention academics Muslim scholars for deal with it . Whereas from side methodology , they have different view _ about how integration that realized and implemented to in system education . Proposed methodology _ still leaving problems among the scholars involved in discourse integration science and Islam [16]. one _ critics , for example , say that there is internal debate among PTKI scholars regarding need or whether or not change institution from STAIN and IAIN to UIN and whether idea integration in accordance with PTKI's basic core business .

Indeed , by academic , there scholar who tries elaborate draft integration science and religion, such as Barbour, Guessoum , or Bucaille . There is also research that explores by deep and detailed dynamics integration science and Islam with approach scientific theological . There are also a number of research that examines implementation integration science and Islam in institutions Islamic [17]education .

The study describe construction integration of science and Islam in learning curriculum Islamic education . Another study by Anshori and Abidin examined integration science and Islam as well implementation in four state and private institutions . Temporary In addition , Aziz 's research analyzes the process of changing status that does not miss of the integration process science and Islam.

However Thus , studies the no question problem fundamental related pattern or base philosophy and methodology integration science and Islam that became base

for change in institutional status college Islamic high . because of that , research this aim for discuss two dimensions ( philosophical and methodological basis ) and examines framework base integration science that accompanies changes in college Islamic high . Based on thinking that , research this use studies qualitative phenomenological for look for answer on destination main research . Selected research location _ in study this are UIN Maulana Malik Ibrahim Malang, UIN Sunan Kalijaga Yogyakarta, and UIN North Sumatra because has adopt draft Islamic- science integration . Study this then summarize experimentation integration science and Islam at the three State Islamic Universities (UIN ) . This study use various related documents _ with integration science and Islam, such as works of scholars from the three universities that reflect paradigm integration . However , research this no use technique Interview for data collection .

## RESEARCH METHODS

The method used in compiling this paper is a *library research method* by collecting data from writings (literature) that are related to the topics discussed, namely contemporary issues in Islamic Education Studies and the study of Values. - Value of Islamic Education and Western Secular Education. The researchers took the data from documents in the form of books, research journals, and supporting articles. The method of discussion uses the descriptive-analytical method, which is to explain and elaborate the main ideas related to the topics discussed. Then present it critically through primary and secondary library sources related to the theme [18].

## RESULTS AND DISCUSSION

### *A. Science Integration : Theological and Philosophical Foundation*

Normatively theological Islam recognizes no separation or dichotomy between religious science and general science. Al-Qur'an and Al-Sunnah do not distinguish between religious sciences and general sciences. Historically, Islam has introduced science in an integrated framework. In Islamic history, there is no distinction between religious knowledge and general sciences. This can be seen from the existence of great scholars who are not only experts in religious knowledge but also experts in general science, such as Ibn Sina, Ibn Rushd, Ibn Khaldun. Philosophically, the integration of religious knowledge and general science provides a very solid foundation, because this integration can be found on the plains of thought of philosophers in the past then.

The integration of religious knowledge and general science requires a person to understand the general principles that exist in the two fields of science while developing expertise in certain fields of science according to their respective talents and interests. *Interdisciplinary* approaches and *interconnections* between religious and general disciplines need to be built and developed continuously without stopping. This is not the time now for the disciplines of religion (Islam) to be isolated and sterile from the contact and intervention of the social sciences and the natural sciences and so are on the contrary.

paradigm of science *versus* religion has long been abandoned by people. In fact, in the history of Islamic thought, such a way of thinking is suspected to be the cause

of the decline of Muslims since the 12th century ago. Muslims who have the perception that Islamic teachings are only sufficient for fiqh, monotheism, morals, tasawuf, dates, and the like. This perception, whether we realize it or not, has left Muslims behind from other communities.

The progress of human civilization is not produced by the advancement of religious knowledge even though it is important, but by technology, medicine, mining, banking, geology, astronomy, physics-chemistry, management, and so on. At the very least, the contribution of fiqh, monotheism and morals in building world civilization, even if they exist, is not as great as that provided by science and technology. As a result of such awareness of Muslims, the question that often arises is how to find a way out to synthesize religion and science, or at least how Muslims, apart from studying religion, also study science and technology. Thus, religious knowledge and general knowledge become inseparable, even permeating every Muslim [19].

In principle, according to the teachings of the Qur'an, Islam does not recognize the dichotomy between religion and science (science), physical and spiritual, rational and empirical, world and hereafter. The Qur'an and the Sunnah do not recognize any separation between religious knowledge and general knowledge. In the teachings of Islam, every adherent is recommended to achieve a balanced life happiness between this world and the hereafter. This can be understood, for example, from the following verses of the Qur'an and al - Hadith: this:

ابْتَغِ ا اكَ اللّٰهُ الدّارَ الْآخِرَةَ لَا نَصِيبَكَ مِنَ الدُّنْيَا ا اللّٰهُ لَيْكَ لَا الْفَسَادَ الْأَرْضِ اللّٰهَ لَ الْمُفْسِدِينَ

" *And seek in what Allah has bestowed upon you (happiness) in the hereafter, and do not forget your happiness from this worldly (pleasures) and do good (to others) as Allah has done good to you, and do not do mischief in (face) earth. Verily, Allah does not like those who do mischief. ( Q S Al-Qasash, 28: 77)*[20]

In line with the meaning of the verse above is a very famous prayer among Muslims :

ا ا الدُّنْيَا الْآخِرَةِ ا ابَ النّارِ

*Yes, our Lord, grant us good in this world and good in the hereafter and protect us from the fire of hell. (Surat al-Baqarah, 2: 201).*[20]

In the hadith of the Prophet Muhammad it is stated: *"Work to achieve the happiness of your life in this world as if you will live forever, and work to achieve the happiness of your life in the hereafter as if you will die tomorrow morning."* (HR Ibn Asakir).

Achieving happiness in life in this world and in the hereafter requires knowledge. The happiness of life in the hereafter is achieved by practicing religious knowledge and general knowledge on the basis of intentions for the sake of Allah. This is further stated in the hadith of the Prophet: *"Whoever wants the happiness of life in this world must be with knowledge, and whoever wants the hereafter must be with knowledge."*

Although there is debate among academics about the integration of science and Islam, this phenomenon continues to attract the attention of academics. There

are at least two main issues: theological and philosophical. From a theological point of view, Islam does not contradict science, and supports the integration of religion and religion. For example, this view was expressed by Faruqi and his concept of IIIT ( *International Institute of Islamic Thought* ), Herman Soewardi and Wan Daud. They base their argument on the Qur'an, namely *Surah al-'Alaq verses 4 and 5* , which states that *'whoever teaches with a pen, teaches man what he does not know'* . Ahmad Tafsir, Professor of UIN Sunan Gunung Djati Bandung, stated that *Surat al-Baqara: 32* is an affirmation that knowledge comes from God [21]. This verse clearly states that

*Glory be to You; We have no knowledge except what You have taught us. Verily, You are the All-Knowing, All-Wise* . Verses 190-191 in *the surah* encourage humans to continuously study the phenomena of the universe so that they reach the level of *ulul albab* (knowledgeable).

The philosophical foundation of the integration between science and Islam itself was put forward by al-Faruqi, Kartanegara, Tafsir and Rahman. Faruqi stated that epistemologically in Islam, truth comes from the absolute oneness of Allah. Ambiguous truths, such as scientific and religious truths, are illogical and tend to be paradoxical [11]. Therefore, theoretically, there is no difference between the truth of revelation and the truth of natural law. The logical correspondence between empirical truth, reasoning truth, and truth conveyed by revelation is the most critical principle in the theory of knowledge. This conformity according to al-Faruqi is based on three principles of the unity of truth that underlie all Islamic knowledge; that there is no contradiction between empirical truth and what revelation reveals; that there is no conflict between reason and revelation; and all the results of the study of natural laws or patterns contained in the universe or any part of it are temporary.

Kartanegara's view on the basis of the integration of science and Islam is also in line with al-Faruqi's view. Kartanegara stated that Muslim scientists would believe that the source of knowledge is Allah, God, which they call the Truth ( *AlḤaqq* ) or, as others recall, *The Ultimate Reality* [11]. Since the goal of science is to know things as they really are, which means to know the ultimate truth, then God as the ultimate truth must be the source of all other truths, including the truth of the realities of science. The Qur'an explicitly says *that the truth is from your Lord, so do not be among those who doubt"* (Sura al-Baqarah: 148 and Surah Al-Imran: 60). Thus, Muslim scholars agree that the source of knowledge (or rather the original or ultimate source of knowledge) is Allah Himself, the Truth. If this statement is interpreted, it can be said that there is actually a philosophical unity, especially in the ontological and axiological dimensions. Therefore, this unity encourages the search for the ideal construction of knowledge that integrates with religion or religion-based science. It is natural for al-Faruqi to assert that both religious science and general science actually study Allah's verses, where the former studies *qawliya* (norms/laws), while the latter studies *kawniya* (universe). nature) verse. Moreover, both are signs ( *verse* ) of Allah, and refer to the same True Reality, Allah, as the source of all truth. He is the reality that is the object of research for every science. Here, there are two kinds of scientific discoveries that are used as the basis for

integration, namely in the verses of Allah in the form of holy books on the one hand and the universe on the other.

The same argument is also found in the thought of Tafsir, which states that Allah is the source of knowledge (Al-Baqarah: 32). Sources of knowledge provide two loci to be studied ( *iqra'* ) and researched, for example the Qur'an and *al-kawn* . Reading the Qur'an produces knowledge (theories and concepts), such as natural sciences, social sciences and humanities. Likewise, reading the verses of *al-kawn* (the universe/nature) will produce knowledge related to natural science. Both categories of knowledge are based on Allah's knowledge, and there is no contradiction in Allah's knowledge. This view shows that the highest source of knowledge is Allah. Al-Qur'andan *al-kawn* is a locus that provides knowledge that can be learned through various approaches, such as *bayān* (text), *burhān* (demonstration), and also *irfān* (intuition).

Based on this view, it can be said that theologically and philosophically the integration of science and Islam has an undeniable basis. If there is a conflict between science and religion, then that tension is the only misinterpretation *of the kawniyya* or *qur'āniyya* [22]. However, a critical issue relates to the methodology of how to integrate Islam and science. Therefore, al-Faruqi proposed 12 steps of integration: 1) Mastery of modern scientific disciplines; 2) Survey of scientific disciplines; 3) Mastery of Islamic treasures; 4) Mastery of Islamic Scientific repertoire at the analytical stage; 5) Determination of the specific relevance of Islam to scientific disciplines; 6) Critical assessment of modern scientific disciplines; 7) Critical assessment of Islamic repertoire: current evel of development; 8) Survey of problems faced by Muslims; 9) Survey of problems facing mankind; 10) Creative analysis and synthesis; 11) Redefining modern scientific disciplines within an Islamic framework; and 12) Dissemination of Islamic knowledge.

Agreements at the operational level within the PTKI have spread so that parts of the institution rely on the integration of science and Islam such as philosophical foundations or aspects of the curriculum. Not surprisingly, Islamic universities have a different methodological framework with a foundation of integration. In this context, a comparative critical analysis is needed to see the philosophical views and methods of integration in several Islamic universities in Indonesia, such as UIN Maliki Malang, UIN North Sumatra, and UIN Sunan Kalijaga Yogyakarta. This can be found in detail about the experiments of these Islamic universities in applying the concept of integration of science and Islam. This effort can be regarded as a milestone in the history of Islamic education in Indonesia. The emergence of PTKI will thus foster the growth of cooperation in Islamic sciences, which will make a great academic contribution.

**B. Experiments on Application of Knowledge Integration within the PTKI Scope**

Currently, there are several Islamic universities in Indonesia that have changed their institutional status from STAIN/IAIN to UIN. Some of these Islamic universities have conducted experiments on the integration of science and Islam, such as UIN Maliki Malang, UIN Sunan Kalijaga Yogyakarta and UIN North Sumatra, in this case these three UINs will be research samples. Each institution has a different

philosophical and methodological basis for integration. This shows the importance of the philosophical-methodological foundation of integration and the different interpretations of this aspect of the respective universities. That is, the construction of philosophical views and methods cannot be separated from the formulation of the underlying philosophy. Therefore, this study will describe such experiments in the three universities.

**1. UIN Maliki Malang**

The first case is UIN Maliki Malang. The scientific-integration paradigm with the Tree of Science metaphor is carried out by UIN Maliki Malang. The dichotomy of science and Islam in the view of UIN Maliki Malang is contrary to the nature of universal Islamic teachings. Islamic teachings have never dichotomized between science and religion. Both science and religion are sourced from the Qur'an and Hadith. Therefore, the two do not need to be sliced and fought over. If there is an attempt to dichotomize science and religion, then this needs to be returned to an integrated Islamic fundamental paradigm that does not separate religion from science.

Suprayogo, who is a pioneer of the experimental project on the integration of science and Islam at UIN Maliki Malang, believes that the synergy between science and Islam is very important, even necessary because ignoring religious values in the development of science and technology will have a negative impact. not only in the social-humanitarian order but also in the cosmos or the universe [23]. The negative impact of the tendency to ignore moral values (religion) can be seen empirically in the deviant behavior carried out by humans on this earth by using the power of science and technology to manipulate nature excessively. On the other hand, the tendency to impose normative doctrinal religious teachings into science will also hinder the development of science itself. Therefore, science should not be considered as something final, but a process that continues to develop along with the times.

Interestingly, the experiment on the integration of science and Islam at UIN Maliki Malang was built on four philosophical foundations. *First,* the parallelization of religion with philosophy. Religion and philosophy, both of which are normative, and at the same time present a worldview, are legitimate to be the basis for the development of science. The main argument of the parallelization view of religion and philosophy is that philosophy is the basis of science, and science can derive from religious doctrines. Thus, religion, which is also a non-scientific norm, is legitimate as the basis for the development of science.

*Second* , Islamic universalism. Islam is a religion ( *din ) whose* teachings are aimed at humanity. Islamic universalism is understood in the sense that the teachings of Islam cover all aspects of life which include the principles of teaching that govern the relationship between humans and their God, humans and each other, and humans and their environment. Or understood from the dimensions of time and place. Islam was revealed to the people of the world regardless of their geographical and ethnic boundaries.

*Third* , the characteristics of Islamic teachings that emphasize the balance between spiritual and material life, as well as ritual and social dimensions. UIN

Maliki Malang views Islam as a religion that is broad and unlimited as wide as the universe, but still has the harmony of scientific concepts with Islamic teachings. There is no contradiction between science and Islam. There is even a meeting point between the two, especially in the function of the two. Religion is the way of salvation, while science is the way to prosperity. *Fourth* , the vortex theory. Revelation (Al-Qur'an and As-Sunnah) is absolute and indisputable truth, while philosophy and science are products of human thought, which views truth as relative. Justification is needed for a higher truth, namely the absolute and indisputable truth of revelation. Therefore, the Qur'an and Hadith serve as the vortex of all sciences, as well as the philosophical foundations of science (ontology, epistemology and axiology). These four basic views are the philosophical foundation for the integration of science and Islam at UIN Maliki Malang [24]. This philosophical view has implications for the policies of UIN Maliki Malang, especially on institutional policies and curriculum. Institutionally, they are a combination of universities and Islamic boarding schools ( *ma'had al-al* ) in the campus environment. However, what is interesting is that universities have their own curriculum, as well as Islamic boarding schools. These two institutions have different duties and responsibilities. Universities are given the responsibility for scientific and professional development, while Islamic boarding schools are given the task of strengthening spirituality and the formation of good morals.

From this point of view, UIN Maliki Malang tries to develop an integrated curriculum which is reflected in the form of "Tree of Knowledge". At its root there is a set of sciences, such as Arabic and English, Basic Natural Sciences and Basic Socio-Cultural Sciences and state ideology (Pancasila) and methodology (philosophy). At the root appears knowledge that refers to the foundation for the formation of scientific integration (al-Qur'an, al-Hadith, Sirah Nabawi, Islamic Thought and Islamic Society). The cluster of knowledge in roots and stems must be studied by every student in all study programs. After students learn two knowledges both at the root and stem, they study specifically and demand social knowledge, which is needed in socio-cultural settings (exact sciences, social sciences, and humanities), which are organized by faculties and study programs. In this third group, not all students learn a variety of knowledge, but not a few students learn according to their specialization. In principle, all students study the fields of science that exist in the branches and leaves, but they choose it according to their interest in the study program.

This method allows the integration of general knowledge and religion in every academic community, and graduates are expected to have spiritual depth, moral greatness, breadth of knowledge and professional maturity. It doesn't end here. UIN Maliki Malang also forms a campus-based religious cultural environment, which is intended to equip graduates with these four characters, or commonly referred to as ulū al-Albāb. The integration of science and Islam at UIN Maliki Malang in practice tends to follow the Islamization model of knowledge with Islamic justifications of modern scientific methods, but metaphorical integration is presented in a scientific tree that is sufficient because the target is the academic community.

**2. UIN Sunan Kalijaga Yogyakarta**

The second case is UIN Sunan Kalijaga, Yogyakarta. It promotes the integration-interconnect paradigm with the " *Spider Web* " metaphor. This scientific view of integration-interconnection in Islamic universities was initiated by M. Amin Abdullah, one of the foremost scholars who promote integrative thinking between Islam and scientific, social and humanities disciplines. Integrative operations and methodological development of science and Islam are sourced from the scientific creativity of M. Amin Abdullah. Therefore, it would not be an exaggeration to say that Abdullah was the main pioneer of the integration of Islam and science at this university.

The paradigm of the integration of Islam-science at this university is based on several essential points of view. First, religion in a broad sense is God's revelation, which regulates the relationship between humans and God, oneself, and the physical, social, cultural, and global environment. This set of rules, universal values and basic principles, is called "sharia" and is derived from verses of the Qur'an, such as Sura al-Jāthiya: 18 and Sura al-Maidah: 48). The Qur'an includes ethics, morals and wisdom, and can be the basis of the theology of science and the grand theory of science. It must be emphasized that revelation should not be claimed to be science.

Second, the science born of religion becomes objective science (it undergoes a process of objectification). In a sense, knowledge is not perceived by followers of other religions, non-religious, and anti-religious as a norm (the normativity side), but only as an objective scientific phenomenon (the historicity side). Believing in a religious background, whether it is a source of knowledge or not, is not a problem. Science with a religious background is objective science, not normative religion [25].

Third, human knowledge can be classified into three, namely natural sciences, social sciences and humanities. A coincidence in the history of Muslims when the building of the natural sciences (al-'ulum al-kawniyya) was separated and did not come into contact with the Islamic sciences whose foundation was text (na). This separation and consolidation has had a tremendous impact on the world of bureaucracy, the world of government, the world of SOEs, the business world, the environment and the world of work in general. Therefore, we need a model of knowledge which is an interconnected entity, in the sense that each is aware of its limitations in solving it human problem. This then requires cooperation at least in terms of approaches and methods of thinking and research (processes and procedures) [25].

Therefore, in Islamic higher education institutions, the curriculum with the spirit of scientific ethos emphasizes the interdisciplinary framework, sensitivity, and interconnection, with the breath of epistemological reintegration. Abdullah stated the need to consider basic principles, such as text civilization ( *haḍara al-na* ). Bayān text cultural support is no longer able to stand alone, apart from scientific civilization ( *haḍara al-'ilm* ), such as engineering, communication; and also cannot be separated from the philosophy of civilization ( *haḍara al-falsafa* ) and vice versa. *Haḍara al-ilmi* (culture of science), namely empirical science that produces science and technology, will not have character in human life and the environment if it is not

guided by a solid haara al-falsafa (ethical-emancipatory culture) . Meanwhile, *haara al-naṣṣ* (religious culture that solely refers to texts) combined with *haara al-'ilm* (science and technology), without knowing contemporary humanity, is also dangerous because if it is not carefully applied, it will be easily swept away. towards the radicalism-fundamentalism movement [26]. For that, there needs to be *haḍara al-falsafah* (transformative-liberative ethical culture). Likewise, *haara al-falsafah* (philosophical civilization) will be meaningless unless it is related to religious issues contained in the text culture, let alone far from the problems caused and faced by haḍara al-'ilmi (empirical-technical civilization). science). Given the interrelationships of these elements, namely text, science, philosophy, history and civilization, UIN needs to develop curriculum and courses that integrate it with traditional Islamic religious studies.

In developing the study program curriculum, Abdullah proposes to use an interconnected scheme, which combines the three basic principles described in the previous paragraph, and sets aside a single scheme and an isolated scheme that places the three civilizations separately. The interconnections of praxis or interconnected schemes in knowledge development aim to view and solve problems from various perspectives. This integrative perspective can be applied, for example, to address controversial legal issues for children born to unregistered married couples, such as what happened to Indonesian singers. Briefly, the problem is stated as follows: :

On February 17, 2012, the Constitutional Court (MK) decided a new provision that perfected article 43 paragraph 1 of the 1974 Marriage Law, which stipulates that children born out of wedlock have civil rights to relations with their mothers and their families from their mothers and with men. as the father who can be proven based on science and technology and/or other evidence according to the law, have blood relations, including civil relations with his father's family [25].

The court's decision shows that Islamic law cannot stand alone to deal with such problems. One aspect that can be handled by the law is regarding the status of children born from unregistered marriages. According to the traditional interpretation of Islamic law, children acquire a genealogical relationship with their parents (father and mother) as long as the parents tie the knot according to Islamic legal standards. However, according to the state, the child does not have a pedigree with his father because his marriage is not recorded. This view can stifle a child's reputation, and the future and outlook is problematic. There must be a scientific examination of who the child's biological father is to resolve this issue. Here medical and DNA examination helps to find the biological father of the child so that the child can be ascribed to him medically and thus legally. This approach is interdisciplinary because it involves not only Islamic law but also medical science.

Meanwhile, the issue that becomes controversial among Muslims almost every year is the determination of the end of the fasting month of Ramadan and the beginning of Eid al-Fitr. This dispute is triggered by the use of one science or religious knowledge without integrating it with other related sciences. The struggle (not yet called the Conflict paradigm) between religion and science is always

displayed in the public sphere, and there is no sign that it will end in the near future. Conflicts or differences between the system of calculating the beginning of the month of Ramadan through *ru'ya* (seeing the beginning of the month empirically with the naked eye – assisted with a telescope) and the system of calculating the beginning of the month through *isāb* (mathematical rational calculation) as practiced in calculating *miladiyya* (Gregorian) during this best illustrates these unrelated perspectives. If the medieval conflict was triggered by differences in the understanding and interpretation of the church and the calculations of astronomical scientists about planetary motion, namely between geocentric and heliocentric flows, then conflicts in the modern era, at least in Indonesia and in Muslims. the world in general, is the determination of the beginning of the month of Ramadan between *ru'ya* and *isāb experts* . The disagreement in determining this method creates socio-religious problems among Muslims because they may not be ready to welcome the end of Ramadan. Muslims can also hold *d al-Fiṭr* separately at different dates, places and times.

**3. UIN North Sumatra**

The integration-multidisciplinary paradigm of UIN North Sumatra with the metaphor " Wahdatul *Ulum* ". ' *Wahdatul 'Ulûm'* is a vision, conception, and scientific paradigm which is then developed in a number of fields of science in the form of departments or faculties, study programs, and courses that have a unified relationship as a science which is believed to be a gift from God. Therefore, his ontology, epistemology, and axiology are dedicated to the service of God and dedicated to the development of civilization and the welfare of mankind [27].

Highlight draft integration knowledge Prof. Syahrin Harahap, that Wahdatul 'Ulum ( *Unity of Knowledge* ) was extracted from the repertoire of Islam and the modern world. The word wahdah , root he said wahada chosen as the concept of monotheism. While the word al -' ulum plural from al - 'ilm which means knowledge . Draft ontology Wahdatul ' Ulum that in fact knowledge in one unity , that knowledge no separated then integrated . Whereas perspective Transdisciplinary used as method transformative , articulate Wahdatul ' Ulum who is still philosophical and abstract . Perspective Transdisciplinary by real will could Becomes solution problem faced _ human .

Paradigm Wahdatul ' Ulum experience variety dialectics and the long process of time , begins from *countering* argument Transdisciplinary until then inaugurated as paradigm North Sumatra State Islamic University. Method Transdisciplinary permanent used because rated transformative praxis for concretization idea . civitas UINSU academics are still many not yet understand Wahdatul ' Ulum perspective Transdisciplinary and how run it in lectures . On the other side of the Study Center Transdisciplinary already start socialization to whole faculty at UIN North Sumatra. Problem main for lecturer is how articulate to in form plan lectures and practice in the classroom .

Change institutions and change philosophy knowledge is score differentiation uniqueness institution and very potential make UIN North Sumatra towards college high competitive and very potential Islam Becomes a college tall featured .

## CONCLUSION

The integration of science and Islam is a necessity now and in the future. Integrated knowledge is very important to solve various problems of an increasingly complex society. Environmental problems, legal problems, economic problems, and increasingly complex political problems are no longer enough to be solved with dichotomous knowledge, as was generally held by Islamic universities in the past few decades, and implicitly in recent times. an institution that has not been transformed into a university and still applies a single approach to pure Islamic studies.

The integration of knowledge is not enough just to relate science and verses of the Qur'an or hadith, or with justification, because this has been adopted in the initial process of integration of Islam and science. Integration in Islamic tertiary institutions must begin by establishing a philosophical foundation and taking the necessary methodological steps. Experiments conducted by several Islamic universities that this study shows can be used as a model for other Islamic universities dreaming of the same project. However, further analysis on the practical level of Islamic-science integration, its implementation and impact on Islamic thought needs to be carried out for further study as this is beyond the scope of the current study.

## REFERENCES


[1] L. N. Arifa, "Perubahan STAIN/IAIN Menjadi UIN Sebagai Bentuk Pengembangan Pendidikan Tinggi Islam: Contoh Kasus Perubahan STAIN Menjadi UIN Malang Perspektif Manajemen Perubahan ," Jurnal Pendidikan Islam , vol. 2 No 1, 2017.

[2] R. M. Sari, "Perguruan Tinggi Islam dan Transformasi Lembaga: Studi Terhadap Proses Perubahan Fungsi dan Peran IAIN Syarif Hidayatullah Jakarta Menjadi Universitas Islam," El-Hekam , vol. 1 No 1, 2016.

[3] U. Suyatman, "Manajemen Strategik dalam Transformasi IAIN Menjadi UIN," Jurnal Administrasi Pendidikan , vol. 14 No 1, 2012.

[4] A. Muflihin, Paradigma Keilmuan Integrasi-Interkoneksi: Studi Terhadap Desain dan Implementasi Kurikulum Program Magister Prodi Pendidikan Islam Fakultas Ilmu Tarbiyah dan Keguruan UIN Sunan Kalijaga Yogyakarta. Thesis Post-Graduate: UIN Sunan Kalijaga, 2016.

[5] F. Lukman, "Integrasi-Interkoneksi Dalam Studi Hadis Disertasi UIN Sunan Kalijaga Yogyakarta,' Religia: Jurnal Ilmu-Ilmu Keislaman ," Religia: Jurnal Ilmu-Ilmu Keislaman , vol. 12 No 2, Feb. 2017.

[6] Amin Abdullah, Islamic Studies di Perguruan Tinggi Pendekatan Integratif- Interkonektif . Yogyakarta: Pustaka Pelajar, 2006.

[7] M. A. Wahab, Pendidikan Islam Holistik Berbasis Nilai dalam Perspektif Sirah Nabi,' in Pendidikan Holistik: Pendekatan Lintas Pespektif, ed. Jejen Musfah . Jakarta: Kencana, 2012.

[8] S. J. W. Draper, History of The Conflict Between Religion and Science . Draper, See John William 1986. History of The Conflict Between Religion and Science New York: D. Appleton and Company, 1986.
[9] M. Iqbal, Science and Islam . London: Greenwood Press, 2007.
[10] S. M. N. Al-Attas, . Islam and Secularism . Kuala Lumpur: ISTAC, 1993.
[11] I. R. Al-Faruqi, Islamization of Knowledge: General Principles and Work Plan . Herndon: IIIT, 1989.
[12] Jaafar Sheikh Idris, "The Islamization of the Sciences: Philosophy and Methodology,' The American Journal of Islamic Social Sciences ," Am J Islam Soc Sci, vol. 4 No 2, 1987.
[13] Seyyed Hossein Nasr, Menjelajah Dunia Modern, trans. Histi Tarekat . Bandung: Mizan, 1994.
[14] F. Rahman, . Islamization of Knowledge: A Response,' Islamic Studies . 2011.
[15] P. Hoodbhoy, Ikhtiar Menegakkan Rasionalitas antara Sains dan Ortodoksi Islam. Bandung: Mizan, 1996.
[16] F. Mufid, "Islamic Sciences Integration," Qudus International Journal of Islamic Science, vol. 2 No 2, 2014.
[17] M. Munadi, "Integration of Islam and Science: Study of Two Science Pesantrens (Trensain) in Jombang and Sragen," ,' Jurnal Pendidikan Islam , vol. 5 No 2, Dec. 2016.
[18] Sugiyono, Metode Penelitian Pendidikan . Bandung: Alfabeta, 2011.
[19] I. dan R. Suprayogo, Perubahan Pendidikan Tinggi Islam: Rekleksi Perubahan IAIN/STAIN Menjadi UIN. Malang: UIN-Malang Press, 2008.
[20] Departemen Agama RI, AlQuran Al Karim dan Terjemahnya . Bandung: Jumanatul Ali, 2005.
[21] A. Tafsir, "Basis Filsafat untuk Integrasi Pengetahuan Quraniyah dan Pengetahuan Kauniyah,' ," Bandung, 2011.
[22] Maksudin, Paradigma Agama dan Sains Nondikotomik . Yogyakarta: Pustaka Pelajar, 2016.
[23] I. Suprayogo, Pendidikan Integralistik: Memadu Sains dan Agama,' in Memadu Sains dan Agama Menuju Universitas Islam Masa Depan, ed. M. Zaenuddin et.al. Malang: UIN Malang Press, 2004.
[24] Khozin, Pengembangan Ilmu di Perguruan Tinggi Keagamaan: Konstruksi Kerangka Filosofis dan Langkah-langkahnya . Jakarta: Kencana, 2016.
[25] Amin Abdullah, Studi Agama: Normativitas atau Historisitas. Yogyakarta: Pustaka Pelajar, 2004.
[26] Amin Abdullah, Agama, Ilmu dan Budaya: Paradigma integrasi-interkoneksi keilmuan . Yogyakarta: 17 Agustus, 2013.
[27] S. et. al Harahap, Wahdatul Ulum. Medan: IAIN Press, 2019.