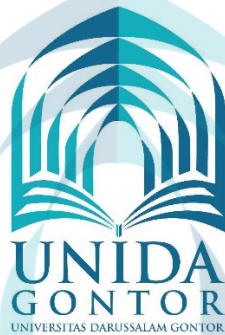


**ISLAMIC NATURAL SCIENCE RESEARCH PROGRAM WITH
REFERENCE TO AL-ATTAS AND LAKATOS**

A Dissertation

submitted to the Department of Aqeedah and Islamic Philosophy,
University of Darussalam Gontor in Partial Fulfillment of Requirements
for the Degree Doctor of Philosophy



by

Yongki Sutoyo

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**UNIDA
GONTOR**
DEPARTMENT OF AQEEDAH AND ISLAMIC PHILOSOPHY
POSTGRADUATE PROGRAM
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ISLAMIC NATURAL SCIENCE RESEARCH PROGRAM WITH SPECIAL REFERENCE TO AL-ATTAS AND LAKATOS

Student : Yongki Sutoyo
Promotor : Prof. Dr. Hamid Fahmy Zarkasyi, M.A.Ed., M.Phil.
Co-Promotor : Assoc. Prof. Dr. Syamsuddin Arif, M.A.

Abstract

One of the things that is neglected in the discourse on the Islamization of Contemporary Knowledge (ICK) is translating it into systematic methods in research or scientific development activities. In the context of natural science, which is the focus of this research, Syed Muhammad Naquib al-Attas, is a philosopher, not a scientist who works in a typical intellectual climate, for example conducting research in a laboratory or formulating theorems mathematically. Therefore, so that al-Attas' philosophical ideas can work more operationally and touch the methodological area, al-Attas' IOK must be brought into the realm of philosophy of science. In this study, the figure chosen in the philosophy of science discourse is Imre Lakatos. Lakatos was chosen because he is a scientist as well as an expert in the philosophy of science.

In this writing, the research focuses on two things: (1) formulating the methodology of Islamic scientific research programs based on the conceptual framework of al-Attas' Islamization of contemporary knowledge and Lakatos' methodology of scientific research program; (2) reading the structure of the natural sciences and their problems, based on the formulation in point (1) as a starting point for re-conceptualizing, re-defining and re-formulating the key concepts of natural science. With a qualitative approach, the authors collect data from primary and secondary sources, then through descriptive, analytical and critical methods, the authors examine the data to arrive at the purpose of writing this thesis.

Based on the analysis conducted, this research resulted in two things. First, the main structure of natural science, based on the framework of al-Attas and Lakatos, has four problems: (1) the problem of naturalism in worldview or hard-core, (2) the problem of realism in the paradigm, (3) the problem of reducing positivism in the formulation of theories and methodologies, (4) the problem of empirical correspondence theory of truth in conceptualization. These four problems ontologically—based on the underlying metaphysical belief, namely naturalism—necessarily modern science negates the metaphysical character that refers to issues of divinity and non-empirical matters. Second, to answer the four previous problems, Islamic natural science therefore needs to restore its metaphysical character with the following structure: (1) theism as a worldview, (2) metaphysical realism as a paradigm, (3) pluralistic affirmation of sources and frameworks for formulating theories and methodologies, (4) the truth of revelation as a limitation in conceptualization.

The results of this study are expected to be one of the contributions in the discourse of IOK and Islamic science in general and the development of Islamic natural sciences in particular. Through this research, the author hopes to contribute to the major project of the Islamic Science Research Program, which is a scientific work that seeks to reformulate the concept of contemporary science as a long-term research program based on the Islamic worldview, as well as open a new discourse in the Islamic Natural Science Research Program in particular, a program long-term research based on the Islamic worldview in the fields of natural sciences such as physics, biology, chemistry, cosmology and their derivatives.



Abstrak

Salah satu hal yang terabaikan dalam wacana Islamisasi Ilmu Pengetahuan Kontemporer (IPK) adalah menerjemahkannya ke dalam metode yang sistematis dalam penelitian ataupun kegiatan pengembangan keilmuan. Dalam konteks sains alam, yang menjadi fokus pada penelitian ini, Syed Muhammad Naquib al-Attas adalah seorang filosof, bukanlah seorang saintis yang bekerja dalam iklim intelektual yang khas, misalnya melakukan riset di laboratorium atau merumuskan teorema secara matematis. Oleh karena itu, agar gagasan filosofis al-Attas dapat bekerja lebih operasional dan menyentuh wilayah metodologis, IPK al-Attas itu harus dibawa masuk ke wilayah filsafat sains. Dalam penelitian ini, figur yang dipilih dalam wacana filsafat sains adalah Imre Lakatos. Lakatos dipilih karena ia adalah seorang saintis sekaligus pakar dalam filsafat sains.

Dalam penulisan ini, penelitian difokuskan pada dua hal: (1) merumuskan metodologi program riset ilmiah Islam berdasarkan kerangka konseptual Islamisasi ilmu pengetahuan kontemporer al-Attas dan metodologi program riset Lakatos; (2) membaca struktur ilmu alam beserta problem-problemnya, berdasarkan rumusan pada poin (1) sebagai titik pijakan dalam melakukan re-konseptualisasi, re-definisi dan re-formulasi konsep-konsep kunci sains alam. Dengan pendekatan kualitatif, penulis mengumpulkan data-data dari sumber primer dan sekunder, kemudian melalui metode deskriptif, analisis dan kritis, penulis mengkaji data-data itu untuk sampai pada tujuan penulisan tesis ini.

Berdasarkan analisis yang dilakukan, penelitian ini menghasilkan dua hal. Pertama, struktur utama sains alam, berdasarkan kerangka al-Attas dan Lakatos, memiliki empat problem: (1) problem naturalisme dalam worldview atau hard-core, (2) problem realisme dalam paradigma, (3) problem reduksi positivisme dalam perumusan teori dan metodologi, (4) problem kebenaran korespondensi empiris dalam konseptualisasi. Empat problem ini secara ontologis—berdasarkan metaphysical belief yang mendasarinya, yaitu naturalisme—meniscayakan sains modern menegasi karakter metafisik yang merujuk pada persoalan ketuhanan dan hal-hal non-empiris. Kedua, untuk menjawab empat problem sebelumnya, sains alam Islam oleh karena itu perlu mengembalikan karakter metafisik dengan struktur berikut: (1) theisme sebagai worldview, (2) realisme metafisik sebagai paradigma, (3) afirmasi pluralistik sumber dan framework perumusan teori dan metodologi, (4) kebenaran wahyu sebagai limitasi dalam konseptualisasi.

Hasil penelitian ini diharapkan dapat menjadi salah satu kontribusi dalam wacana Islamisasi IPK dan sains Islam secara umum dan pengembangan sains alam Islam secara khusus. Melalui penelitian ini, penulis berharap berkontribusi pada proyek besar Islamic Science Research Program, yaitu suatu kerja keilmuan yang berupaya merumuskan ulang konsep sains kontemporer sebagai program penelitian jangka panjang berdasarkan worldview Islam, juga membuka diskursus baru dalam Islamic Natural Science Research Program secara khusus, suatu program penelitian jangka panjang berdasarkan worldview Islam dalam bidang sains alam seperti fisika, biologi, kimia, kosmologi dan sejenisnya.

LEGITIMATION

A Dissertation

**“ISLAMIC NATURAL SCIENCES RESEARCH PROGRAM WITH
SPECIAL REFERENCE TO AL-ATTAS AND LAKATOS”**

by Yongki Sutoyo

has been approved
in November, 2023

by

Promotor

(Prof. Dr. Hamid Fahmy Zarkasyi, M.A.Ed., M.Phil.)

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LEGITIMATION

The dissertation of Yongki Sutoyo has been examined on November 21th 2023

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Prof. Dr. Hamid Fahmy Zarkasyi, M.A.Ed., M.Phil.

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Assoc. Prof. Dr. Khoirul Umam, M.Ec.

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Gontor, November 21th 2023

Director,

Assoc. Prof. Dr. M. Kholid Muslih, M.A.

DECLARATION

I hereby,

Name : Yongki Sutoyo
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Faculty : Postgraduate Program
Department : Aqeedah and Islamic Philosophy
Title : **ISLAMIC NATURAL SCIENCE RESEARCH PROGRAM
WITH SPECIAL REFERENCE TO AL-ATTAS AND LAKATOS**

I sincerely declare that this thesis originally belongs to my own work and not belongs to other researcher for different degree. Furthermore, this thesis is never published before, except some parts with their original references. Otherwise, if it found that this thesis is plagiarism, I'm ready to be ceased academically.

Ponorogo, November 10, 2023

Author,

Yongki Sutovo
432022841001

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MOTTOES

Philosophy of science without history of science is empty; history of science without philosophy of science is blind.

—Imre Lakatos, *History of Science and its Rational Reconstructions*

Science according to Islam is ultimately a kind of *ta'wil* or allegorical interpretation of the empirical thing that constitute the world of nature.

—Syed Muhammad Naquib al-Attas, *Islam and the Philosophy of Science*

Knowledge is limitless because the object of knowledge are without limit. But there is a limit of truth in every object of knowledge, so that the pursuit of true knowledge is not an endless search. Were its quest to be without end, then it would be impossible to attain to knowledge in the span of time to which there is a beginning and an end, and it would render knowledge itself to be meaningless.

—Syed Muhammad Naquib al-Attas, *Islam and the Philosophy of Science*

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In the name of Allah, Allah Almighty, The Truth, The Knower, praise be to Allah the Lord of the world, *sholawat* and *salam* be upon the final prophet of Islam, Muhammad saw. and his family, his companions and everyone who follow his path till the end.

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Ponorogo, 21st of November 2023

Researcher,

Yongki Sutoyo

