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REFERENCES

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EDUCATION

2005 : Ph. D. Advisor : Professeur Shahid Rahman (Université de Lille 3).

Title of the thesis :

LA DYNAMIQUE DE LA NEGATION ET LA LOGIQUE AVEC INCONSISTANCES, QUELQUES CONSEQUENCES SCIENTIFIQUES ET EPISTEMOLOGIQUES

VERS UN RAPPROCHEMENT ENTRE LA PHILOSOPHIE ET L'HISTOIRE DES SCIENCES

Mention : Très honorable avec les félicitations du jury à l'unanimité.

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Introduction	Bridging the gap between philosophy and the history of science
Chapter I	From traditional epistemology and philosophy of science to the challenge of nonmonotony: overview
Chapter II	Logical systems for defeasible argumentation
Chapter III	Nonmonotony and mathematical controversies surrounding the foundations of mathematics: from Kronecker to Poincaré
Chapter IV	The formalisation of some mathematical controversies
Conclusion	The role of the analysis of the logic of argumentation in the history of science

2001 : DEA ; advisor: Professeur F. De Gandt (Université de Lille 3)

Recherches sur le programme de Hilbert : les controverses sur les fondements des mathématiques (Researches on Hilbert's programme : controversies surrounding the foundations of mathematics)

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Chapter I	The axiomatic method
Chapter II	Hilbert's finitism
Chapter III	ε -symbole: the interpretation of quantifiers as a choice function

Chapter IV The collapse of Hilbert's programme

1998 : Maîtrise, advisor F. De Gandt

La naissance de l'intentionnalité chez Husserl : de la psychologie à la phénoménologie
(Husserl's intentionality: from psychology to phenomenology)

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Objects and concepts

From objects to concepts: intentionality

Intentionality as a psychological entity: symbols images and objects

Intentionality as the act of denotation: symbols meaning and objects

Post-doctoral research and teaching activities

Lecturer of logic and the foundations of mathematics.

A member of the jury and co-director of the following students of master degree in logic and epistemology (may 2007 session):

Virginie Fiutek: on *Abduction*

Aude Popek: on *Obligationes*

Sebastian Magnier: on *the Concept of Impossible Worlds and Epistemic Logic*

Mathieu Fontaine: on *Lambda Abstraction in First Order Modal Logic and Kripke's Rigid Designators*

Gabrielle Maliet: on *Self-deception*

A member of the UMR's research centre at Lille 3 university (Laboratoire 8361).

A member of the editorial board of Cahiers de Logic et d'Epistémology series which are published in collaboration with King's College

<http://www.collegepublications.co.uk>

Articles et Publications

Tahiri, H.: The Birth of Scientific Controversies: The Dynamic of the Arabic Tradition, Ibn al-Haytham challenge of Ptolemy's *Almagest* (to appear in Rahman, S., T. Street and H. Tahiri (eds.): *The Unity of Science in the Arabic Tradition: Science, Logic, Epistemology and their interactions*, Springer/Kluwer.)

Abstract. The so-called Copernican revolution is Kuhn's most cherished example in his conception of the non-cumulative development of science. Indeed, in his view not only has the Copernican model introduced a major discontinuity in the history of science but the new paradigm and the old paradigm are incommensurable, i.e. the gap between the two models is so huge that the changes introduced in the new model cannot be understood in terms of the concepts of the old one. The aim of this paper is to show on the contrary that the study of the Arabic tradition can bridge the gap assumed by Kuhn as a historical fact precisely in the case of Copernicus. The changes involved in the work of Copernicus arise, in our view, as a result of interweaving epistemological and mathematical controversies in the Arabic tradition which challenged the Ptolemaic model. Our main case study is the work of Ibn al-Haytham who devotes a whole book to the task of refuting the implications of the *Almagest* machinery. Ibn al-Haytham's *al-Shukūk* had such an impact that since its disclosure the *Almagest* stopped being seen as the suitable model of the heavenly bodies. Numerous attempts have been made to find new alternative

models based on the correct principles of physics following the strong appeal launched by both Ibn al-Haytham and, after him, Ibn Rushd. The work of Ibn al-Shātīr, based exclusively on the concept of uniform circular motion, represents the climax of the intense theoretical research undertaken during the thirteenth and the fourteenth centuries by the Marāgha School (which owes its name to the observatory of Marāgha in north-western Iran). The connection point, in our view, between the works of Ibn al-Haytham and Ibn al-Shātīr is that while the *al-Shukūk* gives the elements to build a countermodel to the *Almagest*, the work of Ibn al-Shātīr offers a model which takes care of the objections triggered by the work of Ibn al-Haytham. Furthermore, not only has the basic identity of the models of Ibn al-Shātīr and Copernicus been established by recent researches, but it was also found out that Copernicus used the very same mathematical apparatus which was developed by the Marāgha School over at least two centuries. Striking is the fact that Copernicus uses without proof mathematical results already geometrically proven by the Marāgha School three centuries before. Our paper will show that Copernicus was in fact working under the influence of the two streams of the Arabic tradition: the well known more philosophical western stream, known as physical realism, and the newly discovered eastern mathematical stream. The first relates to the idea that astronomy must be based on physics and that physics is about the real nature of things. The second relates to the use of mathematics in the construction of models and countermodels in astronomy as developed by the Marāgha School. The case presented challenges the role of the Arabic tradition assigned by the standard interpretation of the history of science and more generally presents a first step towards a reconsideration of the thesis of discontinuity in the history of science. Our view is that major changes in the development of science might sometimes be non-cumulative, though this is not a case against continuity understood as the result of a constant interweaving of a net of controversies inside and beyond science itself.

Translation of Roshdi Rashed’s *Philosophie des mathématiques* (to appear in Rahman, S., T. Street and H. Tahiri (eds.): *The Unity of Science in the Arabic Tradition: Science, Logic, Epistemology and their interactions*, Springer/Kluwer.).

In press

Rahman, S., T. Street and H. Tahiri (eds.): *The Unity of Science in the Arabic Tradition: Science, Logic, Epistemology and their interactions*, Springer/Kluwer.

<http://www.springeronline.com/sgw/cda/frontpage/0,0,5-0-69-34544171-0,0.html>

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MOHAMMAD ARDESHIR.....

Avicenna on Self-Awareness and Knowing that One Knows
DEBORAH L. BLACK

A Conceptual Analysis of Early Arabic Algebra
ALBRECHT HEEFFER

Avicenna’s Naturalized Epistemology and Scientific Method
JON MCGINNIS

The Philosophy of Mathematics
ROSHDI RASHED.....

The Birth of Scientific Controversies The Dynamics of the Arabic Tradition and its Impact on the Development of Science: Ibn al-Haytham’s Challenge of Ptolemy’s *Almagest*
HASSAN TAHIRI

PART II LOGIC PHILOSOPHY AND GRAMMAR.....

The *Jiha/Tropos-Mādda/Hūlē* Distinction in Arabic Logic and its Significance for Avicenna's Modals

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Islamic Logic

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Logical fragments in Ibn Khaldūn's *Muqaddimah*.....

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Avicenna On The Quantification Of The Predicate (With An Appendix On [Ibn Zur'A])

AHMAD HASNAWI.....

Name (*ism*), Derived Name (*ism mushtaqq*) and Description (*wasf*) in Arabic Grammar, Muslim Dialectical Theology and Arabic Logic

CORNELIA SCHÖCK

Logic and Metaphysics in Avicenna's Modal Syllogistic

PAUL THOM

Other Articles

An introduction to logical systems for defeasible argumentation

Essai pour un rapprochement entre la philosophie et l'histoire des sciences

These two papers are available on the following website:

<http://stl.recherche.univ-lille3.fr/sitespersonnels/rahman/rahmanequipetahiri.html>

Forthcoming

Rahman S. et H. Tahiri (eds): Vers une épistémologie poincarienne.

Tahiri H. (ed.): Deux études de logique et d'épistémologie arabes.

To appear in King's College, collection Cahiers de Logique et d'Épistémologie.

<http://www.collegepublications.co.uk/>

Collequia

Objections to the thesis of discontinuity of science: Ibn al-Haytham's *Doubts about Ptolemy*, FIRST LISBON COLLOQUIUM FOR THE PHILOSOPHY OF SCIENCE: The Unity of Science: Non Traditional Approaches, Lisbon, October 2006.

Naissance des controverses scientifiques : *Al-Shukūk* d'Ibn al-Haytham défiant l'*Almageste* de Ptolémée ; Communication faite au colloque de la SOCIETE DE PHILOSOPHIE ANALYTIQUE, AIX EN PROVENCE, Septembre 2006.