Introduction: The cosmographical network of Nicolaus Cusanus and German-Portuguese relations in the Humanism

Thomas HORST
CIUHCT, University of Lisbon (Portugal)
thomashorst@gmx.net

The German cardinal Nikolaus von Kues (Nicolaus Cusanus/Nicholas of Cusa, 1401–1464) is mostly known today for his elaborate philosophical work. His interesting life and voluminous opus is well documented (cf. "Nicolai de Cusa opera omnia et auctoritate Academiae Litterarum Heidelbergensis ad codicum fidem edita" and "Acta Cusana"): As one of the first proponents of Renaissance humanism Nicolaus was not only a key figure of the 15th century, with strong interest in theology, philosophy and canon law, but also in astronomy, mapmaking and particularly in cosmography. But what did the term "cosmography" mean in those days? And in what sense was the universe considered infinite? What about the intellectual and personal connections of Cusanus to the Iberian Peninsula, where scientific and technological knowledge was exchanged with the Holy Roman Empire? What role does Cusanus play in the history of science of the early modern period, on the eve of European Exploration to the Ocean world and its repercussions? And does his work already reflect the intellectual reception of the New World in Europe, which included also a spiritual expansion of the Christian world?

The international workshop *"Universum Infinitum". From the German Philosopher Nicolaus Cusanus (1401–1464) to the Iberian Discoveries in the 15th Century: Ocean World in European Exploration* will try to give answers to some of these questions.

In his opening keynote, the main organizer Thomas Horst will follow the cosmographical network of the cardinal. In doing so, he will present the personal relations and influence of Cusanus to Italian Humanists in the 15th century; but also of the contemporary Portuguese churchman Fernando Martins de Roriz and his close connection to the German philosopher.

Finally, preliminary observations about the possible influence of Cusanus for bringing the "holy art of printing" (invited by the German goldsmith and publisher Johannes Gutenberg around 1450) to Renaissance Italy will be given. This hypothesis is confirmed with contemporary proof, which could be found in the material culture.

Thomas Horst, born in Munich in 1980, studied history and anthropology in Munich and Vienna. In 2003 and 2005 he carried out twice an ethnological field study in the Amazon region. After his PhD in 2008 (on the development of manuscript maps of Bavaria as sources for the history of climatology) he specialized in the analysis of old globes and won the prestigious "Fiorini-Haardt-Prize" of the International Coronelli-Society for the Study of Globes in 2010.
His book about the cartographer Gerhard Mercator (1512–1594), which was translated into French and Dutch, has been distinguished by the "Société de Géographie" with a special award in Paris in 2012. Since September 2013 he is working as a postdoctoral fellow on a project about *Maps, Globes and Texts: Cosmographical knowledge in early Modern Europe* at the Centro Interuniversitário de História das Ciências e da Tecnologia (CIUHCT), University of Lisbon, which is financed by the FCT (Fundação para a Ciência e a Tecnologia), the Portuguese Foundation for Science and Technology (FCT SFRH/BPD/85102/2012).
His main areas of interest include the history of early modern cartography, the history of climate and the history of discovery, the study of globes and historical visual culture studies.

Cosmography as Christological Phenomenology

Harald SCHWAETZER
Cusanus Hochschule, Bernkastel-Kues (Germany)
harald.schwaetzer@cusanus-hochschule.de

Nicholas of Cusa reflects on what a Cosmographer does, not only in his late „Compendium", but, as Klaus Reinhardt has shown, earlier in sermon XLII. An analysis of this sermon puts in evidence that according to Cusanus cosmography is more than a science in the sense of "De staticis experimentis" or an enigma to explain how to comprehend world as in the "Compendium". Cosmography, according to Nicholas, can be understood as Christological phenomenology.

The paper sharps this thesis by discussing the following aspects:

1. *Cosmography is phenomenology*. Nicholas of Cusa does not aim at ordinarily mapping the world. He underlines the necessity of exercising all senses and organs; the map includes, e. g., the beauty of the world.
2. *Cosmography traces back to mystic.* It is well known that Nicholas of Cusa cites Bonaventure at the beginning of his simile of the cosmographer. While transferring the mystical impact into an intellectual approach of understanding the outer world, he strengthens the Franciscan realm of mystic phenomenology leading towards a vision of God coinciding with the experience of the world.
3. An important systematical presupposition of Cosmography is the analogy of micro- and macro-cosmos. To know the world and God provides the soul with self-knowledge.
4. All these aspects are based on Christological concepts of Nicholas. In Sermo XLII, dated on 25.12.1444, Nicholas unfolds that human mind has to carry out the task of giving a description of the world. At the end of it the mind reaches the "house of David" with Mary and Joseph as Love and Intellect. When Love becomes pregnant, "ad speculationem ascenditur " (n.3). The sermon adds: "tempus est, ut Maria pariat". The birth takes place at the town of David which is the "pulchritudinis vultus civitas".

Following the line of argument, according to Cusa, Cosmography turns out to be as well a science as Christological phenomenology – a metamorphosis of a very Greek idea of "kosmos" as esthetic of the beauty.

Harald Schwaetzer got his PhD in 1996. He wrote his "habilitation" at the "Westfälische Wilhelmsuniversität" in Münster in 2005. In 2007 he was "Fellow in Residence" at the "Vlamish Academic Centre" in Belgium in the framework of the project: „Techniques of Visualisation and Theories of Vision in the First Half of the 15th Century". 2009: Professor for Philosophy at the Alanus Hochschule für Kunst und Gesellschaft in Alfter. In the same year Schwaetzer was one of the founding members of the „Kueser Akademie für Europäische Geistesgeschichte", which he chaired until 2015. Since 2014 he is guest professor at the institute for philosophy at Hildesheim University. In 2015 Schawetzer became Professor for philosophy at the "Cusanus Hochschule" in Bernkastel-Kues, Germany, which he chairs now as vice-president.
Harald Schwaetzer is co-editor of the journal "Coincidentia. Zeitschrift für Europäische Geistesgeschichte" and the philosophical series „Texte und Studien zur Europäischen Geistesgeschichte" and „Philosophie interdisziplinär". Together with A. Hetzel and E. Schürmann he also edits the „Allgemeinen Zeitschrift für Philosophie".

Das Universum als metaphysische Größe bei Nicolaus Cusanus

Matthias VOLLET
Kueser Akademie für Europäische Geistesgeschichte,
Bernkastel-Kues (Germany)
matthias.vollet@kueser-akademie.de

In the second book of his *De Docta Ignorantia*, Nicholas speaks about the *universum*. At first glance, it is obvious that he refers to the *kosmos*: the *sphaera* with the earth, the planets and the stars. At second glance, one easily sees that *universum* can be understood as the *epitome* of the creation; at third glance, one can argue that *universum* not only means the cosmological, or creational, but also (and above all) the metaphysical space – in which human being is moving. The physical movement within this material universe is only a part or an aspect of the general movement of created being, and the lack of center and circumference in this general cosmological movement is but the visible consequence of God's being the only and metaphysical center and circumference. The thus infinite Universe's lack of absolute order is far from being a deficit; in fact, it is its sign of resemblance to its creator: its being infinite in its own manner. The Human being, on his side, has its resemblance to God in the fact that everywhere where it is, it believes to be in the center. Being in the center hence is not a geometrical, but – in the case of God – a metaphysical category or – in the case of human being – a category of mental imitation of the supramental. The consequence for the "cosmological" universe is that it is put on its way towards the homogeneous field as which it will be presented in the works of Giordano Bruno. The cusanian Universe in which the human being is moving corporally and mentally is a field which is metaphysically determined; its relative, "spatial" coordinates are anthropogenic, its absolute coordinates (not spatial any more) are theogenic.

Matthias Vollet: studies of Philosophy, History and Spanish in Eichstätt, Mayence, Berlin, Dijon, Sevilla; 1994 Magister Artium in Philosophy with a thesis on Nicolas of Cusa; 2004 PhD with a doctoral thesis on the concept of possible in Henri Bergson.
1994–1998 Assistant (Wissenschaftlicher Mitarbeiter) in the Insitute of philosophy of the Johannes Gutenberg-Universität Mainz (Germany), 1999–2001 Assistant (Persönlicher Referent) of the President of the Johannes Gutenberg-Universität Mainz, 2002–2010 Assistant (Wissenschaftlicher Mitarbeiter) in the Institute of Philosophy of the Johannes Gutenberg-Universität Mainz.
Since 2010 Geschäftsführer of the Kueser Akademie für Europäische Geistesgeschichte (Cusan Academy for european history of ideas) (www.kueser-akademie.de).
Since 2010 associate lecturer at the Institute of Philosophy of the University of Mainz.
Invited Professor at the Universities de Bogotá (Los Andes), Barranquilla (Colombie) (Uni Norte), Murcia (Espagne) (Univ. Católica), Lyon 3 et Dijon.

En quel sens l'univers est-il infini?

Jean-Marie NICOLLE
University Center of Theology of Rouen (France)
jm.nicolle@orange.fr

Par définition, l'infini est ce qui n'a pas de fin, ce qui ne connaît aucune limite. Fini et infini ne sont pas de simples concepts et ne forment pas un couple d'opposés entre lesquels on pourrait produire une coïncidence. C'est d'ailleurs le seul cas, dans la philosophie de N. de Cues, pour lequel il n'y a pas de coïncidence des opposés. Fini et infini sont les deux genres fondamentaux de l'être. Il s'ensuit trois axiomes : le premier axiome est qu'il n'y a qu'un seul infini ; le second pose que toute partie de l'infini est infinie ; le troisième affirme que l'infini échappe à toute mesure, à toute proportion.

Pour quelle raison un être n'aurait-il pas de fin ? Il y a trois infinités possibles : la première infinité, fruit de la toute-puissance, est l'infinité positive de Dieu ; la seconde, effet de notre incapacité à la saisir, est l'infinité négative de Dieu ; la troisième, qui est temporelle, est l'infinité privative de la matière.

En réalité, ce que le Cusain dénomme infini, c'est le maximum absolu. C'est un tout. Dieu est infini au sens du maximum absolu, tel que rien ne peut être conçu qui soit plus grand que lui, mais il n'est pas un infini ouvert, car Dieu ne doit pas se dissoudre dans l'immensité.

Quelle en est la conséquence pour l'univers ? L'infinité de l'univers créé est une infinité indéfinie ou privative. L'univers, en tant qu'œuvre divine et en tant que composé matériel ne peut être plus grand qu'il n'est. Il n'est qu'un maximum relatif, en ce qu'il peut « potentiellement » encore augmenter ou diminuer. Mais Dieu l'a restreint. « Le monde, nécessairement restreint par la contingence, est fini. » (*De docta ignorantia*, II, 8, 139). Dans ces conditions, peut-on encore faire du Cusain un précurseur de l'univers infini moderne ?

Jean-Marie Nicolle est professeur agrégé et docteur en philosophie, avec une thèse sur "mathématiques et métaphysique dans l'oeuvre de Nicolas de Cues" (Université de Paris-X Nanterre, 1998). Il est membre de l'*American Cusanus Society*, du comité scientifique de la *Cusanus Gesellschaft*, membre fondateur de la *Société Française Cusanus*. Il est à présent professeur de philosophie au Centre Théologique Universitaire de Rouen (France).

In what meaning is the universe infinite?

Jean-Marie NICOLLE
University Center of Theology of Rouen (France)
jm.nicolle@orange.fr

By definition, infinity is endless and hasn't any limit. Finity and infinity are not at all ordinary concepts and don't form a couple of opposites with a coincidence between them. In all the Cusanus' philosophy, it is the one and only case which has no coincidence of the opposites. Finity and infinity are the two fundamental kinds of Being. It therefore follows three axioms: first, there is only one infinity ; secondly, every part of infinity is infinite ; the third axiom asserts that infinity is beyond every measure, beyond every proportion.

Why a being could be endless ? There could be three infinities : the first one which comes from the all power, is the positive infinity of God ; the second one, which is an effect of our inability to understand it, is the negative infinity of God ; the third one, which is temporal, is the privative infinity of matter.

In fact, whatever is named infinity by Cusanus is the absolute maximum. It's the Great Whole. God is infinite in the meaning of the absolute maximum, in such a way that nothing can be conceived greater than He, but nevertheless it's not an opened infinity because God hasn't to be dissolved in immensity.

What is the issue for the universe ? The infinity of the created universe is an undefined, that is to say a privative infinity. The universe, as a divine work and as a material composite, cannot be greater than it is. It's only a relative maximum because it could potentially increase or decrease. But God has restrained it. "The world – which necessarily is contracted – is contingently finite." (*De docta ignorantia*, II, 8, 139). So, may we still consider Cusanus as a predecessor of the modern infinite universe ?

Jean-Marie Nicolle is professor "agrégé" and doctor of philosophy, with a dissertation about "mathematics and metaphysic in the work of Nicholas of Cusa" (University of Paris-X Nanterre, 1998). He is a member of the *American Cusanus Society*, of the scientific committee of the *Cusanus Gesellschaft*, founder member of the *Société Française Cusanus*. He is at present professor of philosophy in the University Center of Theology of Rouen (France).

Nec finitum – nec infinitum.
Erwägungen zur Kosmologie des Nikolaus Cusanus

Gregor NICKEL
University of Siegen (Germany)
nickel@mathematik.uni-siegen.de

In der Kosmologie des Nikolaus von Kues verbinden sich ontologische, epistemologische und naturphilosophische, aber auch genuin theologische und spekulativ-mystische Perspektiven. Weder die Unendlichkeit des Kosmos noch dessen Endlichkeit werden dabei in schlichter Weise behauptet.

Der Vortrag will versuchen – basierend auf *de docta ignorantia II*, aber etwa auch auf Passagen in *de coniecturis, de ludo globi, de genesi, de theologicis complementis* – einige dieser unterschiedlichen Motive herauszuarbeiten.

Nec finitum – nec infinitum.
Considerations on the cosmology of Nikolaus Cusanus

The cosmology of Nikolaus von Kues combines the perspectives of ontology, epistemology, and natural philosophy, but includes also genuine theological and mystical aspects. Neither the infiniteness of the cosmos is claimed nor its finiteness.

The talk will try to disentangle some of these motives – based on *de docta ignorantia II*, but also on parts of *de coniecturis, de ludo globi, de genesi, de theologicis complementis.*

Gregor Nickel studied chemistry, mathematics, and theology in Berlin, Zürich, Tübingen, and Rome. He finished a diploma in chemistry (ETH-Zürich, 1990) and mathematics (Tübingen 1993), and a doctoral dissertation and habilitation in mathematics (Tübingen 1996, 2004).
For two years (1999/2000) he worked for "Cusanuswerk, Bischöfliche Studienförderung" (episcopal foundation). Since 2006 he is professor for functional analysis and philosophy of mathematics at the University of Siegen.
His mathematical interest concerns one-parameter semigroups and evolution equations. Moreover, he works on the philosophy of mathematics, in particular on ethics and mathematics and on mutual relations between theology and mathematics.

Nicholas of Cusa as Cosmographer

Johanna HUECK
Cusanus-Hochschule, Bernkastel-Kues (Germany)
johanna.hueck@cusanus-hochschule.de

One of the oldest and most influential cartographical drawings of Central Europe has its origin in the work and life of Nicholas of Cusa. His interest for this modern scientific method of cosmography arose from a friendship with Alberti and Toscanelli. He was not only a practitioner of the discipline, he also reflected on this work in his *Compendium*, where he created the metaphor of the cosmographer.

In this metaphor, Nicholas of Cusa describes that, through human self-knowledge, man is capable of giving both spiritual and sensory insight an equal position, yet fulfilling different tasks, in discovering the divine, *posse*, from which they originate. Thus, he presents an understanding of science that goes beyond a one-sided view of either natural sciences or humanities: his understanding enables a connection of both, through their mutual increase.

This contribution demonstrates the cartographical background of Nicholas of Cusa and elaborates on the metaphor of the cosmographer as well as the understanding of science presented in his *Compendium*.

Johanna Hueck, born in 1984 in Nürnberg, Germany: After graduating from high school in 2004 Johanna trained in ecological agriculture and worked for two years in an educational program for ecological agriculture in Buenos Aires, Argentina.

From 2010 till 2013 she studied Economics and Philosophy at the Alanus University in Alfter near Bonn. She participated in an international exchange, studying for one semester at the Universidad de Buenos Aires in Argentina. For her study internships, Johanna worked in different branches of Weleda AG in Schwäbisch Gmünd. Topic of her bachelor thesis was "Entrepreneurial Culture and Ethics".

In 2013/2014 Johanna organized and coordinated international meetings and research projects as a scientific associate at the Kueser Akademie für Europäische Geistesgeschichte in Bernkastel-Kues, and assisted in the foundation of the Cusanus Hochschule, Bernkastel-Kues. From 2014 till April 2016 Johanna has studied for a master in Philosophy at the Cusanus Hochschule. Her research topics were existential education in the Existential Philosophy of Heinrich Barth, German Idealism and the works of Nicholas of Cusa. She works as a research associate at the Institute for Philosophy at the Cusanus Hochschule.

Starting in summer 2016 Johanna will be working on her PhD on the late work of Schelling.

Die deutsche Beteiligung an den überseeischen Expeditionen Portugals im 15. Jahrhundert: von Oswald von Wolkenstein bis Martin Behaim

Jürgen POHLE
Centro de História d'Aquém e d'Além-Mar, FCSH,
Universidade Nova de Lisboa e Universidade dos Açores
jpohle65@gmail.com

Bereits in der Frühphase der überseeische Expansion Portugals gerieten einige Deutsche mit dem entstehenden portugiesischen Kolonialreich in Kontakt. Es handelte sich dabei vorwiegend um Kriegsleute, Höflinge und Handwerker sowie Kolonisten und Abenteurer, welche im Verlauf des 15. Jahrhunderts die portugiesischen Expeditionen nach Übersee begleiteten. Oft sind nur ihre Namen und ihre Herkunft überliefert. Nur selten erfahren wir mehr über ihre Missionen und Tätigkeiten, wie in den Fällen des Nicolaus Lanckmann von Valckenstein und des Ritters Georg von Ehingen, die der Nachwelt Augenzeugenberichte hinterließen.

Der bekannteste Deutsche, welcher mit den atlantischen Unternehmungen der Portugiesen in Verbindung gebracht wird, ist zweifellos der Nürnberger Martin Behaim, wenngleich fast alle seiner mutmaßlichen Taten und Verdienste höchst umstritten blieben. Ungeachtet dessen führten Behaims persönliche Erfahrungen in Portugal und Übersee seit den 90er-Jahren des 15. Jahrhunderts in seiner Heimatstadt zu einer intensiven Beschäftigung mit der Geschichte der portugiesischen Entdeckungen. Der nach ihm benannte Globus verdeutlicht, dass sich die Nürnberger Gelehrten von den Ausmaßen des portugiesischen Kolonialreichs und dem allmählich sich verändernden Weltbild eine Vorstellung zu machen versuchten.

Jürgen Pohle, born in 1965 in Trier (Germany), studied history and geography at the Albertus-Magnus-University in Cologne and in Lisbon. His Ph.D. (finished in 1999/2000) deals with *Germany and the overseas expansion of Portugal in the 15th and 16th Centuries* (*Deutschland und die überseeische Expansion Portugals im 15. und 16. Jahrhundert*). With this standard-work for the German-Portuguese relationship he became Visiting Professor for Social and Economic History on various Portuguese Universities in 2000.

Since 2009/2010 he is "integrated researcher" at the research centre for Global History (CHAM – Universidade Nova de Lisboa / Universidade dos Açores) and Research Fellow of the FCT (Fundação para a Ciência e a Tecnologia), the Portuguese Foundation for Science and Technology. Currently he is preparing two new studies: "Os mercadores-banqueiros alemães e a Expansão Portuguesa no reinado de D. Manuel I" ("the German Merchant-Bankers and the Portuguese Expansion during the reign of D. Manuel I") and "O imperador Maximiliano I, a alta finança alemã e os Descobrimentos Portugueses" ("The Holy Roman Emperor Maximilian I, the Upper German High Finance and the Portuguese Discoveries").

Writing meridians of water into the maps – from Tordesillas till Zaragoza

Harald GROPP
University of Heidelberg (Germany)
d12@ix.urz.uni-heidelberg.de

This paper will discuss how the use of maps and sea charts accompanies and influences the Portuguese and Castilian competition in exploring the earth not only from the Treaty of Tordesillas (1494) till the Treaty of Zaragoza (1529).

On the European mainland the borders between Portugal and Castile had been established at the end of the 13th century. Whereas the islands in the Atlantic Ocean and the town of Ceuta in Africa in the beginning of the 15th century were seen as particular events of their own, throughout this century and particularly at its end the conflict climaxed with the further conquest of the Portuguese along the African coast and the Spanish across the Atlantic Ocean. It will be investigated how maps and charts, but also further scientific knowledge as well as the involved scholars and, last but not least, the political and religious leaders arrived at the Treaty of Tordesillas.

The tremendous amount of increased knowledge in the following decades leads to a quick development of maps and charts. In the same period the seafarers reached the "opposite side" of the world asking for the amount of influence of both powers in the Pacific Ocean, finally reaching the Treaty of Zaragoza. Again the general influence of maps and scholars will be discussed together with the diplomatic, scientific, and dynastic "tools" between the first arrival on the Molucca islands in 1511 and the treaty of 1529.

Activities of other European players, both in mapmaking as well as in seafaring, and their mutual influences will be considered. 50 years after Zaragoza (1529) the Portuguese-Castilian rivalry reached a new step when for further 60 years this relation of external powers became an "internal" one, also concerning the produced maps.

Altogether, the writing of lines (such as meridians) into the water leads not only to a division of the world but also to a new vision of the world on maps.

The author has worked in mathematics and in the history of mathematics and astronomy also touching neighbouring areas such as cultural history in general. In mathematics, the main focus is on combinatorics, finite geometry, graph theory, and operations research. Graphs are mathematical structures consisting of vertices and edges joining the vertices and describing relations. The best example of a graph in the field of cartography is probably the Tabula Peutingeriana. Graph theory was already developed in the 19th century and is much better established than the so called network theory, its weaker counterpart in many sciences. Historically, the work of Ramon Llull is related to graph theory. Via Kircher, Leibniz, and Euler combinatorics developed into the 18th century and prepared the development of graph theory as such. Concerning the evolution of the four mathematical sciences of the quadrivium it was astronomy and geometry which were closely related to geography and cartography, even before the times of Ptolemy.

Apart from the above described background the author has always been deeply interested in the history of discoveries and the cultural relations of different civilizations in history such as pre-Columbian America or the Celts.

Magnus Sinus, Java and Locach from Martellus to Mercator, 1489–1569

Robert KING
Independent Researcher, National Library of Australia
robertjking13@bigpond.com

Did Portuguese navigators of the late 15th and early 16th centuries discover Australia? Portuguese records and charts of the period would indicate that they did not, but the question has continued to be raised by those who point to a large southern land, called *Jave la Grande,* or *Terre de Lucac,* on the world maps of the Dieppe school of marine cartography. This feature can be explained by setting the Dieppe world maps in the context of the development of cosmographic theory and its cartographic expression, from Henricus Martellus to Gerard Mercator, 1489–1569. The *Jave la Grande* and *Terre de Lucac* of the Dieppe maps represent Marco Polo's *Java Major* and *Locach*, displaced by the map-makers who misconstrued the information on Southeast Asia and America brought back by Portuguese and Spanish navigators. As a consequence of Magellan's expedition, the relative positions and shapes of Java Major and Java Minor changed from the locations assigned to them by Martellus. Mis-identification of Java Minor with the island of Madura allowed the southern coast of Java Major to remain undefined. This permitted cartographers to identify Java Major as a promontory of Terra Australis and with Polo's Locach. The paper will examine this question against the development of the representation of the Ocean and continents in the charts and globes of influential cosmographers of the era. On Martellus' world map, the Indian Ocean was shown as merging with the Western Ocean. Following Columbus, the world map of Martin Waldseemüller showed *America* separated from Asia by the Ocean. The discoveries of Magellan's expedition caused cartographers to change their belief that America was an island in the Ocean. On his 1523 globe, Johannes Schöner stretched India Superior to include America and enlarged the Sinus Magnus to become the Pacific Ocean. By 1569, Gerard Mercator had concluded that it was an error to believe that America formed part of the same continent as Asia. On all these maps, the Ocean was confined in the south by Terra Australis, with its *Jave la Grande* or *Locach* promontory.

Robert J. King (born 1947) is an independent researcher at the National Library of Australia with special interest in European expansion into the Pacific, 16th–18th centuries. He received the Australasian Hydrographic Society's Literary Achievement Award for 2010 in recognition of his contributions to maritime history.

Spicing Up Natural Philosophy: Global Trade Footprints in Early Recipes and their Implications for the Exchange of Manuscripts and Ideas

Karl GALLE
American University of Cairo (Egypt)
karlgalle@aucegypt.edu

Ingredient lists in early medical recipes, along with commentaries on medicinal plants in manuscript and printed herbals, are visible traces of the global trade in spices and other plant commodities that linked 15th- and 16th-century Europe with the wider world. Rising demand for such commodities was in turn both an inspiration for and later an additional outcome of the Iberian voyages of exploration. Beyond the commercial aspects of this trade, however, the ways in which eastern ingredients came to occupy central (and occasionally controversial) roles in European medical practices offer some interesting parallels with the timing and framework of the assimilation of mathematical and natural philosophical texts from Iberia and the Middle East.

This paper will look at several case studies where the commercial value of certain commodities – as seen for example in the transformation of particular types of recipes, in the contrast between plague remedies offered to rich versus poor audiences, and in proposals made for profitable new ocean voyages – is also reflected in the churn of more abstract philosophical ideas between different lands. In this manner, different aspects of the cartographic exploration of the world can simultaneously be used to inform our understanding of the not always visible network of exchanges that tied the republic of commerce to the republic of letters.

Karl Galle is a historian of science specializing in the early history of astronomy, cartography, and other mathematical arts. From 2011 to 2015 he was a visiting professor at the American University in Cairo, and before that he served on missions to Central Asia and the Middle East as a science and technology policy fellow with the U.S. Department of State and a foreign service officer with the U.S. Agency for International Development. He holds a Ph.D. in the history and philosophy of science from the University of London and is currently a research fellow at the Linda Hall Library in Kansas City, where he is working on a new biography of the life and times of Nicholas Copernicus.

Nuevas glosas de Nicolás de Cusa al *Alchoranus Latinus* en el ms Vat. Lat. 4071 de la BAV

José MARTÍNEZ GÁZQUEZ
Universidad Autónoma de Barcelona & Real Academia de las Buenas Letras de Barcelona (UAB-RABLB, Spain); jose.martinez@uab.cat

El propio Cardenal Nicolás de Cusa en el primer Prefacio a la *Cribratio Alkorani* relata las frecuentes conversaciones sobre el Islam y la doctrina islámica y su lectura del Corán latino de Robert de Ketton, con Juan de Segovia, el cardenal Piccolomini, más tarde Pio II, a los que Th. Burman llama titanes de su tiempo y otros conciliares durante las sesiones del Concilio de Basilea entre los años 1432 y 1437.

Sabemos además que anotó sus reflexiones en los márgenes del texto. Así aparecen en el ms. 108 de la Biblioteca del Hospital de Kues. El ms. Vat. Lat. 4071 de la Biblioteca Apóstolica Vaticana presenta un nuevo corpus de glosas originado, que hemos podido identificar como salidas también de la mano de Nicolás de Cusa a partir de su reflexión atenta sobre el Corán para la redacción de la *Cribratio Alcorani*, en 1460/61.

La gran cantidad de glosas y los variados temas que comentan nos ofrecen nuevas posibilidades y puntos de vista para el estudio de la consideración e importancia que otorgó Nicolás de Cusa, y por extensión los exegetas cristianos medievales, a Mahoma y el Corán y el Islam en general y que interesan a los estudiosos de la relación de Nicolás de Cusa y el Islam. La edición completa del "corpus" de glosas de Nicolás de Cusa presentes en el ms. Vat. Lat. 4071 posibilitará este estudio.

Cardinal Nicholas of Cusa wrote the *Cribatio Alkorani* in Rome during the years 1459–1460 and dedicated it to Pius II. In preparing this work, he used a new set of glosses made to the *Alchoranus Latinus* in MS Vat. Lat. 4071. These were different from the glosses in MS Kues 108, used to compose his previous work, *De pace fidei*, written in 1453.

José Martínez Gázquez (*19-08-1943, María (Almería/España).
Catedrático emérito de la Universidad Autonónoma de Barcelona (1972 à 2013). Doctor Honoris causa por la Friedrich-Alexander-Universität Erlangen-Nürnberg (Alemania, 07-05-2014).
Responsable del Grupo de Investigación Islamolatina: "La percepcion de l'islam en la Europa latina cristiana. Traducciones latinas del Corán. Literatura latina de controversia".
Académico Numerario de la Real Academia de Buenas Letras de Barcelona.
Associé étranger (a.c.é.) de la Société Nationale des Antiquaires de France.
Publicaciónes:
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Sifting Humanist Understandings of Islam. Peter Martyr d'Anghiera's Worldview from the Mediterranean to the New World

Davide SCOTTO
University of Tübingen (Germany)
davide.scotto@uni-tuebingen.de

In July 1490, the Italian humanist Pedro Martyr d'Anghiera (1457–1526) wrote to Cardinal Ascanio Maria Sforza Visconti (1455–1505) to inform him of the recent breakthroughs made by the Catholic Kings during their military campaign against the Islamic Kingdom of Granada. In this letter, Muslims are defined as "the men without law" and the war of Granada is expected to be accomplished in ten years resulting in the expulsion of their "evil seed from Europe".

In the wake of the earlier Trojan War and the campaign in Gaul led by Caesar, the defeat of the Muslims in Spain emerges as the final stage of a theologized history which subsumes the Greek-Latin past into the continuous and universal development of the Christian mission from the Mediterranean to the Atlantic world. The conception of non-Christian people as the men without law and the monolithic idea of Europe as the expanding centre of Christendom, emerge also in Peter Marytr's "Legatio babylonica", the account of his diplomatic mission to Egypt from 1511, as well as his well-known "De orbe novo", the first chronicle of the New World.

This paper discusses Peter's understandings of Muslims by closely comparing these two works with his extensive collection of letters arguing that the on-going Spanish discoveries of non-Christian lands affected his view of Islam amidst the broader legacy of late 15th century European humanism.

Davide Scotto studied Church history in Torino, medieval history in Pavia, and philology in Florence where he obtained his PhD in 2012 with a dissertation on Juan de Segovia's epistles on Islam (1454–1455). He has participated in a series of international conferences and public lectures and has undertaken research in Spain, France and the Vatican Library. Mr. Scotto published a number of articles and scholarly reviews on Christian understandings of Islam in 15th century Europe, and co-edited four volumes on medieval and early-modern Christian religious history. Since 2010, he has been a member of the editorial board of the "Rivista di Storia e Letteratura Religiosa" (Tourin/Florence) and since 2013, he lectures and works as a post-doctoral research fellow at the University of Tübingen (Centre for Islamic Theology / Protestant Faculty of Theology). Davide Scotto is currently a visiting scholar at CSIC, Madrid, with the CORPI project, where he is developing a monograph project on Hernando de Talavera O.S.H. (1428–1507) and his interreligious legacy in the premodern Mediterranean.

Mapping a new World with ancient authors. The reception of antique authors in the *De coelo* by the Conimbricenses and their role in the constructing a new *imago mundi*

Cristóvão S. MARINHEIRO
National Library of Luxembourg (Luxembourg)
Christophe.Marinheiro@bnl.etat.lu

When writing a textbook on Aristotle's *de Coelo* in the 1580's, the Jesuits could not ignore the geographical discoveries done for over a century. The question they were confronted with was then the following: how to understand this novelty? Weren't these discoveries prefigured within the antique heritage? The only way to figure this out was to confront the different texts about the different problems; what about the antipodes, the circumference of the world, the new lands found in the West, how to explain that these parts were inhabited? We will address these issues by analyzing their choice of texts and question their method to promulgate a new *imago mundi*, while respecting Church authorities at the same time.

Cristóvão S. Marinheiro studied philosophy, classical philology, musicology and art history at the *Johann-Wolfgang-Goethe Universität* at Frankfurt (Germany) from 1998 to 2004. He was then appointed Research associate (engenheiro técnico de investigção) at Coimbra University (2004–2005), where he worked on the commentary to Aristotelian *Physics* by the Conimbrans. He was Junior researcher at the *Université du Luxembourg* (2005–2009) and finished his PhD project at the *Univesité Paris IV-Sorbonne* (France) in 2010. Marinheiro was lecturer at the *Universität des Saarlandes* (Germany) from 2009 to 2013. Since 2015 he works at the *Bibliothèque nationale the Luxembourg* (Luxembourg) for the rare books department.
Cristóvão S. Marinheiro has published articles on XVIth century Aristotelianism, on the use of images in the Early Modern period and on music aesthetics, his main areas of interest.

The Cosmographer Nicolaus Cusanus (1401–1464) and his Philosophical Game with the Globe: The *Dialogus de ludo globi*

Thomas HORST
CIUHCT, University of Lisbon (Portugal)
thomashorst@gmx.net

The German philosopher and Cardinal Nicholas of Cusa (Nicolaus Cusanus, 1401–1464) came from Cues on the Mosel. As a comprehensively educated humanist, Prince-Bishop of Brixen and papal Legate, he was interested not only in theological questions but also with scientific issues. Alongside mathematics, astronomy and cartography he was especially concerned with cosmography.

In the *St. Nikolaus-Hospital* in Bernkastel-Kues which he founded, two celestial globes (one acquired by him in Nuremberg in 1444) have been kept up to now along with his astronomic-astrological writings. These will be looked at more closely in this lecture.

In addition with that, the literary opus of the Cardinal make direct references to cosmography: Thus in his first main speculative work *De docta ignorantia* (1440) he regarded the earth sphere as moveable, rejected the medieval viewpoint of a limited finite universe and thus questioned the prevailing Ptolemaic world view for the first time. His lost late work *De figura mundi* (c. 1462) and above all his *Compendium* (1463/1464) with its singular cosmographic allegory must be mentioned here also in this respect.

Of especial significance for the study of globes however is the work in two volumes with the apt title *Dialogus de ludo Globi* (written in the years 1462/1463), which will be analyzed closely in the context of the globes studies. For here the Cardinal philosophically carries out the symbolic design of the world in the game of spheres: Cusanus deliberately uses the imperfect globe as a play-sphere, portraying it philosophically as an allegory for the philosophically creative subject and likewise at the same time the self-realisation in *God's* image of the human.

Thomas Horst, born in Munich in 1980, studied history and anthropology in Munich and Vienna. In 2003 and 2005 he carried out twice an ethnological field study in the Amazon region. After his PhD in 2008 (on the development of manuscript maps of Bavaria as sources for the history of climatology) he specialized in the analysis of old globes and won the prestigious "Fiorini-Haardt-Prize" of the International Coronelli-Society for the Study of Globes in 2010.
His book about the cartographer Gerhard Mercator (1512–1594), which was translated into French and Dutch, has been distinguished by the "Société de Géographie" with a special award in Paris in 2012. Since September 2013 he is working as a postdoctoral fellow on a project about *Maps, Globes and Texts: Cosmographical knowledge in early Modern Europe* at the Centro Interuniversitário de História das Ciências e da Tecnologia (CIUHCT), University of Lisbon, which is financed by the FCT (Fundação para a Ciência e a Tecnologia), the Portuguese Foundation for Science and Technology (FCT SFRH/BPD/85102/2012).
His main areas of interest include the history of early modern cartography, the history of climate and the history of discovery, the study of globes and historical visual culture studies.

Astronomical Instruments in the 15th Century: the astrolabe in the Cusanusstift of Bernkastel-Kues revisited

Samuel GESSNER
CIUHCT, University of Lisbon (Portugal)
samuel.gessner@gmail.com

The astrolabe was the most common astronomical instrument in the Latin world between the eleventh and the sixteenth century. It incorporates basic knowledge of the calendar, the movement of the celestial spheres, and mathematical geography. It was widely used for time telling, geographical orientation, and (iatro-) astrological applications. Understanding and using it was common knowledge of the learned.

What is known about the undated brass astrolabe conserved at the Cusanusstift? Did it really once belong to or was it made by Cusanus himself? Following an historical approach focused on material culture, this paper first examines the instrument itself with the help of photos. Then, it shall be compared with the typical features of other astrolabes and of astrolabe texts circulating in the 14th and 15th century. The special features of the piece will be highlighted, which will give rise to a number of questions for future research.

After a degree in physics Samuel Gessner became historian of science obtaining the degree of PhD in that field, at Paris 7, France. His first post-doc project on "Instruments in texts and in the practitioners' hands" was financed by the Portuguese Science Foundation FCT (2007–2013). As a member of the CIUHCT (*Centro Interuniversitário de História das Ciências e da Tecnologia*) at the University of Lisbon, he focuses on the diverse mathematical cultures in early modern Europe, and the role of mathematical instruments as conceived of by both theoreticians and practitioners. He insists on using artefacts of material culture as primary sources alongside textual and iconographic documents. He won a grant from the cogito foundation in 2007, and a grant from the Scientific Instrument Society in 2010 which allowed him to visit and study instruments at several important collections in Paris, Munich, Florence, London, Oxford, Cambridge, Edinburgh and Krakow. In 2014 he was chosen to conduct research on the Eisinga planetarium (Netherlands) to underpin its UNESCO World Heritage status. Since 2015 he investigates the cognitive and technological context of Renaissance planetary clocks, with an emphasis on the German prince-practitioners. His studies appeared as articles in numerous international journals and as chapters in several books.

Astrology as Science and Politics in Maximilian's Vienna

Darin HAYTON
Harverford College (USA)
dhayton@haverford.edu

Emperor Maximilian I realized the power of print to reshape what it meant to be a political actor in early modern Europe. Through the new medium he could and did reach broader populations. But print alone did not guarantee that Maximilian could influence these new audiences. To persuade them, Maximilian turned to astrology, the science of the day, which brought with it intellectual and institutional authority that was shared by all strata of society. Astrology also provided the emperor with a recognizable body of experts, whom he could enlist in his projects.

In this talk I examine ways Maximilian supported the science of astrology and the expert astrologers who practiced that science. I trace the emperor's efforts to establish an institutional home for astrologers at the University of Vienna, the rewards he gave astrologers, and the various roles astrologers played at Maximilian's court. I also look at this relationship from the perspective of the astrologers. How did their science complement the emperor's understanding of the world?

In this process we gain a new appreciation for Maximilian's skill as a political actor. In his use of astrology and astrologers we see him innovating and imagining new rolls for science and scientific experts. He deployed astrology and expert astrologers not because he wanted to deceive his audiences, but because it was one of the most important, respected sciences of the day, one that everybody shared. It was, in other words, one of the best tools to understand and explain the world.

Darin Hayton got his Ph.D in History in Philosophy of Science at the University of Notre Dame in 2004 and was awarded with the John Highbarger Memorial Dissertation Award. Afterwards he was Research Officer at the Museum of the History of Science at Oxford University. Since 2005 he is Professor for the History of Science at Harverford College, USA. Fellowships and Grants (in selection): 1999–2000: Fulbright Fellowship (for dissertation research in Vienna, Austria); 2001: Institute for Scholarship in the Liberal Arts Research Fellowship, University of Notre Dame and Wolfenbüttel Summer Institute, Wolfenbüttel, Germany; 2001–2002: DAAD Research Fellowship, Ludwig-Maximilians Universität, Munich, Germany; 2002: Sophia Fellowship, The Warburg Institute, London; 2002–2003: Edward M. and Ann Uhry Abrams Endowed Fellowship, University of Notre Dame; 2003–2004: Graduate Teaching Fellowship, University of Notre Dame; 2007: Renaissance Society of America Research Grant., University of Notre Dame; 2011: "So Many Boundaries…" Recent Ideas and Ideologies on Expertise, A Workshop. Sponsored by Philadelphia Area Center for the History of Science.
In 2015 he published *The Crown and the Cosmos. Astrology and the Politics of Maximilian I* (University of Pittsburgh Press). Very helpful is also his E-book: *An Introduction to the Astrolabe* https://tripod.brynmawr.edu/find/Record/.b3773962