FOURTH WOUDSCHOTEN CONFERENCE

LOCATIONS OF KNOWLEDGE

MEETING FOR THE HISTORY OF SCIENCE IN THE LOW COUNTRIES

17 & 18 JUNE 2011

WOUDSCHOTEN NETHERLANDS

ORGANISED BY GEWINA & HUYGENS ING

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Fourth Dutch bi-annual History of Science Meeting
Woudschoten Conference Centre, Woudschoten, Netherlands

Friday, June 17, 2011

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Dr. Henk Wals, Director of the Huygens Institute for the History of the Netherlands

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Pamela H. Smith (Columbia University, NY)
The Movement of Knowledge in the Early Modern World

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The Development of Dutch Polymer Science, 1940-1970

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N.B. The last train of the day to Utrecht Centraal station departs at 23.58 hrs from Driebergen-Zeist station. From Utrecht trains will ride throughout the night ('*Nachtnet*') to major cities in the western Netherlands

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Astrid Elbers (Leiden University)
Big Science, Little Science: The Origin of Dutch Radio Astronomy

10.30-11.00 Coffee / Tea

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Fenneke Sysling (VU)
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Robert-Jan Wille (Radboud University)
Stations to Serve the State. University Biologists and the First State-sponsored Nature Laboratories in the Dutch Empire, 1872-1909

15.30 **Hands-on Session** and Coffee / Tea
Peter Louwman (Collectie Louwman) and Tiemen Cocquyt (Museum Boerhaave). Discussion about the importance of material culture.

17.00 **Closing remarks** by Wijnand Mijnhard, director of the Descartes Centre

Fourth Dutch bi-annual History of Science Conference
Woudschoten Conference Centre, Woudschoten, Netherlands

Introduction

Welcome to the fourth bi-annual Woudschoten conference for the history of science, organised under the auspices of the Dutch Society for the History of Science, GEWINA. Previous Woudschoten conferences were devoted to themes such as 'Circulation of Knowledge in the Netherlands' and 'Dutch Science-World Science'; this fourth conference will be dedicated to 'Locations of Knowledge'.

The success of the 'Circulation of Knowledge' concept has led to what might be termed a 'spatial turn' in the history of science: the awareness that production, dissemination and interpretation of knowledge is not only dependent upon intellectual, social and temporal factors, but also on geographical ones. We might think of processes such as voyages of discovery and the spread of letters, journals and books, but also of locations that function as the producer, recipient and distributor of knowledge. In other wordt: nexuses of both practical and intellectual erudition.

Registration

Online registration has stopped; you may still register on-site.

Important dates

April 5: Second Circular and begin of online registration
April 11: Begin of online registration
June 10: Early registration deadline
June 10: Deadline for booking accomodation at conference fee

Conference fees

Conference fee (two days), advance payment ..... € 120
Conference fee (single day), advance payment ..... € 70
Student conference fee (entire conference), advance payment ..... € 40
Conference fee (two days), on-site cash payment ..... € 150
Conference fee (single day), on-site cash payment ..... € 100
Student conference fee (entire conference), on-site cash payment ..... € 100

Conference dinner (bookable at registration, but only in case of advance payment) ..... € 40
Overnight stay (*only* bookable directly through Woudschoten Conferentiecentrum, p. 9) ..... € 79

Payment

Huygens ING bank account number: 46.23.44.800. *Please* mention the conference in the money transfer remarks (International: IBAN NL46ABNA0462344800 / BIC (SWIFT) ABNANL2A).

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ABOUT THE VENUE

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Staying at and around Woudschoten

An overnight stay at the conference venue is possible at an additional cost of € 69 / 79, including breakfast. A number of rooms have been reserved by us; please mention the conference while booking. Bookings should be made directly through the conference center, either online or via the telephone. If rooms at Woudschoten are unavailable, a good and very close-by alternative is Hotel Oud London (http://www.oudlondon.nl/), which offers rooms (breakfast included) for € 107,50.

Transport from Driebergen-Zeist railway station to the conference center

A taxi service from Driebergen-Zeist railway station to the conference center (approx. 2 km)will be provided for those arriving on the 9:45 and 10:15 intercity service from Utrecht (departure time from Utrecht 9:38 and 10:08, respectively) to Arnhem/Nijmegen. Bus 53 to Veenendaal will drop people off at the entrance to the conference center. It leaves from the railway station about seven minutes after the train has arrived. Bicycles may also be rented at the station (OV-fiets or regular rentals).

Directions to Woudschoten Conferentiecentrum

By public transportation:

- Taxi from railway station Driebergen-Zeist, approximately 10 min
- Bus No. 53 (to Veenendaal) from Driebergen-Zeist railway station to the Woudsenbergseweg stop; from there it is a five-minute walk to the conference center.
- For public transportation check: www.ns.nl.
- There is a bicycle rental at the station.

A28 from Utrecht direction Amersfoort/Zwolle

- On the A28 exit 3 Zeist-Oost/Den Dolder
- 1st traffic light straight on, in the direction of Zeist
- Next traffic light turn left towards Woudenberg, keep following the long road
- At the end of this road, turn left towards Woudenberg,
- Take the second exit on the roundabout

A28 from Zwolle/Amersfoort direction Utrecht

- On the A28 exit 3 Zeist/Den Dolder
- At the end of the exit, turn right, in the direction of Zeist
- Next traffic light turn right
- Next traffic light turn left towards Woudenberg, keep following the long road
- At the end of this road, turn left towards Woudenberg,
- Take the second exit on the roundabout

A12 from Utrecht and Arnhem

- On the A12 take exit 20 Zeist/Driebergen
- At the end of the exit continue in the direction of Zeist
- In Zeist, follow the signs to Woudenberg, for about 3 kilometres
- On your right you will see Hotel Oud London
- Take the second exit on the roundabout

MAP OF THE VICINITY

ABSTRACTS

SESSION 1A - THE CITY

Friday 17 June 2011, 1330-1500 hrs.
Chair: Henk Nellen (Huygens ING)

Students of Adriaan Metius (1570-1635). Locations of Knowledge of a Small University Town Arjen Dijkstra, M.A. (University of Twente)

Adriaan Metius was professor at the university of Franeker from 1598 to his death. He is said to have been the most productive Dutch mathematician of the first half of the seventeenth century. No less than 35 editions appeared under his name in the period 1598-1646. His work was reprinted, plagiarized and pirated. He is also said to have been one of the most sought after teachers of mathematics. Among his students were simple farmers and sea men, but also princes, noblemen and perhaps even René Descartes.

In this paper I will discuss these students of Metius. Where did they live? What was their background? What did they learn at university. How did the education of Metius relate to his printed work; did they blend in with other students, or was it possible to actually study mathematics at Franeker; how did these students keep in contact with Metius?

I will be presenting a full list of all students that can be connected to him, as well as some lively examples from this list. By looking at these in context of an early modern university I hope to present Franeker as a location of specific knowledge, namely mathematical. But I also will present the locations where the university invaded the actual town: the pub, the student rooms, the shops and the streets of Franeker.

Urban Science. Cities as Knowledge Junctions in Early Modern History
Fokko Jan Dijksterhuis (University of Twente)

The nodes of the early modern Republic of Letters were cities. Likewise, much of the 'vernuftige' projects were rooted in cities. This goes in particular for the Dutch Republic, which was an urban society pur sang. Lacking a true aristocracy and a true center, Dutch culture was characterized by a distribution of wealth and power. The basis of Dutch wealth and power was in the cities that had the last, or at least a strong, say in the provincial and national affairs. Even at the level of the city, the 'center' was shared by a conglomerate of rich and powerful patricians. Such then was the locus of knowledge production in the Dutch Republic, which raises the question how and to what extent this particular societal structure affected inventive and inquisitive pursuits.

Despite the current emphasis in historiography on science as a local activity, the particular locality of the city itself goes widely unnoticed. The city is still usually taken as the passive stage on which the drama of social and cultural activity takes place. It is viewed as nothing more than the place where science happens to be done. However, a place is an active dimension of social life. Cities thus provide particular socio-spatial settings for scientific activity that affect the production and transmission of knowledge in various ways.

In the Dutch Republic the cities were many. In different ways they were sites of large infrastructural projects, from fortification to town extension. They provided markets for education, affecting its content, organization and dynamics. They housed places of exchange of goods, ideas and values. In all cases, these instances of knowledge production reflected the structures of the towns and the views of its citizens. In this presentation I would like to explore the city as a site of knowledge, drawing upon existing historiography on the urban setting of cultural life.

The Disputation Hall Dirk van Miert (Huygens ING KNAW)

In the past decade, the disputation has enjoyed a sudden increase of attention as a source or production, interpretation and reception of knowledge. In the early modern history of universities, historians of science and scholarship have turned to the theses defended week in, week out by students at universities throughout Europe. Inaugural disputations, or dissertations pro gradu have always attracted some attention, but serial disputations exercitii gratia have been transmitted in much larger number and give a much better understanding of the every day business of teaching at universities and other institutes of higher education. In this paper, I will present a fresh insight into the practices of disputations.

Disputations were took place in lecture halls of institutes of higher education, but we still know little about the public. How 'open' were disputation to the people from outside the institution? Were disputations events which drew people from outside to the hall? What precisely happened at disputations? How solemn was the event? Until what extent were the discussions spontaneous? Was the disputation hall a location for the production of new knowledge or merely for the teaching of received wisdom?

SESSION 1B - PUBLIC PLACES - PLACES FOR THE PUBLIC

Friday 17 June 2011, 1330-1500 hrs.
Chair: Esther van Gelder (Museum Boerhaave)

The Lorentz Transformation of a Museum Martin Weiss (Leiden/Teylers Museum)

In 1909 Hendrik Antoon Lorentz, already one of the very first Dutch Nobel Laureates, became the new curator of scientific instruments at Teylers Museum in Haarlem. He held this position until he died in 1928. Even though a large laboratory was constructed for Lorentz behind the actual museum building, the fact that he chose to become involved in museum work after having received such an eminent honour as the Nobel Prize sounds strange to modern ears. All the more so if one takes into account that the laboratory in Haarlem could hardly compete with the rapidly expanding facilities the universities were beginning to provide their researchers with.

This paper will argue that the key to understanding Lorentz' decision lies in focusing on the changing definition and function of a "museum" at the end of the 19th and the beginning of the 20th century. More specifically, it will be argued that it was only during the time of Lorentz' curatorship that the concept of a modern-day "science museum" emerged, i.e. of a place of educational value to the general public where scientific principles were explained and items of historical value could be preserved. The history of Teylers Museum and specifically the period of Lorentz' curatorship will provide a starting point from which to address the question in how far one has to distinguish further between "science museums" and "museums for the history of science". Finally, the question will be addressed in how far the changing concept of what constituted a "museum" was related to the changing function of other "places of knowledge" at this time (such as laboratories).

Van Leeuwenhoek – the movie: Visual culture as a scientific site of memory
Mieneke te Hennepe (Museum Boerhaave)

Although historians of science have recently become more aware of the role of visual culture in science, little has been done with the medium of the cinema in the Dutch context. This paper investigates how the cinema created a novel experience of science as national heritage. During the 1920s and 1930s, science-inspired films transformed discoveries such as those made by Antoni van Leeuwenhoek into a visual feast of recognition. The film theater thus became a place where an image of Dutch science was installed into the memory of a wide audience.

The paper analyses an early 'scientific' film from 1924 on the life and work of Antoni van Leeuwenhoek. This film shows, how seventeenth-century microscopy was made part of a collective visual memory. A creation of avant-garde film maker J.C. Mol, it shows abstract object and moving images of microscoping research, seen through the lens of a Van Leeuwenhoek-microscope. By making his audience a part of Van Leeuwenhoek's investigations, Van Mol used the experimental microcinematography as a new way of becoming an eyewitness to the history of science.

In practices of remembrance, such as that around the person of Van Leeuwenhoek in the early 20th century, cinema plays a part in shaping a collective memory of national Dutch scientific heritage. This case shows that in addition to physical places of remembrance, a person, symbol or film may also serve as a 'Lieu de mémoire' for science. In that light, this Leeuwenhoek film can be considered as a visuel place of remembrance; a film in which a Dutch scientist is used as part of the politics of identity.

Putting Twentieth-Century Dutch Calvinists' Engagement with the Sciences in its Place
Ab Flipse (VU)

The Netherlands, though it is one of the most secularized countries in the world, has a relatively strong anti-evolution movement. Although creationism has often been depicted as an 'American bizzarity', only defended by evangelical fundamentalists, it has become deeply rooted in traditional Dutch Calvinist circles. In his authoritative book The Creationists (2006), historian of science Ronald L. Numbers has described the emergence of the creationist movement in the United States during the twentieth century. In the final chapter, he explains how anti-evolutionism has increasingly become a global phenomenon in the late twentieth and early twenty-first centuries. Religious people in different countries appropriated American creationist ideas for their own purpose, geared to local circumstances.

In my talk I will show how these ideas were introduced in the Netherlands. I argue that the long-term interaction between the Dutch 'neo-Calvinists' (a movement emerging in the late nineteenth century attempting to bring classical Calvinism in rapport with modern times) and American creationism has played a crucial

role. Although fiercely challenged by Calvinist scientists, creationist arguments were imported by some conservative theologians. As a result these ideas became part of the Dutch discourse on creation and evolution, causing, from time to time, fierce public debates, e.g. in the Darwin year 2009.

SESSION 2A - THE THEATER

Friday 17 June 2011, 1530-1700 hrs.
Chair: Gerhard Wiesenfeldt (University of Melbourne)

On the 'Visitability' of Anatomical Collections (part of Session 'Anatomical Preparations as Locations of Knowledge') Rina Knoeff (Univ. Leiden)

This paper looks at how the build and survival of anatomical collections depended on their 'visitability', i.e. on the ways in which, in the words of Bella Dicks, they were made "consumer friendly, accessible, interactive, performative and safe." In the Leiden collections as well as in those of Frederik Ruysch anatomists and curators directed visitors through the telling of stories, as well as through the specific placement and cuddliness of preparations.

From the Library to the Laboratory: The Leiden Anatomical Collections in the Nineteenth Century (part of Session 'Anatomical Preparations as Locations of Knowledge') Hieke Huistra

In the nineteenth century Dutch higher education in general, and medical education in particular, was reformed completely. This changed the abstract place – Leiden University – in which the Leiden anatomical collections functioned. Moreover, their physical space changed: they moved from the library to the laboratory. Contrary to what is often claimed, these changes did not mean the end of the collections. They did, however, influence the way in which the preparations functioned as locations of knowledge. This paper shows how anatomical objects gained new functions and meanings due to changing places and spaces.

Perfect Sensory Knowledge (part of Session 'Anatomical Preparations as Locations of Knowledge') Marieke Hendriksen (Univ. Leiden)

The eighteenth century Leiden anatomical collections are remarkably well-preserved considering that a large part of them was outdated even before the early nineteenth century. Moreover, these collections are of outstanding beauty and perfection. This paper argues that 'aesthesis', combining the quest for beauty and perfection with learned natural inquiry based on sensory perceptions, is key in understanding the making and maintenance of these early modern preparations.

SESSION 2B - INDUSTRY

Friday 17 June 2011, 1530-1700/30 hrs.
Chair: Ida Stamhuis (VU/Aarhus University)

Truth, Trust and Trouble: The Introduction of Evidence-Based Medicine in Dutch Health Care Timo Bolt (Utrecht University)

In the early 1990s a new concept was coined: Evidence-Based Medicine. In a short period of time it has become all-pervasive. Its proponents claim that EBM represents nothing less than a paradigm shift for medical practice. Whereas the 'old paradigm' had valued pathophysiological principles, teacher authority, experience and unsystematic clinical observation, the 'new paradigm' stresses their fallibility and gives priority to the 'numerical' evidence that comes from Randomized Clinical Trials (RCT's) and meta-analyses of RCT's. EBM has quite another, political dimension as well. The original motive of its proponents may have been to improve clinical decision-making, but soon EBM was also about cost containment, recourse allocation and distributive justice. To the concern of many, it became clear that a tool had been created that facilitated intrusion by third parties.

In this paper, the 'Janus-face' of EBM is analyzed by focusing on its introduction in the Netherlands. In the early 1980s, the 'limits of medicine and health care' was a topic high on the Dutch political agenda. The political and professional debates about this subject culminated in 1991 in a report of an advisory committee of the Dutch Health Council, titled "Medical practice at a crossroads" (Medisch handelen op een tweesprong). In this report, the committee established the fact that medical practice had profoundly changed. Whereas before, physicians had enjoyed great independence, a natural authority and a good income, they were now confronted with increasing diagnostic and therapeutic possibilities, with conflicting interests of hospitals, specialists and family doctors, with emancipated patients and with exponentially rising costs. The committee realized that physicians had to reorganize their professional activity and change their mentality: they had to rethink their methods and habits, to cooperate with colleagues, to develop protocols and to open up to peer review and public accountability. There was no choice, the report warned: "Either we set things right ourselves, or we have to endure that the government, insurance companies and hospital management take over the initiative and do it for us".

The urgent need to address internal and external challenges, as expressed in this report, corresponds remarkably well with the theoretical insights of (a.o.) Ted Porter into the matter of quantification. Porter has argued that quantification is no inherent quality of science, but rather the result of compromise, that becomes necessary when a discipline is experiencing external social pressure and distrust. He maintains that since the late nineteenth century many disciplines have experienced a shift from 'disciplinary objectivity' to 'mechanical objectivity'. Personal trust in professionals in face-to-face communities had been replaced by trust in numbers in democratic mass societies.

Dutch in Space: the story of ANS and IRAS David Baneke (VU)

Van alle plaatsen waar wetenschap bedreven wordt, is de ruimte misschien wel de meest veeleisende. De technische eisen aan ruimtevoertuigen zijn extreem hoog, en de contructie ervan veriest een groot budget en een complexe organisatie. Een van de belangrijkte hordes is: hoe kom je er? Toegang tot de ruimte is schaars, duur, en extreem politiek beladen. Decennialang was lanceertechnologie het exclusieve domein van nationale regeringen van militaire grootmachten. Samen met kernwapens waren raketten de meest zichtbare symbolen van de Koude Oorlog.

In deze lezing zal ik ingaan op de geschiedenis van het Nederlandse ruimteonderzoek en de twee 'nationale' satellieten ANS (Astronomische Nederlandse Satelliet, gelanceerd in 1974) en IRAS (Infrarood Astronomische Satelliet, 1983). Waarom begon een klein land aan een nationaal ruimtevaartprogramma? Hoe kregen Nederlandse wetenschappers toegang tot de ruimte? En hoe kwam het dat astronomen in Nederland een grotere rol in het ruimtevaartprogramma speelden dan in andere landen?

Omdat Nederland geen eigen lanceertechnologie had, kon toegang tot de ruimte alleen worden verkregen via internationale samenwerking. Deze geschiedenis is dan ook nauw verweven met de internationale positie van Nederland in Europa en de wereld. Daarnaast is het Nederlandse ruimtevaartprogramma ook het resultaat van het naoorlogse wetenschaps- en industriebeleid.

De hoofdrolspelers in dit verhaal zijn astronomen als Henk van de Hulst en Cees de Jager, maar ook minister van buitenlandse zaken Joseph Luns, Philips, Fokker, de KNAW, het ministerie van Economische Zaken, het Amerikaanse State Department, de NASA, en de Europese ruimtevaartorganisatie ESRO (later ESA). Samen maakten zij het mogelijk dat een handvol Nederlandse astronomen wetenschappelijke instrumenten in een baan om de aarde kon brengen, om waarnemingen te doen die alleen op die extreme locatie mogelijk zijn.

Towards Urenco: Jaap Kistemaker and the development of the ultracentrifuge in the Netherlands Abel Streefland (Leiden University)

In 1960 Jacob Kistemaker (1917 – 2010) succeeded in enriching uranium with vertically spinning gascentrifuges. He got the idea from Germany, where he by coincidence overheard a talk by Gustav Hertz about isotope separation. The most important technical information was subsequently leaked by Gernot Zippe to Kistemaker after a symposium in Amsterdam, where Zippe showed up uninvited. Both Hertz and Zippe had been working on uranium enrichment as Russian prisoners of war after WOII. When Zippe came to Amsterdam he was released from Russia only 3 months earlier. He noticed that the knowledge of ultracentrifuges in the West ran behind considerably when compared to Russia. On the Sunday afternoon after the conference in Amsterdam he decided to pour out his heart to Kistemaker.

As atomic physicists both in Russia and in America had to cope with strict secrecy rules, the enrichment program in the Netherlands was in a perilous position. Although Kistemaker always held close contacts with both America and Russia, the progress of the development of the ultracentrifuge had to rely on leaking physicists and spy-like coincidences.

Kistemaker's persistence and diplomatic regulations within Europe also played a large role in the development of the ultracentrifuge in the Netherlands. In the end all this lead to the establishment of Urenco, a cooperative enrichment factory of both Germany, the United Kingdom and the Netherlands.

The development of Dutch polymer science, 1940-1970

Marijn Hollestelle (Eindhoven University)

At the end of WWII, polymer science was still an emerging field. Plastics were seen as one of the key elements of modern technology. Dutch companies entered the field, eager to restart production and keep up with the rapid developments from the United States. An entirely new technology emerged.

This technology demanded specialized knowledge, but in the polymer case, knocking at the doors of the universities didn't do much good. The field just didn't exist at the Dutch universities. Already during WWII, figureheads from the Rubber-Stichting anticipated an immediate post-war run on plastics. They founded an Institute for Polymers, that was taken over by TNO in 1946. Prominent figures from TNO and the Rubber-Stichting organized international conferences and had all the necessary contacts. The Rubber-Stichting even co-founded what was immediately the most prominent magazine in the new field. Polymer research developed in the research laboratories of the Rubber-Stichting, TNO and the internationally expanding companies AKU and Staatsmijnen. No wonder that, when only in the 1960s the first professors in the specialized field of polymer chemistry were appointed, these all came from TNO, AKU and Staatsmijnen. Polymer professors started working together with industry in training PhD-students, who preformed their actual research at the companies in 50% of the cases. Universities and companies got stronger linked then ever before, and a new field had grown by the sake of 'industry-based science'.

The location of origin of polymer science is an indicator for the blurring of the boundaries between knowledge producers. Is the role of these actors in making innovations still traceable? I back my story up with quantitative data in which I analyze the role of all Dutch polymer chemists. Where did they work? What was their scientific output, their role in patent applications, and what was the impact of both?

SESSION 3A - THE WORKSHOP

Saturday 18 June 2011, 900-1030 hrs.
Chair: Frans van Lunteren (VU/Leiden University)

Knowledge in Materials. The Artist's Workshop as Site of Making and Creation.

Ann-Sophie Lehmann (Department of Media and Culture Studies, Utrecht University)

Based on recipes, descriptions of creative processes, and depictions of the artist at work, this paper traces locations of knowledge about artistic practices in the early modern period, specifically concerning painting with oil.

With the emancipation of the visual arts from craft around 1500, the manual process of art-making, which relied on implicit knowledge of materials and tools, was assigned an inferior place in accounts of artistic creation. Art theory preferred to locate the moment of creation in the artist's mind. This model of conception was based on religious tropes and primarily linked to the sense of sight: the artist envisioned or dreamt the ideal image he then merely needed to translate into material form. Depictions of the artist at work have been interpreted as mirroring this dualism, capturing the moment of creation rather than that of making and investing the artistic space with magical qualities. This effect was achieved by an interesting pictorial paradox: while the images provide some information about making, the acts displayed are far too complex to be fully understood on the basis of visual information only. So through representation, the actual making is hidden while mysterious creation in the mind is put on display.

In this paper, I want to contrast the idealization of artistic creation and the superiority of sight as primal sense of knowing, with the actual material procedures of painting that involved other senses as well – touch, smell and taste – as described in recipe books and painter's manuals. I will argue that also depictions of the artist at work contain information about this tacit knowledge, which can be accessed if the dual nature of the image described above is taken into account. Certain procedures (the use of oil as a medium for painting forms the prime example here) are represented in images before being described in written sources precisely because of the image's ability to show complex interaction between the maker and his tools and materials. Rather than somehow being captured inside the studio or workshop space – as the myth of creation suggests – artistic knowledge is produced and therefore must be located in this material interaction.

The Painting as a Site of Knowledge. Otto Marseus van Schrieck (ca 1620-1678) and Scientific Culture in Amsterdam

Eric Jorink (Huygens ING)

The painter Otto Marseus is remembered as the creator of a unique genre of painting, usually called sottobosco: dark and swampy settings crowded with fungi, thistles, reptiles and insects. Marseus developed his very personal style during his stay in Italy (ca 1645-ca.1660), and continued to develop it after he moved back to the Republic, where he lived in the country estate 'Waterrijck' in the marshes near Diemen.

In his - as yet unpublished - dissertation, Douglas Hildebrecht had convincingly shown how Marseus' artistic work must be seen in the context of contemporary developments in natural history, more specifically the observations and experiments conducted with poisons, snakes and other reptiles at the Medici-court in the 1650s. Marseus' paintings were a means of communicating new knowledge, and were only fully understandable for insiders.

In my contribution I would like to focus on the work done by Marseus after his return to the Dutch Republic (ca 1660). More specifically, I will demonstrate how his work can be related to the development of the single lens microscope by Johannes Hudde, and the subsequent research into the problem of animal generation by Marseus' friend Johannes Swammerdam.

A Mathematical Double Portrait from the Seventeenth Century

Tim Huisman (Museum Boerhaave)

On May 14, 2011, the Museum Boerhaave, the Dutch national museum for the history of science and medicine, bought an intriguing painting by an unknown North Netherlands Master from the second half of the 17th century. Although the Boerhaave is not a fine arts museum the painting immediately caught our attention (and acquisitiveness) as soon as it entered the market. The painting represents a man and a woman - a married couple? – handling mathematical instruments and books and papers with geometrical and cartographic content. In my presentation I will elaborate on the reasons for the Museum Boerhaave to acquire this painting for its collection. Furthermore I will focus on the many questions posed by this hitherto unknown double portrait – auctioned as a *Portrait of an Architect and his Wife*. How does it relate to other representations of scholars in Dutch 17th century painting, is it possible to indicate a probable location of origin for it? And can we attempt to identify the persons in the painting?

SESSION 3B - THE LABORATORY

Saturday 18 June 2011, 900-1030 hrs.
Chair: Ilja Nieuwland (Huygens ING)

Locations of knowledge in emerging genetics: Cambridge/London and Potsdam/Berlin

Ida Stamhuis (Vrije Universiteit Amsterdam/Aarhus University)

The striking presence of women scientists in early genetics is a topic which is currently being investigated by Marsha Richmond (Detroit, USA) and myself. This presentation intends to compare two 'locations of knowledge', which play an important role in our investigations. The first is Cambridge/London. The investigations into variation and heredity which took place around 1900 in Cambridge and were headed by William Bateson, were in 1910 continued in the London-based John Innes Horticultural Institute. In addition to this English location, a German one was founded in Berlin in 1914: the Institute for Heredity Research (*Institut für Vererbungswissenschaft*), which was part of the Agricultural University (*Landwirtschaftliche Hochschule*) headed by Erwin Baur. These two locations seem rather different. The investigations in Cambridge took place at informal sites such as college gardens, whereas Baur had a well-equipped institute with a garden and animal dwellings at his disposal; first in Potsdam, later in Berlin-Dahlem. Looking at the type of leadership of Bateson and Baur, the differences are also obvious. However, both cases – with different circumstances – nonetheless resulted in a high amount of female researchers.

New Nature: The Zoological Station, the Ecological Eye and Urbanizing Europe

Raf de Bont (KU Leuven)

The last decades of the nineteenth century gave rise to a new type of workplace for the zoologist: the biological field station. Contrary to the (mostly urban) university laboratories, such stations were localized in nature itself. Some of them focused on laboratory work and hardly differed from their urban counterparts. Others, however, grew to be important hubs for the study of animals in their "natural" habitat, and became leading centers for (proto-) ecological studies in various disciplines such as marine zoology, limnology and ornithology.

The places in which the new field stations were set up, have often been portrayed as picturesque remainders of "unspoiled" nature. In my paper, however, I will argue that, despite an aura of romanticism, the field stations were the project of a quickly urbanizing and industrializing society. Through three case-studies - the marine laboratory of Wimereux, the limnological station in Plön and the ornithological observatory in Rossiten - I will deconstruct the romantic idea that the scientists who worked there produced knowledge in lonely retreat. In fact, the stations were technologically, financially and intellectually dependant of a world dominated by urban centers, industrial production and intensive agriculture. By studying this dependence I hope to reveal some of the cultural ambiguities of early ecology.

The zoological station and the new scientific practices it generated are the topic of a book manuscript that I am currently finalizing. In my paper the conclusions of this book will be discussed.

Big Science, Little Science: the origin of Dutch radio astronomy

Astrid Elbers (Leiden University)

After the Second World War, a new field of astronomy arose: radio astronomy. Around the same time, we situate the emergence of Big Science. It is argued that astronomers were generally slow to adopt the methods of modern Big Science. At the same time it is said that the first branch of astronomy to become 'Big' was radio astronomy, because this discipline was founded by engineers and physicists with a background in wartime (radar) industry. These engineers and physicists had been used to big-science ways of working and could – initially – make use of apparatus that was developed during the war.

In the Netherlands, the situation was different. There, the initiative for radio astronomy came from 'real' astronomers, trained in optical astronomy. These astronomers were not used to working in big wartime laboratories with an extensive labour division, but they came from small university research groups.

In my paper, I will discuss whether and / or to what extent this difference in origin was reflected in the early organisation of the field. Did Dutch radio astronomy stay rather Little Science for a certain period of time? In answering this question, I will consider issues such as instrumentation, relations with the industry, funding, seize of the groups, and labour division.

I will particularly compare the situation of the Netherlands with the situation in the UK, as the latter was a country with both an extensive war industry and later a flourishing radio astronomical community.

SESSION 4A - EN ROUTE

Saturday 18 June 2011, 1100-1230 hrs.
Chair: Huib Zuidervaart (Huygens ING)

Science at Sea: the Mariner and the Floating Observatory Azadeh Achbari (VU)

Despite advances in the historiography of Dutch science, the first half of the nineteenth century, when the Humboldtian craze gained its greatest momentum in the Netherlands, has so far remained unexplored. Unlike the situation in previous and subsequent periods when the sciences were practiced in societies and at universities, the Dutch Humboldtians often gained and practised their knowledge while traveling. In my paper I will examine the ship as a location of production of knowledge.

Other than a land-based observatory, a ship poses distinct challenges because of the specific circumstances under which research is conducted. The issues my paper will address include the practical conditions of carrying out research such as measuring variables on a rocking boat, training officers for the proper use of standardised nautical instruments and the accuracy of the readings. What can be said about the organizational structure on a ship and its effects on the investigations? What kind of effect did setbacks such as gales and other hazards have on the mindset of the ship's crew? How did marine officers combine their adventurous zeal with the strict discipline prevalent on the ship? And what position did science have for the marine officer in the midst of life and work on a boat?

Circulation of Knowledge: The Case of Dorpat's Emigrant Jakob von Uexküll (1864-1944) Florian Mildenberger (Frankfurt/Oder, Berlin)

Why did the famous Baltic-German biophilosopher Jakob von Uexküll, founder of the "Umweltlehre" turn from Darwinism to Neo-Vitalism? His theories were widely used for the construction of behavioral psychology and psychosomatic medicine, but the core of all of his ideas was brushed under the carpet by his admirers and antagonists after 1945.

Uexküll had been a member of the Baltic-German nobility, an exclusive circle, who dominated economy and politics in the Russian empire and especially Estonia and Latvia until 1900. In this sphere, a Darwinian or even social Darwinian view of the world with its consequences (e.g. struggle for power, equality of all people) meant a mixture of betrayel and suicide - especially because Russian and Estonian Nationalists used popularized Darwinian theories for fighting the German nobility.

So even younger nobles als Uexküll, who read Darwin with greater interest in his youth and during the first years in the Dorpat University, turned back to Vitalism. When Uexküll left Dorpat in 1890, he went to Heidelberg and Naples, meeting Hans Driesch and becoming a Neo-Vitalist.

He knew about the antiquity of vitalistic approaches and the struggling power of Social Darwinism. So he construed a merely neo-vitalistic influenced theory of an individual subject in his individual world. In his books "Umwelt und Innenwelt der Tiere" (1909) and "Theoretische Biologie" (1921), Uexküll explained, how an animal (or even a man) reacted in the case of outer attractions. He became the grandfather of behavior biology - only because he wanted to prove in exact biology and natural sciences that a Darwinian World could not be meaningfully. If he had lived outside of Dorpat, he probably never had developed his "Umwelt-lehre".

The Price of Shipping: Transportation Costs and the Development of Natural History in the Early Modern World Dániel Margócsy (Department of History, Hunter College, NY)

The price of mobility was high in the early modern world. While transportation networks between countries and across continents were well-developed, they did not always provide a cheap or secure method for carrying objects to large distances. Oftentimes, the cost of production was dwarfed by the cost of transportation. This paper offers a comparative review of the shipping costs of plants seeds, dried plants, seashells, insects, elephants, rhinoceroses and giraffes. I argue that, while plants, seashells and insects were relatively easy to transport, larger, bulky quadrupeds were often impossible to ship across large distances. As a result, the study of plants, shells and insects took a developmental track different from the rest of zoology. While botanists or entomologists could often base their scientific arguments on the careful comparison of multiple observations, students of exotic quadrupeds had to make generalizations from the scrutiny of a single specimen. The differential availability of specimens thus led to the development of two distinct methods of observation and argumentation. In botany, conchology and entomology, one can trace an interest in taxonomy from the beginning of the early modern period, classification was not a major interest for the study of larger animals well into the eighteenth century.

My talk therefore offers a corrective to recent studies on the geographies of knowledge. Scholars have explored at length how the circulation of scientific objects is affected by cultural differences between the countries of origin and destination. It has been studied less, however, how the material conditions of circulation transformed the status and purpose of the objects in motion. My focus on ships, postal coaches, and other sites of transportation will illuminate how, next to static sites of knowledge, mobile locations also participated in the production of knowledge in the early modern world.

SESSION 4B - LOCALITY & UNIVERSALITY

Saturday 18 June 2011, 1100-1230 hrs.
Chair: David Baneke (VU)

I am Knowledge. Get Me Out of Here! On Localism and the Universality of Science

Jouni-Matti Kuukkanen (Leiden University)

It has become increasingly common in historiography of science to understand science and its products as something inherently local. However, this orientation to science is faced with three kinds of problems. First, how can one explain the seeming universality of contemporary science? Second, if science is so reflective of its local conditions of production, how can it travel so effortlessly to other localities and even globally? And third, how can scientific knowledge attain validity outside its context of origin? I will argue that the notion of standardization and the theories of delocalization manage to offer an answer to the first two questions, but that localism limits the validity of scientific knowledge unacceptably inside the laboratory walls or other boundaries of knowledge creation. I will consider on what grounds knowledge can be said to transcend the boundaries of locality.

Dutch Skies, Universal Laws

Frans van Lunteren (Leiden/VU)

What does it take for a local generalization to be a law of nature? Or perhaps we should ask: who makes a generalization into a law of nature? In the late nineteen forties Buys Ballot effectively changed the Dutch atmosphere into an experimental field through his creation of a network of meteorological observatories. Ten years later he proposed a relationship between the differences in pressure in the Dutch atmosphere and the resulting winds. Another ten years later his rule of thumb had been transformed into a law of nature, internationally referred to as 'Buys Ballot's Law'. Meanwhile the emphasis had shifted from the Dutch skies to the global atmosphere and from the force of the wind to the direction of the wind. Buys Ballot contributed substantially to this process. Not by modifying or by generalizing his rule of thumb, but mostly by internationalizing himself.

The Locality of Scientific Internationalism. Wilhelm Ostwald's (1853-1932) international scientific language politics

Fabian de Kloe (Universiteit Maastricht)

Science has long been regarded as an international endeavor par excellence, peacefully transcending personal and national interests. While historians of science have questioned the image of scientists as exemplary internationalists, the relationship between scientific internationalism and the particular socio- scientific context in which it is articulated deserves a closer look. In an attempt to offer a description of the nature of scientific internationalism and its relationship with the particular contexts in which it has been articulated, this paper focuses on early 20th century attempts by the German chemist Wilhelm Ostwald to institutionalize international scientific language.

In a joined effort to promote the institutionalization of an artificial scientific language called Ido, between 1901 and 1913 Ostwald collaborated with its creator, the French mathematician and logician Louis Couturat (1868- 1914). In an attempt to institutionalize Ido in Germany, Ostwald presented it in publications and during public lectures and speeches. With a vocabulary enriched through the adoption of new stems which were chosen according to the principle of maximum internationality, and with a grammatical structure that was said to be freed from useless rules, Ido was not only meant to facilitate the transfer of scientific knowledge; it was also an expression of the supranational character of science.

By exploring Ostwald's conception of international language in the context of his broader scientific, sociological and political views, this paper argues that instead of transcending local notions of science and politics, Ostwald's scientific language internationalism was, in fact, their product. More specifically, it was rooted in roughly two interrelated strands of thought. On the one hand it was an extension of Ostwald's energeticist worldview, which was based on a socio-scientific theory postulated by Ostwald himself that framed social and psychological phenomena in terms of energy transfer. On the other hand it was an extension of Ostwald's notion of internationalism that was an expression of his personal and national ideologies.

Darwin and the Breeders

Bert Theunissen (Universiteit Utrecht)

It has been said that Charles Darwin found his laboratory in the stalls of England. Until the present day the image of practical breeders creating new varieties of domestic animals and plants by artificial selection serves as an illustration of how his theory of evolution by variation and natural selection works.

In this paper I argue that we need to reconsider our understanding of Darwin's analogy. The transfer of knowledge between practical breeders and scientific naturalists in the nineteenth and twentieth century can

be shown to have been fraught with difficulties, and Darwin's exchanges with farmers and fancy breeders form no exception.

Contrary to what is often assumed, nineteenth-century animal breeding practices constituted a highly controversial field. It was only with considerable effort that Darwin forged his analogy between artificial and natural selection, and he only succeeded by downplaying the importance of two other breeding techniques - crossing of varieties and inbreeding - that many breeders deemed essential to obtain new varieties.

Part of the explanation for Darwin's gloss on breeding practices, I shall argue, was that the methods of his informants, the breeders of fancy pigeons, were not representative of what went on in the breeding world at large. Darwin was eager to take the pigeon fanciers at their word, however, as it was only their methods that provided him with the perfect analogy with natural selection. Thus his gloss on breeding practices was actually moulded by his understanding of natural selection in nature, and not the other way round, as is widely believed.

Historical studies of the development of domestic breeding in the eighteenth and nineteenth century confirm that, besides selection, the techniques of inbreeding and crossing were much more important than Darwin's interpretation allowed for. And they still are today. This calls for a reconsideration of the pedagogic use of the analogy too.

SESSION 5A - THE ARCHITECTURE OF KNOWLEDGE?

Saturday 18 June 2011, 1400-1530 hrs.
Chair: Andreas Weber (Leiden)

The 'Theatrum Anatomicum' (*1658) in Middelburg as a 'Site of Knowledge'

Huib Zuidervaart (Huygens ING)

Modern investigations in the history of science has emphasised the debt of modern science to early anatomists. Pracices first devised in anatomical examinations, such as careful examination, the adaptation of instruments and systematised theorising on the basis of observations, laid the founding stones for the modern sciences.

Furthermore, Hal Cook's work Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age (2007) stresses that the Dutch Republic played a prominent role in the delopment of scientific method. Its lively culture of collecting, which could easily blossom in a country with such a wide commercial trading network, stimulated a rapid growth of virtually all branches of science in the Republic.

Only recently have historians become aware of a cultural component that was present in early anatomical theaters. The Zeeland capital of Middelburg also possessed such a theater, which was never before studied as an object relevant to the history of science. This paper will investigate how this Zeeland 'Atomiekamer', as it was known, was founded and how it acted as a 'site of knowledge'.

The Culture of Mathematics and the Family Network of Leiden University

Gerhard Wiesenfeldt (University of Melbourne)

Early modern universities have been characterised as "family universities", i.e. as institutions, in which oligarchic networks of academic families dominated university politics and monopolised academic positions. While these networks share a similar structure with family relations in craft guilds, it has been pointed out that the academic family networks had the function to demarcate the social boundaries of early modern academia, thus excluding artisans, mathematical and chemical practitioners from gaining prominent positions in universities.

This paper will apply the concept of the 'family university' to the study of knowledge traditions in local contexts. In particular, it will take a new look on the role of family networks at early Dutch universities, particularly on Leiden. It has three aims:

1. To show that at least until the middle of the 17th century there was a substantial overlap between the family networks of academics and artisans, which provided a limited social permeability and thus enabled craftsmen and practitioners to pursue an academic career.
2. To study how these networks linked political considerations with knowledge traditions and thus effectively established long term developments of academic fields in a local university context.
3. To use this perspective to reassess the role of mathematics at Leiden university. I will argue that representatives of Latin and Dutch mathematics managed to utilise the existing family networks and thus establish their sciences within the university. This approach will suggest that in particular the Duytsche Mathematicque played a more prominent role at Leiden university in the early 17th century than frequently argued.

The Architecture of Knowledge: The Scientific Collections of the University in Leiden 1575–1700

Gregory Grämiger (ETH Zürich)

This paper focuses on the architecture of the scientific collections of the University in Leiden (1575–1700). Three building programs played a fundamental role in the generation of knowledge: the library, the botanical garden and the theatre of anatomy. The aim is to discuss aspects such as how the exhibits of these collections were put in a spatial order, how they could be consulted, and how these spaces were used for representational purposes.

The library is a paradigmatic room filled with written and therefore traditional knowledge. It builds a space in which deceased authors receive a voice and ancient thoughts come to life. Also, the books had to be logically arranged, well-lit to be read, and kept in view of the librarian so as not to be stolen. The architecture and equipment of the library played a crucial part in fulfilling these requirements.

To gain new knowledge, reading the book of nature became a necessity. Plants where therefore collected in the botanical garden. They also had to be put in a spatial order, which was not only scientifically motivated: the most exotic plants were consciously put in scene. The garden was also a place of humanistic ideals, a locus amoenus, and could also be understood as a recreation of Paradise.

In the winter, the medical education took place in the theatre of anatomy. This place was primarily used to explore the human body. At the same time, it also served as a museum. The exhibits were not only scientific objects of natural history but also vanitas-symbols, which showed the shortness of life and the fall of man from Paradise.
All these spaces formed a closely connected system of knowledge. Not only did these institutions serve specific purposes, but they also enabled an interchange of knowledge, objects and metaphorical ideas. Working with published and unpublished materials, the paper wants to discuss the „spatial turn“ in the history of science in its most concrete manifestation: the architecture of scientific collections.

SESSION 5B - IMPERIAL SPACE

Saturday 18 June 2011, 1400-1530 hrs.
Chair: Ton van Kalmthout (Huygens ING)

The Dissemination of Anti-Colonial Knowledge and Thoughts among Colonial Students on a European Stage Klaas Stutje (UvA/VU)

In this piece I would like to draw attention to a group of Indonesian nationalists, that studied in the Netherlands in the Interbellum period. Typically this group is depicted as pivotal for the struggle for independence of Indonesia. Among them were still young nationalists like Mohammad Hatta, Sutan Sjahrir and Ali Sastroamijoyo. But no less they can be regarded as a peculiar part of the Dutch academic sphere. These nationalists arrived in Europe in the wake of dozens, and later hundreds of Indonesian upper-class boys that came to Holland to study and to obtain an academic degree.

In two ways the physical change of environments was of genuine importance to these students. Firstly, confronted with a different academic environment, different political rights, different views on modernity and with both ignorant and highly critical Dutch intellectuals, it was not by accident that in Holland a substantial part of them radicalised in the direction of anti-colonial nationalism. Here they were addressed as Indonesians, instead of as Javanese, Sundanese, Bataks and Minangkabauers. Here they were not bothered by fierce colonial political repression in the Netherlands-Indies. Here they came in touch with nationalist, socialist and anarchist ideas. Secondly, the European stage was of importance, because in this academic sphere the future Indonesian political vanguard was able to get in contact with students from other parts of the colonized world. Often, the Chinese, Indian, West-African and American students they met in Brussels, Zürich and Paris were radicalized much further. In many ways they inspired the Indonesians to develop anti-colonial thoughts. By taking the European metropolises as focal points of anti-colonial thought, and by connecting the Dutch imperial locations of knowledge, Leiden and Amsterdam, more actively with London and Paris, we learn a lot about the dissemination of ideas on nationalism, socialism and democracy, and the role of students in this process of exchange.

Dutch and Dutch Indies anthropology in a wider imperial space Fenneke Sysling (VU)

For medical doctors with an interest in physical anthropology, the Dutch Indies were a goldmine of data. So from the late nineteenth century, many colonial subjects were measured and photographed, hair samples were taken and skulls and bones collected. New Guinea, for example, lured anthropologists with its promises of ancient people of small stature in the highlands. But the Dutch polder had its own 'pygmies'. The Netherlands too was a field of possibilities for anthropologists, and from the turn of the 20th century onward anthropological fieldwork was done in the Dutch 'peripheries' of Zeeland or Terschelling.

This paper looks at the mutual influences of colonial and national anthropology. Careers were shaped both in the colonies and in the Netherlands, ideas and methods travelled from one place to another and many of the local circumstances of doing anthropological fieldwork were alike. The work of anthropologists like Nyessen, Kohlbrugge, Kleiweg de Zwaan or Bijlmer shows that their interest encompassed both colonial and national anthropology. An account of Dutch or colonial anthropological practice, with no mention that this research had strong ties with the other side of the world tells only half the story.

Following historians (of science) who have suggested to have a closer look at comparisons and connections between the colonies and Europe and at the role of the colonies in the construction of (science in) Europe, this paper argues that the colonial or the national does not necessarily need to be taken as one spatial unit of analysis. If we look at the discipline of anthropology in a wider imperial framework that incorporates both the Dutch peripheries and the Indies, connections that would otherwise have remained hidden stand out.

Stations to Serve the State. University biologists and the first state-sponsored nature laboratories in the Dutch Empire, 1872-1909 Robert-Jan Wille (Radboud University)

In 1872, the Dutch government became one of the first governments to hire a table at the new international Zoological Station of Anton Dohrn in Naples. The biologist who largely made this possible was Pieter Harting. This Utrecht professor was the main architect of an agenda that proposed both the development of science for the nation and a national science of development.

The first two students to make use of the Dutch table at Naples, Ambrosius Hubrecht (Utrecht) and Paulus Hoek (Leiden) adapted and expanded Hartings agenda. Back in the Netherlands they would build a zoological laboratory at the seaside, in Den Helder, partly supported by the Dutch state. Both Naples and Den Helder proved to be models: the idea of 'stationist' developmental biology moved to other areas in the Dutch empire.

For example, Hubrecht travelled to the Indies to set up a network of embryological collecting stations. At the same time a good friend of Hoek, the tropical botanist Melchior Treub, was in the midst of reforming the Botanical Gardens of Buitenzorg into a national complex of botanical and agricultural stations. It also included an international visitors laboratory that was modeled on Naples and that was fully supported by the colonial government.

Treub's colonial complex of labs and field stations was seen by other nations as a symbol of 'development': it was a famous institute of developmental botany, a temple for the development of imperial science and above all of colonial development in general. What started as a university-based agenda for national education in the Netherlands proper ended up in a general ideology of development for the whole of an empire, an ideology that transcended departmental borders between (academic) education, agriculture, economy and defense.

SPEAKER BIOGRAPHIES

Azadeh Achbari (VU) studied European Studies with a major in Modern History at the University of Amsterdam. She specialized in the History of Science while taking part of the Research Master program Historical and Comparative studies of the Sciences and Humanities in Utrecht. She is currently doing a PhD on the Dutch participation in Humboldtian networks at the Free University of Amsterdam.

David Baneke (Leiden/VU) studeerde geschiedenis in Groningen. Hij promoveerde in Utrecht op een onderzoek naar de rol van wetenschappers in intellectuele debatten over cultuur en maatschappij in 1900-1940. Na een kort verblijf op Imperial College London deed hij in Leiden onderzoek naar de geschiedenis van de Nederlandse sterrenkunde in de vroege twintigste eeuw. Afgelopen winter was hij Guggenheim Fellow op het National Air and Space Museum in Washington, DC.

Timo Bolt (Utrecht University) volgde de research-master Historical and Comparative Studies of the Sciences and Humanities (HCSSH) aan de Universiteit Utrecht en studeerde cum laude af. Hij was hij als onderzoeker werkzaam bij het Onderzoeksinstituut voor Geschiedenis en Cultuur van de Universiteit Utrecht. Samen met Leonie de Goei schreef hij het met de Martinus J. Langeveldprijs 2009 bekroonde boek: Kinderen van hun tijd. Zestig jaar kinder- en jeugdpsychiatrie in Nederland 1948-2008 (Assen 2008). Tevens publiceerde hij Van zenuwachtig tot hyperactief: andere kijk op ADHD (Amsterdam 2010) en verscheidene artikelen, vooralop het gebied van de geschiedenis van de psychiatrie, in wetenschappelijke en vaktijdschriften. Samen met prof. dr. Joost Vijselaar werkte hij aan de biografie van Schroeder van der Kolk, die in november 2011 zal verschijnen onder de (werk) titel: J.L.C. Schroeder van der Kolk (1797-1862) en het ontstaan van de moderne psychiatrie (Amsterdam 2011). Sinds november 2010 werkt Timo Bolt als promovendus in het UMC-Utrecht. Onder supervisie van promotor prof. dr. Frank Huisman doet hij onderzoek naar de introductie en invloed van Evidence-Based Medicine in Nederland.

Raf de Bont (KU Leuven) is a post-doctoral researcher of the Research Foundation - Flanders, associated to the University of Leuven and Imperial College London. His doctoral research concerned the reception of evolution theory in Belgium, and resulted, in 2008, in the publication of the book Darwins Kleinkinderen [Darwin's Grandchildren]. Currently, he is finalizing a book on zoological stations and their role in the rise of modern field biology. From September onwards, he will be associated to Maastricht University.

Fokko Jan Dijksterhuis (University of Twente) is associate professor in the history of science and technology at the University of Twente. He is currently working on an NWO funded VIDI-project The Uses of Mathematics in the Dutch Republic. The project aims at developing a cultural historical perspective on mathematization in early science and technology and is carried out with two doctoral students. He publishes on the history of the early modern mathematical sciences, returning regularly to his former specialization in the history of optics.

Astrid Elbers (Leiden University) is a PhD-researcher at Leiden University and she is writing a dissertation on the history of Dutch radio astronomy. She graduated from the Free University of Brussels with a master in History and received an additional postgraduate degree in Logic, History, and Philosophy of Science at Ghent University.

Ab Flipse (VU) is a PhD candidate in the history of science at the VU University Amsterdam, studying the science-religion debate in the Netherlands in the period 1880-1940.

Gregory Grämiger (ETH Zürich), Research and Teaching Assistant at the Chair for the History of Art and Architecture, Institute for the History and Theory of Architecture (gta), ETH Zurich; Associate of ProDoc „Kunst als Kulturtransfer seit der Renaissance", Module B: „Der Konsens der Architektur. Die Genese des öffentlichen Profanbaus 1400-1600"; PhD-Research on „The Architecture of Scientific Collections in the Early Modern Period", focusing on the collections of the University of Leiden

Marieke Hendriksen MRes (Leiden University), Ph.D. student 'Collections of Perfection' (within the NWO project 'Cultures of Collecting: The Leiden Anatomical Collections in Context)

Mieneke te Hennepe (Museum Boerhaave), Conservator. Museum Boerhaave: Rijksmuseum voor de Geschiedenis van de Natuurwetenschappen en van de Geneeskunde, Leiden. Verantwoordelijk voor het beheren van de collectie (waaronder acquisities), ontwikkeling van tentoonstellingen, fondsenwerving voor nieuwe aanwinsten en het uitvoeren van wetenschappelijk onderzoek. Inhoudelijke invulling verzorgd voor de tentoonstellingen Mijn Huid (2007), Van Adam tot DNA (2009) en Say Cheese! De kracht van de mond (2010). Promotie (2007), Faculteit der Cultuur- en maatschapijwetenschappen, Capaciteitsgroep geschiedenis, Universiteit Maastricht. Onderdeel van NWO gefinancierd project 'The Mediated Body'. Proefschrift: 'Depicting Skin: visual culture in nineteenth-century medicine'.

Marijn J. Hollestelle (Eindhoven University) studied History of Science at Utrecht University. He wrote his PhD-thesis at the University of Leiden on the theoretical physicist Paul Ehrenfest. Currently he works as a researcher for the Foundation for the History of Technology, at the Eindhoven University of Technology.

Tim Huisman (Museum Boerhaave) trained as an art historian at Leiden University, specialising in museology, graphic art and early modern art. Since 1991 he works at the Museum Boerhaave, the Dutch National Museum for the History of Science and Medicine. His activities include the catalogueing of the museum's collection of portraits of scientists and the stageing of exhibitions on subjects varying from Dutch 17th century medicine, antique globes, optical toys and the science of sound. From 2000 onwards Huisman is one of the museum's curators, specialising in the museum's collection of prints, drawings and paintings, in anatomy and in early modern medicine and life sciences. In 2009 he published his thesis on the Leiden anatomy theatre and anatomical teaching at Leiden University in the 17th century called The Finger of God; Anatomical Activity in 17th Century Leiden. Currently Huisman is working on a project concerning the storyline for the future refurbishment of the presentation of the Museum Boerhaave, besides ongoing research in the field of 17th century anatomy.

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Dirk van Miert Ph.D. (Huygens ING KNAW), studied Latin and Spanish at the University of Amsterdam (1992-1997) and at the Universdad Autónoma de Madrid (1995). He specialized in Neo-Latin; the Latin as used by humanists in the Renaissance. He wrote an MA thesis on the universal scholar Hadrianus Junius (1511-1575) and his book on the cultural history of Holland, the Batavia. In 1998, Van Miert was attached to the (Constantijn) Huygens Institute, assisting the edition of Grotius' correspondence and Erasmus' Opera omnia. In 1999 he started his PhD-project on the history of the Amsterdam Athenaeum, finished in 2004 (published in Dutch 2005 and in English in

2009). He subsequently moved to London to work, together with Paul Botley, on the critical edition of the complete correspondence of Joseph Scaliger (1540-1609), a project set up at the Warburg Institute and financed by Anthony Grafton (Princeton University). In November 2009 he started at the Huygens Institute, with the assignment to write a monograph on Biblical Criticism and Secularization, as part of project set up by Henk Nellen (Huygens Institute) and Piet Steenbakkers (Utrecht University) and sponsored by the Netherlands Organization for Scientific Research.

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Abel Streefland (Leiden University) works since December 2010 as a PhD student on Jaap Kistemaker's role in the development of uranium enrichment in the Netherlands. In 2010 he finished the master History and Philosophy of Science at the University of Utrecht. Before that he studied physics, also in Utrecht.

Klaas Stutje (Uva/VU) followed a Research master's program in History at the University of Amsterdam (2004-2010) and graduated last summer on colonial history and the history of anti-colonial nationalism. Currently working at the Stadsarchief Amsterdam he is initiating a PhD-project on imperial networks of anti-colonial nationalists at the University of Amsterdam. Forthcoming is an article in BMGN on the same subject.

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Bert Theunissen (Utrecht University) is professor for the history of the natural sciences.

Martin Weiss (Leiden University) is currently working on his PhD on the history of Teylers Museum in the 19th century at the University of Leiden. He completed his master's in History and Philosophy of Science at the University of Utrecht in 2008, before which he studied Physics in Aachen.

Gerhard Wiesenfeldt (University of Melbourne), Lecturer for History and Philosophy of Science, University of Melbourne; PhD in History of Science, Hamburg University (1999), Thesis: Leerer Raum in Minervas Haus. Experimentelle Naturlehre an der Universität Leiden, 1675–1715 (Empty Space at Miverva's Home. Experimental Natural Philosophy at Leiden University, 1675–1715).

Robert-Jan Wille (Radboud University) works as a Ph D student at the Radboud University in Nijmegen. He finished his master's thesis in the History and Philosophy of Science at Utrecht University in 2007. His thesis zoomed in on the zoologist M. W. C. Weber and his national scientific expeditions to the Indies around 1900. He also wrote on Darwin and the humanities, on leprosy in the Dutch colonies and on the embryologist Hubrecht.

Huib J. Zuidervaart Ph.D. (Huygens ING KNAW) studeerde natuurkunde, sterrenkunde en geschiedenis der natuur-wetenschappen aan de Vrije Universiteit te Amsterdam. In 1999 promoveerde hij aan de Universiteit Utrecht op het proefschrift Van 'Konstgenoten' en Hemelse Fenomenen. Nederlandse Sterrenkunde in de Achttiende Eeuw. Hij was werkzaam in uiteenlopende functies in het voortgezet en universitair onderwijs en in de museumwereld. Zo was hij onder meer als wetenschappelijk onderzoeker verbonden aan Museum Boerhaave, de Vrije Universiteit en de Universiteit Leiden. Voor laatstgenoemde universiteit schreef hij een rapport over perspectieven voor onderzoek en onderwijs op het terrein van academisch erfgoed. Voor een nieuw ontwikkelde website van Teylers Museum maakte hij in 2007 een nieuwe beschrijving van de fysische instrumenten in de negentiende-eeuwse instrumentenzaal. Vanaf september 2007 is hij aangesteld bij het Huygens Instituut, onder meer ten behoeve van de ontwikkeling van een Digitaal Wetenschaps-historisch Centrum (DWC).

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