

enough to venture across the great divide without a compass to guide them. During a gig at the Vooruit in Ghent they took the audience by storm despite initial resistance. Hurdle number two: daring to go for larger compositional forms and broader spans of tension. The former quartet could not be considered traditional as such, but it still built on compact foundations of rhythm and theme within clearly outlined time schemes. This new quartet plans further ahead, for example by laying down a theme that they only take up again a half hour later and then transform it. The impressive composition 'Interval Suite' is an excellent example of this.

Ben Sluijs himself regards his compositional work as a sort of journey of exploration; he wants to discover as he writes. In any case, up till now he has never written on commission but rather for the group he is actively involved with. And his sources of inspiration are not always to be found within jazz, despite what the list mentioned at the beginning of this piece might suggest. For example, Sluijs has a soft spot for Olivier Messiaen, and that's a step further than the usual influences of Debussy and Ravel. Messiaen's music is full of independent voices that fight in an happy uninhibited way for their place in the sun. It's no wonder that Messiaen has worked birdsong into his music: each bird in the wood sings his own song and almost unawares adds something to one single beautiful work.

In his collaboration with Marek Patrman, Manolo Cabras and Jeroen Van Herzele Ben Sluijs has clearly found the courage to come out into the open from now on. It has been a long road for the Sluijs we used to see some ten or fifteen years ago working in academic ensembles like Sax-No-End. Back then it was all about the hard work of getting the job done on time, but today we witness an avid search for broader horizons. Still focused exclusively on the alto sax, but driven by a new hunger.

Didier Wijnants

Translated by Peter Flynn

www.bensluijs.be

### In the Republic of the Learned Einstein and the Netherlands

At the beginning of the twentieth century Albert Einstein maintained intensive scientific and personal links with colleagues from the Netherlands. At the height of his scientific career, in the period between 1909 and 1927, Einstein corresponded with Dutch physicists, visited them regularly, and briefly held a visiting professorship in Leiden.

The book *Einstein in the Netherlands* (Einstein in Nederland, 2006) provides an overview of the scientific and personal significance of Einstein's 'Dutch connection'. Until now this theme has hardly been explored, partly because Einstein almost never cited his exemplars. Yet in the Netherlands Einstein found a 'Republic of the Learned' that has rarely flourished and expanded as it did in this period. One of the most impressive indications of this second 'Golden Age' of Dutch science is that in the period between 1900 and the First World War the Nobel Prize for Physics was awarded to scientists working in Leiden, Utrecht or Haarlem on average every three years.

So what attracted Einstein to this Republic of the Learned? A reconstruction of Einstein's friendship with four leading Dutch scientists sheds some light on the matter.

First, there is Hendrik Antoon Lorentz (1853-1928): Lorentz was Einstein's greatest intellectual example. 'Everything this outstanding mind produced,' he said on the occasion of the commemoration of the centenary of Lorentz' birth, 'was as clear and as beautiful as a good work of art, and one had the impression that he did it more easily and effortlessly than anyone else I have ever known.' He added: 'He was more important to me than anyone else I have met in the course of my life.' Lorentz' theory is so central to Einstein's thoughts on space and time that for years contemporaries of the two physicists were unable to see any difference between Einstein's and Lorentz' ideas. What is now known as the 'Special Theory of Relativity' was for a long time officially known as the 'Lorentz-Einstein theory'.



National Einstein Memorial,  
Washington, DC.

The second person who had a big intellectual and personal influence on Einstein was Lorentz' successor as professor of theoretical physics at Leiden, Paul Ehrenfest (1880-1933), a naturalised Dutchman of Austrian Jewish origin with whom Einstein had one of the most intimate friendships of his life. For years Ehrenfest acted as a sounding board for Einstein. One of the fruits of this was a thought experiment with which Ehrenfest made a significant contribution to Einstein's thinking on how the Special Theory of Relativity could be linked to gravity. Ehrenfest also saw to it that Einstein came into contact with the leading physicists of his time. For example, one of the twentieth century's theoretically most influential debates about physics, which was conducted between Einstein and the Danish physicist Niels Bohr, only came about because of Ehrenfest. An outline of the friendship between Ehrenfest and Einstein shows something of the passion they both felt for 'everything that is clear and intelligent'.

A third key figure in Einstein's life and work was the Leiden professor of astronomy, Willem de Sitter (1872-1934). De Sitter discussed the cosmological implications of Einstein's General Theory of Relativity

with him. In 1916 this led to three long and influential essays that appeared in the British scientific journal *Monthly Notices of the Royal Astronomical Society*. The importance of these essays is fourfold. First of all, De Sitter introduced into the Anglo-Saxon language area a theory which had not previously reached it because of World War I. Secondly, he showed compellingly that that theory is in complete harmony with the fundamental traditions and principles of physics. Thirdly, De Sitter demonstrated that the General Theory of Relativity has important and verifiable consequences for cosmology. He even presented a legitimate alternative to Einstein's cosmology model. Finally and most importantly, De Sitter provided the theoretical framework which gave significance to the results of the now famous British astronomical expedition of 1919. Shaped by De Sitter's theory, the expedition produced observational data that were considered to be experimental proof of the General Theory of Relativity. That proof was celebrated worldwide and gained Einstein international renown.

The fourth person who belongs in an overview of Einstein's links with Dutch scientists is the Dutch Nobel prize winner in chemistry, Peter Debye (1884-1966). It is notable that the relations between Einstein and Debye – unlike the contacts with his other Dutch colleagues – are characterised by a rupture. Although scientific rivalry between the two cannot be excluded, the reasons for the rupture are most likely to have been political. In 1933 Albert Einstein left Nazi Germany. Peter Debye however, who had spent his whole career living and working in Germany, decided to remain in Germany after 1933. A year after Einstein's departure, Peter Debye was appointed as Einstein's successor.

The question of Debye's conduct in National Socialist Berlin provokes many conflicting views. On the one hand, Debye behaved in much the same way as his German colleagues. Like Otto Hahn, Carl Friedrich von Weizsäcker or Max von Laue, Debye never openly supported National Socialism or the 'Führer cult'. He shared with his colleagues the quasi-mythical idea of the '*reine Luft der wissenschaftlichen Forschung*' – the pure air of scientific research – based on the principle that fundamental scientific

research should be considered a completely free activity of the mind. It is equally clear that on more than one occasion Debye defended the principle that there is no place for politics in science. In addition, the fact that he helped Lise Meitner to escape proves that he was not completely indifferent to the plight of his Jewish colleagues. On the other hand, historical documents also show that Debye was prepared to make considerable political concessions after Hitler came to power. In 1938, for instance, it was Debye who purged the 'Deutsche Physikalische Gesellschaft' of all Jewish members.

For a reconstruction of the relationship between Einstein and Debye such conflicting views are merely sidetracks. Einstein quite simply condemned the fact that Debye stayed in Germany after Hitler came to power. When, in 1940, Einstein heard that Debye wanted to take up a position as professor at an American university, he tried to prevent it. He did so by circulating a letter to his colleagues in which he warned them that Debye was probably a Nazi spy. Einstein's letter was based upon his previous experiences with Debye, his own tragic experience with the political powers in Berlin and upon information he had received from an anonymous source.

After the publication of *Einstein in the Netherlands* a remarkably emotional debate developed in the Netherlands about the 'rights' and 'wrongs' of Peter Debye. The discussion also attracted international attention after the University of Utrecht decided to drop Peter Debye's name for its physics research institute.

The Netherlands Institute for War Documentation has been asked to analyse Debye's years under National Socialism. The focus of the research will be quite different from that of *Einstein in the Netherlands*, i.e. how Debye's behaviour in Berlin can be interpreted in the broader social and political context of his time. Its final report is expected in autumn 2007.

Sybe Rispens

*Translated by Lindsay Edwards*

Sybe Rispens is the author of *Einstein in Nederland. Een intellectuele biografie*. Amsterdam: Ambo, 2006, 242 pp.

## Christine Van Broeckhoven, a Pioneer in Alzheimer's

Christine Van Broeckhoven was born on 9 April 1953 and, despite her strictly scientific approach to life, she does tend to say with a smile that her being born in this year was a matter not of chance but of predestination. For 1953 was a milestone in science. It was in April of that year that James Watson (USA) and Francis Crick (UK) discovered the double helix structure of DNA. It was on the research results of Watson and Crick, who received the Nobel prize for Medicine in 1962 for their insights into heredity, that Van Broeckhoven was to base her career. No. Correction. It was to DNA, the secret of life, that she would dedicate her life, her whole existence.

Initially she studied chemistry. Later she applied herself to biochemistry, then to molecular biology, finally ending up with her pet subject: molecular genetics. She concentrates on tracing the hereditary factors that can give rise to brain diseases in adults. In Belgium Van Broeckhoven is known primarily for her research into Alzheimer's dementia; abroad, and particularly in the United States (where she was the first woman to receive the renowned Potamkin Prize) she is also renowned for her research into manic depressive psychosis and other diseases of the nervous system in adults. Van Broeckhoven's reputation can be attributed partly to the fact that she (who is one of the five world pioneers in the molecular genetics of Alzheimer's) has among other things identified the amyloid gene, a key protein in the biological process of Alzheimer's disease. In 2006 Van Broeckhoven received the international Unesco-L'Oréal Award: she was singled out as the best scientist in Europe.

Her career has had its ups and downs. Particularly 'ups'. Her career and her life are characterised by perfectionism, perseverance and obstinacy. 'Three important characteristics of every true scientist', she says. More than three decades after her birth Christine Van Broeckhoven began her own research into molecular genetics at the University of Antwerp. Because there was no-one in Belgium – then mired



