

## Book review — Boekresensie

# Strictly Scientific and Practical Sense. A century of the Central Veterinary Institute in the Netherlands, 1904–2004

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2007. *Erasmus Publishing, Rotterdam* (<http://www.erasmuspublishing.nl>), 256 pp., hardcover. Price €64.50.  
ISBN-10=90-5235-190-2

The sister institute of the Onderstepoort Veterinary Institute in the Netherlands, which can be referred to as a Central Veterinary Institute although it has experienced several name changes, became 100 years old in 2004. To commemorate this centenary, a team consisting of 2 retired scientists and a librarian, who had served the Institute faithfully over many decades (the 'History Project Foundation'), conceptualised and organised the production and publication of a splendid memorial book in Dutch that appeared in 2006 and was appropriately introduced to the Dutch veterinary and agricultural communities at 2 glittering ceremonies.

In 2004 R C Tustin and I had the good fortune of being invited by Dr P H Bool, convenor of the above

team, to be involved in the translation of the Dutch version of the book into English. The English edition consists of 256 pages, having been condensed from the original 416 by the authors, and also consists of 2 parts. Its title is a less than satisfactory translation of the quotation '*Strenge wetenschappelijkheid en praktische zin*', which was the professional motto of Prof. Dr Jan Poels, famous founder of the Institute.

Part I of the Dutch edition of the book was written by the medical-historian, Peter Verhoef. It is 'a concise chronological history of the Institute' based on thorough research conducted mainly on the properly classified documentation available in well-organised institutional, national and municipal archives. Verhoef produced an abridged Dutch version of Part I for

translation purposes. It nonetheless remains an impressive and valuable record 'of the rich, and, at times, turbulent history of the Institute'; turbulent due to the virtually endless meddling by successive Dutch governments in the organisation of the Institute, to such an extent that some of its most eminent scientists retired prematurely. Doesn't that sound familiar? The primary reason for this was to limit the drain on the *fiscus* by merging the Institute with 3 others in the agricultural discipline so that posts could be abolished. The results of the restructuring are illustrated by means of concise organograms. To make matters worse, some of the reorganising coincided with the Ministry of Agriculture's revolutionary policy decision early in 1991 to dispense with annual vaccination against foot-and-mouth disease (FMD) in the Netherlands, thereby virtually closing the tap of the Institute's greatest source of income, the production of FMD vaccine for official use. In fact, the Institute was still in a state of transition in 2004. Small wonder that its centenary passed by almost unnoticed!

To increase its income and thus save research posts, the Institute became very actively market-orientated by promoting contract research, patenting its products and seeking EU and other sponsorship. It is amazing that the researchers continued to conduct fundamental research of international standard despite the continuous and real threat posed by the enforced reorganisation. The high quality of the research is evident in Part II of the book entitled: *Capita Selecta*, each chapter being written in English by the research scientists themselves, the editors contributing by controlling their style and language. Its contents have been divided into 5 clusters.

The research conducted by the Institute for the Dutch government is probably most clearly illustrated in the 3 chapters on FMD. The Institute's name is particularly associated with its world famous Frenkel vaccine for FMD. The technology used was the benchmark for the production of FMD vaccine in many other laboratories worldwide for many decades.

The intensiveness of animal husbandry in the Netherlands is clearly reflected in the cluster dealing with diseases causing practical problems. The discovery, in 1991, of the 'Lelystad' virus, which is responsible for 'blue ear disease' (now known as porcine reproductive and respiratory syndrome (PRRS)) – a disease first encountered in the USA and Canada in 1987 – was a scoop for the Dutch scientists who pipped everyone else at the post. Further proof of the industry-orientated nature of their research is the cluster in which research on furred animals and fish and shellfish is described. The botulism and mortality in the wild birds cluster reveals the existence of differences as well as similarities with our situation.

The 'multi-factorial' diseases, dealt with in the 4th cluster, are also a result of the intensiveness of the husbandry, especially by raising animals' production to within physiological limits. These diseases are not primarily infectious in nature. A new discipline, named Veterinary Pathophysiology, was therefore established to study them. An example of a multi-factorial disease is the post-weaning diarrhoea

syndrome of pigs that caused great economic losses in the Netherlands in the 1960s and 1970s. Several new techniques, such as the lung lavage method and the small intestine perfusion test, were developed to quantify pathophysiological research processes.

The cluster dealing with innovative research contains some very original and fundamental research, using molecular biological techniques, which nevertheless eventually resulted in patentable and/or marketable products. 'Deletion vaccines', which enable scientists to differentiate between infected and vaccinated animals (DIVA) – using genetically engineered, recombinant vaccines for this purpose – by means of the specially designed, monoclonal antibody tests required to do this (DIVA tests), were developed for Aujeszky's disease, infectious bovine rhinotracheitis and classical swine fever. DIVA vaccines 'were among the 1st biotechnically engineered vaccines to reach the market and made the Institute a world leader in this respect'.

Equally original was the research that resulted in the development of a technique to synthesise multiple peptides in parallel on solid supports consisting of a set of pins in a holder, the pins fitting into the wells of a microtitre plate. This 'PEPSCAN' method is now applied in the Netherlands (by the privatised PEPSCAN company) and worldwide to produce the chemical 'building blocks for synthetic vaccines, diagnostic reagents and peptide pharmaceuticals'.

The quantitative veterinary epidemiology discipline is another example of research extending beyond the scope of infectious diseases as such. In this case a theoretical/mathematical approach was followed which included model studies, computer simulations and system analyses. Networking with the Wageningen University and the Faculty of Veterinary Medicine of Utrecht University resulted in excellent teamwork. 'Multi-factorial' diseases and strategies for the control of Aujeszky's disease and classical swine fever were some of the fields of study.

The titles of the individuals referred to in the text will cause confusion to English readers not accustomed to the Dutch system. This system is probably unique in the world and therefore cannot be 'translated' into the English system, as explained by the editor.

The book also contains valuable appendices listing the Directors of the various featuring institutions (1904–date) and members of the Board of the Foundation (1958–date); the theses emanating from the Institute (1904–2003); a selected bibliography of Part I and an index of the persons mentioned in the text. An unusual feature is the use of so-called boxes in the text that contain useful additional information to the subject matter.

The book is printed on the best quality glossy paper, the selection of illustrations is excellent – particularly if one considers that many of them were photographed many decades ago – and the layout is entirely satisfactory. This book can indeed be regarded as a not easily bettered benchmark for centenary publications.

**R D Bigalke**

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