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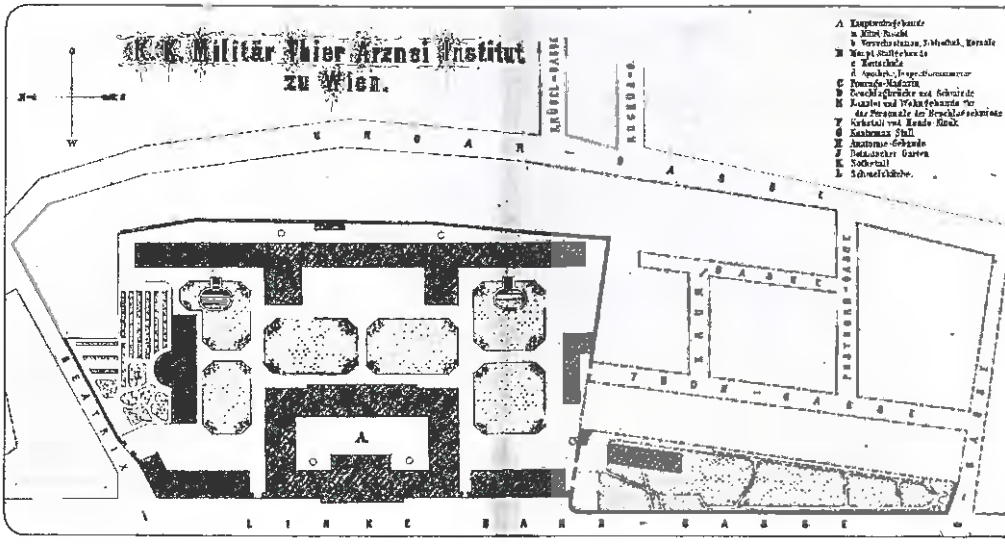

Proceedings of the 42nd WAHVM World Congress

Vienna, Austria
July 27th–30th 2016

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Foreword

42nd WAHVM World Congress
Vienna, Austria
July 27th-30th 2016

Dear Friends and Colleagues,

On behalf of all members of the organization team it is a great pleasure to me to welcome you at the 42nd World Congress of the World Association for the History of Veterinary Medicine from July 27th to July 30th in Vienna, Austria! After the 18th congress in 1982 and the 28th congress, 20 years ago, the conference now takes place in Vienna for the third and, hopefully, not the last time. Our venue is held together with the 31st Conference of the European Association of Veterinary Anatomists (EAVA) and we are expecting fruitful and inspiring communications of the two disciplines.

Two anniversaries mark the date of our congress. On the one hand, by means of a letter of intent, dated March 24th 1765, the Habsburg Empress Maria Theresia initiated the foundation of a school for healing livestock diseases, not less aiming at the eradication and control of contagious diseases than at the improvement of military horse-management. Under the direction of Ludovico Scotti teaching started in winter 1766. On the other, 20 years ago in summer 1996, the relocation of the University of Veterinary Medicine from its long-standing site near the center of Vienna to new premises across the river Danube had been just completed and the 28th congress of WAHVM was the first international conference to be housed at the new location.

These two occasions are creating perfect opportunities for a joint conference, facilitating not only the communication of new evidence in both respective fields of research, but admitting also interdisciplinary discourse of specialists from all over the world. A shared session with the EAVA, in which all participants will have the opportunity to hear and discuss the history of veterinary medicine, anatomy and also the history of the Vet School in Vienna underlines the specific character of this venue. Therefore, we feel a great desire to thank Prof. Dr. Abigail Woods (President WAHVM) and all the members of the WAHVM Executive Board for giving us the chance to organize this congress. We will do our best to justify this great privilege! Thanks of equal measure are entitled to the Executive Committee of EAVA, in particular to Prof. Dr. Francesco Abbate (President EAVA) for their willingness to promote our exciting joint venture.

We are happy to present to you the supplement to the journal Veterinary Medicine Austria you are holding in your hands. The volume contains 42 abstracts that were accepted by an international committee of eight peers. The submitted papers represent authors from 18 countries, covering a broad range of historiographic issues in addition to contributions on the main theme proposals.

We would like to thank the Scientific Committee as without their support the organization of a high quality scientific program would not have been possible.

On behalf of the Organizing Committee I wish you a pleasant stay in Vienna!

Sincerely,

Professor Dr. Gerhard FORSTENPOINTNER
Chair of the Organizing Committee WAHVM

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Programme

THURSDAY, 28.07.2016

09:00–09:15 **Opening address**

09:15–10:15 **Oral Session *1*, FREE TOPICS – Lecture Hall B**
Chair: Gerhard Forstenpointner

O45 - Gareth F. Bath, Marcelle Meredith and Frederick Tomlinson
A historical outline of the development of livestock animal welfare in South Africa

O46 - Ines Wolfram, Gerhard Forstenpointner, Frans J. M. Smulders and Peter Paulsen
Meat and livestock supply in Vienna in the late 19th century: Animal welfare, food security and food safety

10:15–10:45 **Coffee break**

10:45–12:00 **Oral Session *2*, HISTORY OF EARLY VETERINARY SCHOOLS – Lecture Hall B**
Chair: Christophe Degueurce

O47 - Kit Heintzman
A cabinet of the ordinary – Domesticating veterinary medicine, 1766 – 1796

O48 - Abigail Woods
From One Medicine to Two: A new perspective on the origins of veterinary medicine in England

12:00–13:30 **Shared lunch break, optional guided tours (Campus or Institute of Anatomy, Histology and Embryology)**

13:30–14:30 **Oral Session *3*, HISTORY OF EARLY VETERINARY SCHOOLS – Lecture Hall B**
Chair: Abigail Woods

O50 - Stephan Häsler, Sabine Betschart and Irene Jost
The first years of the Veterinary Medicine School in Berne/Switzerland

O51 - Andreas Pospischil
The role of pathology in the early days of the veterinary school in Zurich

14:30–14:45 **Coffee break**

14:45–15:30 **Oral Session *3*, HISTORY OF EARLY VETERINARY SCHOOLS – Lecture Hall B**
Chair: Abigail Woods

O52 - Michel Pepin
Why Dr. McEachran should be considered one of the founders of modern veterinary medicine and the One Health

O53 - Esther E. Carrigan and Nancy G. Burford
Uncovering the history of early public veterinary schools in the United States: Challenges and lessons learned at Texas A&M University

15:30-17:00 **SHARED PROGRAMME EAVA & WAHVM 2016 – Banquet Hall**

Christophe Degueurce
From Jean Héroard to Robert Barone, an overview on the history of veterinary anatomy in France

Jasmine Dum-Tragut
Meeting in the body of the horse: Knowledge transmission between Christian West and Muslim East

Gerhard Forstenpointner
On the orders of the empress! Considerations on the reasons for building a Vet school in Vienna

18:00-21:30 **Optional social programme (tour, dinner and concert at the "Old Campus")**

FRIDAY, 29.07.2016

09:00-10:00 **Oral Session *4*, FREE TOPICS – Lecture Hall B**
Chair: Gerhard Forstenpointner

O54 - A. S. Saber
Animal feeding in ancient Egypt

O55 - Özgül Küçükaslan, Nigar Yerlikaya and Ali Yigit
Contributions of foreign scientists to livestock management and veterinary medicine in Turkey (1923 - 1933)

O56 - Fred Sinowatz
Role of the Journal Impact Factor (IF) for the evaluation of veterinary research

10:00-10:15 **Coffee break**

10:15-12:00 **Oral Session *5*, FREE TOPICS – Lecture Hall B**
Chair: Johann Schäffer

O57 - Heather K. Moberly and Sidney A. Ewing
Mining a print treasure trove: Creating a new biographical index from hidden print data

O58 - Junya Yasuda
A roll on equine medicine based on Chinese traditions in Edo-period

O59 -Kathryn Schoefert
Coming into its own? Projects in Comparative Neuropathology and veterinary neurology c. 1960

O60 -Lisa Rettl, Claudia Kuretsidis-Haider and Johannes Laimighofer
The Veterinary School of Vienna during the "Third Reich"

12:00-12:30 **Group photos**

12:30-13:30 **Shared lunch break, optional guided tours (Campus or Institute of Anatomy, Histology and Embryology)**

13:30-14:45 **Oral Session *6*, HISTORY OF ANIMAL ANATOMY AND FREE TOPIC – Lecture Hall B**
Chair: Gerald Weissengruber

O61 - Karl Bruno
Practical training for modern practitioners: Nils Lagerlöf, India and early Swedish development aid at the Veterinary College

O63 - R. Tamay Basagac Gul
Richter ‚the Goatee' and his contribution to Turkish veterinary anatomy

O64 - Alicia Sánchez Ortiz, Elena Rodríguez González de Canales and Joaquín Sánchez de Lollano Prieto
Comparative study of the ceroplastic techniques in anatomical models of human and veterinary medicine in Spain (18th - 19th centuries)

14:45-15:00 **Coffee break**

15:00-16:00 **POSTER SESSION – Foyer in front of Banquet Hall**

P150 - Berfin Melikoglu Golcu
A study on veterinary anatomy books published in Ottoman Turkish

P151 - Francisco Gil Cano, Rafael Latorre Reviriego, Gregorio Ramírez Zarzosa, Octavio López Albors, María Dolores Ayala Florenciano and José María Vázquez Autón
Carlo Ruini's book in the Spanish Albeyteria's books (17th - 18th centuries)

P152 - Juan López Rodríguez, Pilar Martínez Sainz, Fernando Camarero Rioja and Joaquín Sánchez de Lollano Prieto
Anatomy teaching during the early years of the Royal School of Veterinary Medicine in Madrid (1793 - 1840)

P153 - Naudy Trujillo Mascia
Veterinary anatomical areas and museums at the Decanato de Ciencias Veterinarias (UCLA), Venezuela

P154 - Özgül Küçükaslan and Nigar Yerlikaya
Hans Richter's anatomy course guide manual: An investigation through the perspective of the awakening movement of the Turkish language

P155 - A. S. Saber and W. R. Hein
Australian feral camels: Past, present and future

P156 - Aleksander Chrószcz, Maciej Janeczek, Aleksandra Skalec, Karol Kirstein and Dominik Poradowski
Beef and pork in medieval Wroclaw and Opole

P157 - Francisco Gil Cano, Cristina Ruiz García-Vaso, Mariano Orenes Hernández, Gregorio Ramírez Zarzosa and José María Vázquez Autón
Did humans from the Chalcolithic period look after their dogs?

P158 - Gloria Fernández-Lázaro, Enrique Alonso-García, Juan López-Rodríguez, Pilar Martínez-Sainz, Rosario Martín-Orti, Pilar Marín-García, Salvador Ariza-Pastrana, Ana García-Moreno, Borja Reh Aguirre de Cárcer and Juncal González-Soriano
History of animal welfare education in veterinary schools

P159 - Hermann Gsandtner
Study on the acceptance of horsemeat as food in the course of history based on Thomas S. Kuhn's paradigm theory with a focus on the Vienna area

P160 - Juan López Rodríguez, Carlos Ballesteros Vicente, Ángeles Cantero Bonilla and Joaquín Sánchez de Lollano Prieto
Fleeing from the French: The Luis del Corral case and the death of the horse „Soberbio"

P161 - Maciej Janeczek, Aleksander Chrószcz, Radomir Henklewski, Karol Kirstein, Dominik Poradowski and Aleksandra Skalec
High ringbone with proximal interphalangeal joint ankylosis in an early medieval horse coming from Wrocław Stronghold

P162 - Tamara Sulzer, Gerald E. Weissengruber and Gerhard Forstenpointner
The development of veterinary administration in Lower Austria from 1861 to 1889 with special emphasis on disease control

P163 - Berfin Melikoglu Golcu
The Civil Veterinary School according to the yearbooks of the Ottoman State

P164 - Hannelore F. M. De Porte, Peter A. Koolmees and Peter E. J. Bols
Cavalry officers in Napoleon's 'grande armee': Self-educated hippiatrists or ignorant commanders?

P165 - Josef Schöchl, Andreas Zohmann and Ulrich Höllhuber
Jakob Lechner (1838 - 1922): An outstanding career from the „Bachschmiede"-workshop to a professorial chair at the Vienna School of Veterinary Medicine

P166 - Johann Schäffer
Founding history of the Veterinary School Hannover 1778

18:00-20:00: **Social Programme (Schönbrunn Palace, Zoo or Museums)**

SATURDAY, 30.07.2016

09:00-11:30 **Oral Session *7*, FREE TOPICS – Lecture Hall B**
Chair: Joaquín Sánchez de Lollano Prieto

O65 - Aytaç Ünsal
The book "The History of Veterinary Medicine" through the eyes of an anatomist

O66 - Myung-Sun Chun, Joon Kim and Yu-Jeong Sim
Eradication of virus or massacre? – Rabies control in Korea in the early 20th century

10:00-10:15 **Coffee break**

O67 - Savas Volkan Genç and Gizem Göltas
Food hygiene steps of the New Turkish Republic

O69 - Vojislav Cvjetkovic, Gerald E. Weissengruber and Gerhard Forstenpointner
Caponization in Austria and adjacent areas – a historical overview

11:30-12:00 **Preview WAHVM 43rd International Congress 2018**

12:00-13:30 **Shared lunch break**

13:30-14:30 **General Assembly WAHVM (Lecture Hall B)**

19:00-24:00 **Social Programme (Conference Dinner)**

Abstracts

Keynote 1

From Jean Héroard to Robert Barone, an overview of veterinary anatomy history in France

Christophe Degueurce

Musée Fragonard, Ecole nationale vétérinaire d'Alfort, Centre de Recherche en Histoire Européenne Comparée, Université Paris Est, Maisons-Alfort, France

In France, modern history of veterinary anatomy began in 1599 with the publication of Jean Heroard's *Hippostologie*. It was not until 1750 that it was renewed by Bourgelat in its *Elements d'hippiatrique*, a book that contributed to the creation of French veterinary schools. The arrival of the first students in these new institutions induced several publications signed by Bourgelat, mainly devoted to the anatomy of the horse, followed by the strong reaction of Lafosse with the publication of his *Cours d'hippiatrique* in 1772.

After the French Revolution, one of the first students of the Alfort School, Jean Girard, published in 1796 the first comparative anatomy of domestic animals. He initiated regional studies with the first treatise on the foot of pets in 1813 while his son published in 1824 a treatise on the diagnosis of the age of the animals. Jean Girard and his follower, Félix Rigot, were particularly involved in the definition of anatomical nomenclatures. But the most important French book in the XIXth century was initiated by Jean-Baptiste Chauveau in 1855 and republished till 1905; his *Traité d'Anatomie comparée des Animaux domestiques* was very well illustrated and a great educational tool for students of veterinary schools.

The twentieth century was marked by a clash between supporters of the tradition, the systemic anatomy, and the supporters of the regional anatomy, an innovative access initiated in Toulouse in 1913 by Lucien Montané and Edouard Bourdelle. Tensions between veterinary schools and their models of teaching were fueled by the successive appointments of teachers. In the middle of the twentieth century, Clement Bressou, director of the Alfort school, was the leading figure of the regional approach while Robert Barone was about to become the leader of the systemic approach. He published the most comprehensive French anatomical work.

Keynote 2

Meeting in the Body of the Horse: Knowledge transmission between Christian West and Muslim East

Jasmine Dum-Tragut

Dept. of Armenian Studies, Centre for the Studies of the Christian East, Paris-Lodron University, Salzburg, Austria

The story begins with an unstudied medieval manuscript in an Armenian library and branches out to encompass knowledge transmission between Christian West and Muslim East at the turn of the medieval into the early modern period, and the global history of veterinary science.

A long time lost Armenian Horse Book is a model of a medieval "copy" – not the simple reproduction of an earlier equine medical text, but a dynamic, extended, re-arranged and updated version in which local, contemporary Armenian knowledge is blended with "globalized" antique Byzantine and medieval Arabic-Persian sources. It was created in a period of intense cultural contact in a geographically limited region. The manuscript's physical form, its history and contents will be traced from the Armenian treatises of the 13th century to Sivas in the Ottoman Empire in 1504 and to Tbilisi in the Georgian Kingdom in the 18th century.

The Armenian horse treatises serve to dissect the contextual elements that went into their creation and subsequent reception: which sources did their authors draw on and how were the texts compiled? How accurately were their subsequent translations? At the meeting point of local and global, East and West, Muslim and Christian, medieval and early modern, the Armenian horse treatises represent a perfect model of exploring knowledge transmission in equine medicine.

Keynote 3

On the orders of the empress! Considerations on the reasons for building a Vet school in Vienna

Gerhard Forstenpointner

Institute of Anatomy, Histology and Embryology, University of Veterinary Medicine, Vienna, Austria

The intentions of the empress seemed to be clear – *"Ich habe beschlossen hier eine Lehr-Schule zu(r) Heilung der Vieh-Krankheiten errichten zu lassen,..."* means that the new educational institution aimed at the control and eradication of contagious animal diseases that threatened unceasingly a main branch of agricultural production, endangering a core element of the empire's economy, therefore. Not a single word of the letter of intent, dated March 24th 1765, mentions equine medicine.

Nevertheless, in December 1766 teaching started at the *"Kayserlich-königliche Pferde-Curen-und-Operationsschule"*, almost exclusively focused on horse medicine and directed by Ludovico Scotti, who also served as chief inspector of the imperial remount. Only eleven years later this school was replaced by the *"Kayserlich-königliches Thierspital und Vieharzneyschule"*

under the directorship of Johann Gottlieb Wolstein, now mainly aiming at research and education in the fields of animal disease control and therefore implementing the initial objectives, but definitely not ending the clash of interests between the improvement of military horse management and civilian livestock economy.

Another priority task, most likely also initially included, concerned the specific training of medical doctors who served as "*Kreis-*" or "*Contagions-physicus*", since the second half of the 18th century responsible for the professional expertise of the "Viehseuchenkommission" that had to manage any perilous outbreak of contagious animal diseases. In order to improve the educational level of these office bearers, professorial chairs for Epizootology have been installed at all medical faculties and lyceums of the empire, usually staffed by alumni of the Vienna School of Veterinary Medicine. Additionally, the foundation of affiliated schools in several capital cities of the Habsburg empire aimed at a substantial enlargement of the veterinary profession and, consequently, at an ongoing improvement of public health and sanitation.

O45

A historical outline of the development of livestock animal welfare in South Africa

Gareth F. Bath[1], Marcelle Meredith[2] and Frederick Tomlinson[3]

[1]Faculty of Veterinary Science, University of Pretoria, Onderstepoort, South Africa
[2]National Council of Societies for the Preventions of Cruelty to Animals, Alberton, South Africa
[3]Livestock Animal Welfare Association, South Africa

From the earliest times livestock owners must have been concerned about the welfare of their animals, but this was informal and little or no evidence remains. South Africa being a colony of first the Dutch and then the British for over 250 years meant that European attitudes and morals were followed in the colonies and white republics until at least 1910, while areas under black control followed their traditional belief systems and customs. We will list what is known of the formation and development of non-governmental organisations (NGOs) and the amalgamation of Societies for the Prevention of Cruelty to animals in 1955, subsequent NGOs formation and activities, the origins of the Livestock Welfare Coordinating Committee in 1978 and its activities, and the origins and developments that led to the passing of the Parliamentary laws in 1935 (The Performing Animals Protection Act of 1935) and in 1962 (The Animals Protection Act of 1962). Since much more is known of activities after the Second World War we will concentrate on the last 70 years, outlining all the events and developments that have led South Africa to be in a far better situation regarding animal welfare than before. These attempts include improvements in abattoirs, transport, shows and auctions, codes, guidelines, standards, monitoring, policing, prosecutions and changing public perceptions as well as those of people dealing with owning livestock. Current changes will be very briefly alluded to insofar as they will affect historical measures, laws, regulations and programmes on livestock animal welfare.

O46

Meat and livestock supply in Vienna in the late 19th century: Animal welfare, food security and food safety

Ines Wolfram[1], Gerhard Forstenpointner[2], Frans J. M. Smulders1 and Peter Paulsen[1]

[1]Institute of Meat Hygiene, Meat Technology and Food Science, University of Veterinary Medicine, Vienna, Austria
[2]Institute of Anatomy, Histology and Embryology, University of Veterinary Medicine, Vienna, Austria

Transportation of slaughter animals is often regarded a recent phenomenon, associated with industrialization or specialized production areas (e.g. mining areas). However, increasing demand for protein and high-caloric foods is more closely associated with the establishment and growth of cities. In addition to driving animals and transport on waterways, railway transport emerged in the second half of the 19th century. In 1890, the meat demand in Vienna and Graz, two major cities in Austria, was 108 and 83.2 kg/person and year, respectively. To fulfil this demand, livestock was imported to Austria-Hungary mainly from Russia and Romania; in addition, fatstock transited from Saxony, Prussia, South Germany, Italy and Switzerland. Until 1882 the majority of beef cattle on the Viennese market came directly from Russia, Romania, as well as from Galicia and Bukovina. 75% of the cattle fattened in Galicia and Bukovina and then imported to Austro – Hungarian markets were actually born in Russia or Romania. From 1882, Hungary became the most important production zone of cattle for the Viennese fatstock market. Swine were imported from Hungary, Galicia, Serbia and Romania, sheep from Hungary and only calves came from Austrian regions. Specific legislation on railway transport issued from 1875 onwards addressed stocking density, animal watering and feeding and disinfection of carriages. Contemporary textbooks on meat hygiene reported long durations of railway transports (trains with low priority), missing ventilation and a distinct "transport syndrome" of cattle. In contrast to current practice, lairage at slaughterhouses could last several days, actually providing not only a buffer in the meat chain, but also allowing recovery of animals exhausted from

transport. Whereas implications for food safety and food security can be modelled from historical data, impact on meat quality (namely PSE and DFD condition) and animal welfare is not easy to assess.

O47

A cabinet of the ordinary – Domesticating veterinary medicine, 1766–1796

Kit Heintzman

History of Science, Harvard University, Cambridge, USA

After examining more than 50 tourists guides, travelogues, and almanacs that mention Alfort's veterinary cabinet from 1766–1789, I find that the prevailing understanding of the collection was to subsume it under the pre-existing categories of either "anatomy museum" or "natural history museum". That is, "veterinary museum" was not yet a widely circulating concept. I use this as a starting point to understand how the medical and scientific gaze perceived natural history and comparative anatomy as crucial to veterinary research under the old regime. By shifting the historiographic conversation from Honoré Fragonard's *écorchés* to the contemporaneous descriptions of the collection's growth, I will explain how this cabinet, by expanding its holdings, also expanded its investigations into these other fields. Material culture, by showing what anatomists valued, specimen-to-specimen, has the potential to reveal the multiple epistemic frameworks that veterinary pedagogy deployed. I find that prior to the French Revolution the school valued multiple kinds of specimens (terrestrial, aquatic, and aerial) and ways of engaging them (*écorché*, taxidermy, pickling, moulage, wax, and skeletal). By allowing Fragonard's work to eclipse the rest of the collection, we have underestimated the number of epistemic regimes of this institution. Lastly, I explore how this extension of veterinary medicine into natural history and human anatomy came under attack during the French Revolution. I follow the bureaucratic correspondence about what kinds of specimens belonged in Alfort and which ones could be redistributed to *Le Muséum Nationale d'Histoire Naturelle and L'École de Santé*, and I find that the Revolution was a crucial moment in (re) disciplining veterinary medicine. These administrative interventions focused veterinary pedagogy in France on serving national projects by erecting boundaries around studies of domestic non-human animals, and leaving global order to the natural historians.

O48

From One Medicine to Two: A new perspective on the origins of veterinary medicine in England

Abigail Woods

Department of History, Kings College London, London, UK

This paper offers a novel perspective on the evolving identities and relationships of human medicine and veterinary medicine in England during the decades that followed the 1791 foundation of the London Veterinary College. Contrary to the claims of both medical and veterinary historians, it reveals that veterinary medicine, as initially defined, taught and studied at the College, was not a field apart from human medicine, but rather was continuous with it. This continuity will be traced in the staffing of the College, its pupils, the organization and content of veterinary education, and the identities of early veterinarians. It was not until the period 1815–1835 that veterinarians began to advance an alternative vision of their field as an autonomous domain, independent of medicine. They developed their own societies and journals, and a distinctive form of veterinary knowledge that was rooted in an understanding of comparative anatomy and pathology quite distinct from that employed by medical men. The paper will reveal how, through these strategies, 'one medicine' became 'two', and the professions began to assume their modern forms and relations.

O50

The first years of the Veterinary Medicine School in Berne/Switzerland

Stephan Häsler, Sabine Betschart and Irene Jost

Swiss Association for the History of Veterinary Medicine, Switzerland

The Veterinary Medicine School in Berne/Switzerland was founded in 1806 and incorporated into the Medical Faculty of the Academy. The medical doctor Ludwig Carl Friedrich Emmert, originally from Göttingen, was the only teacher at that stage. In the beginning the clinic was run by students, headed by two gifted students called assistant veterinarians ("Untertierärzte"). After his graduation the Untertierarzt Matthias Anker was given a grant and sent to various European veterinary colleges for training. In 1816 he was given a post as a teacher. In that way the predominantly theoretical lectures of Emmert could be complemented with practical aspects. Lecture notes from both Emmert and Anker still exist. Focusing on general and special pathology, these were transcribed and analysed. Emmert often quoted other veterinary practitioners. His main sources were Ploucquet, Pilger, Blaine, Laubender and Erxleben. However, many more medical doctors and veterinary practitioners from all over Europe were quoted or criticized by him. In all the lectures strong attention is directed to disease awareness and on the zoonotic potential of the diseases.

Although he seldom makes reference to the school of Humorism, which was popular in those times, the draining of the "humours" is often in the foreground of his treatment proposals. However, Emmert considered the keeping and nutrition of the animals as the main pillars of every treatment. Matthias Anker's lecture „General Pathology" was transcribed by a student in 1820. At the beginning, Anker deals with general topics like definitions of the profession, scientific work principles and terms like pathology and physiology. In the second part he lists the diseases and describes their characteristics. Anker's excellent knowledge of etiology, epidemiology and symptoms is surprising. As with Emmert the principle of the four humours arises throughout Anker's lectures.

O51

The role of pathology in the early days of the veterinary school in Zurich

***Andreas Pospischil*[1,2]**

[1]*Institute of Veterinary Pathology, University of Zurich, Zurich, Switzerland*
[2]*Collegium Helveticum ETHZ/UZH, Zurich, Switzerland*

The veterinary school in Zurich belongs to a cohort of 7 veterinary educational establishments founded between 1800 and 1850. In 1816, J. J. Römer, a medical doctor who in former years had acted as official animal plague supervisor for the "Sanitätscollegium" of the Canton of Zurich, started an initiative for the foundation of the school as he had realized the shortage of well-trained practicing veterinarians. Additionally, regularly appearing animal plagues like Rinderpest and Foot and Mouth Disease and the 1815/1816 famine caused by eruption of the Tambora volcano increased the problems of veterinary care in Zurich.

In January 1820 the Cantonal government issued a decree and the veterinary school started in February 1820. J. C. Michel, a veterinarian educated in Munich and his apprentice C. Wirth, a physician by training, started the first course in Michel's house with twelve students.

Relevant documents from local archives were retrieved and investigated. They show that veterinary pathology was not a separate subject but part of zootomy, general pathology and forensic pathology, the latter covering most of the pathology teaching. Clinical *post mortem* investigations were performed by students since the two teachers had to maintain the complete curriculum without assistants. Thus the veterinary training followed an interdisciplinary approach.

In his book "Gerichtliche Thierheilkunde" (1826) Michel proposes a detailed technical description how to perform a *post mortem* investigation and discusses liability questions for animal trade. Lectures in general pathology were based on the books of C. L. Schwab who taught at the veterinary school in Munich (1815, Materialien zu einer pathologischen Anatomie der Hausthiere, München; 1818, 1820, Entwurf einer allgemeinen Pathologie der Hausthiere, München).

Over the next decades several manuscripts including pathologic findings were published. Thus veterinary pathology at the Zurich school gradually evolved from pragmatic teaching and case reporting to a science of its own.

O52

Why Dr. McEachran should be considered one of the founders of modern veterinary medicine and the One Health

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Veterinary medical teaching in Quebec started in 1866 with the foundation of the Montreal Veterinary School by Duncan McEachran, a 24-year-old Scottish veterinarian. In 1889, it would become the Faculty of Comparative Medicine and Veterinary Science of McGill University, the first veterinary faculty in America and one of the most renowned in the world. In 2016, we celebrate this 150th anniversary and the memory of this great pioneer.

Throughout the world, we can establish that he is the founder of modern veterinary medicine and one of the first promoters, a century ahead of its time, of the concept: One World, One Health. Anxious to introduce experimental studies of animal diseases in North America at the Montreal Veterinary College, McEachran joined his forces with Dr. William Osler who would become an outstanding figure in medical science. They considered human medicine and veterinary medicine to be complementary and based on the same principles. McEachran's high-quality teaching generated the opening of many other veterinary schools in America including the current veterinary faculty of the University of Montreal, the only French in America.

Furthermore, McEachran was put in charge for the prevention program of foot-and-mouth disease and he became the first chief veterinary inspector for the government of Canada. He assigned the province's best veterinarians to the port of Levis city, organizing the probably first animal quarantine station in North America. Influenced by this type of preventive model, the United States would also set up such stations. Keenly interested in stockbreeding and attracted by its potential profits, McEachran helped found the two biggest ranches in western Canada at the end of the 19th century. This contribution will show the life of one of the most fascinating veterinarians.

O53

Uncovering the history of early public veterinary schools in the United States: Challenges and lessons learned at Texas A&M University

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The importance of documenting the history of an educational institution is widely accepted, but the path to reaching that goal is not always well-marked, sometimes full of detours, and often littered with assumptions. One of the most widely held assumptions is that libraries and archives, as recognized preservers of the historical record, contain all the materials needed to document the history of the institution.

This paper describes the challenges of attempting to document the history of an institution: to discover, to acquire, to organize, to make accessible, and to preserve materials that are primary and secondary sources of information on the development of veterinary schools. The focus is on early public veterinary schools in the United States, with the specific story of the Texas A&M University College of Veterinary Medicine as a case study.

The challenges for veterinary archives, documented through multiple international surveys, are presented. Although veterinary schools did not develop in the United States until the latter half of the 19th century, chronicling their history is still a significant challenge. The fact that much of the history of private veterinary schools, the first veterinary schools to appear in the United States, has been scattered or lost stands as a stark warning of the danger. The story of the Texas A&M College of Veterinary and Biomedical Sciences Centennial offers a clear picture not only of those challenges, but also of the opportunities for new partnerships in meeting these challenges. The lessons learned specifically at Texas A&M are translated into recommendations and action plans for librarians, archivists, veterinary faculty and historians to work together to meet these challenges and ensure that the historical record of our veterinary institutions is preserved.

O54

Animal feeding in ancient Egypt

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Nutrition science is concerned with the fundamentals of nourishing the body. Nutrient substances for this purpose are provided by food. Food is the material, which after ingestion by animals is suitable for being digested, absorbed and utilized.

The first records of man's effort to investigate the mysteries of nutrition date back to ancient times, and the search has continued ever since. In the first century BC Egyptians believed that excessive eating was the cause of many diseases. This belief was taken on trust for both man and his companion animals.

The ancient Egyptians drove their herds to pastures for grazing. They cultivated wheat, barley, linen and many other types of seeds for their own consumption, but these products were also used to feed their animals (seeds were found in the tombs of Meer from the 4th dynasty, Tut Ankh Amon from the 18th dynasty, Dar Al-Madina from the 18th–20th dynasty). Beans have been found in Sahura pyramids (15th dynasty). Clover and oats were also cultivated for the sake of animals (seeds were found in a Greek-Roman Isis Temple).

Forced feeding was also practiced to fatten animals like pigs and hyenas and also birds like cranes and geese. Sick animals received health care and were also fed by hand.

O55

Contributions of foreign scientists to livestock management and veterinary medicine in Turkey (1923 - 1933)

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It is an indisputable fact that experts who came to Turkey over the last two centuries have provided significant contributions to the fields of Veterinary Medicine and animal husbandry. To be mentioned is the Prussian Godlewsky, a veterinarian, who was involved in the foundation of the first Veterinary School in Turkey in 1842. While throughout the Ottoman period, the scientific aspect of modernization activities was mostly neglected, this task picked up pace by the foundation of the Turkish Republic following World War I. In particular, due to Mustafa Kemal Atatürk's aim to raise the nation to the level of contemporary civilizations, a large number of acknowledged experts were invited from numerous countries, yet mainly from Germany, and these experts provided remarkable contributions to the improvement of veterinary science and animal production. The German

experts held mainly administrative and lecturing positions at the Higher Institute of Agriculture, which was founded in 1933, while a large number of experts came from various European countries in order to evaluate the issues relating to the fields of Veterinary Medicine and animal husbandry in Turkey. These specialists performed visits at breeding stations and laboratories across the country, carrying out inspections and research and then submitted reports to the Ministry of Agriculture. The bibliographic search record proves numerous studies reporting on the German experts recruited at the Higher Institute of Agriculture. Nevertheless, no comprehensive study is available that collectively evaluates all of the foreign peers that had been invited to improve the standards of Veterinary Medicine and animal production in Turkey. This study aims to investigate the experts that arrived in Turkey in the early Republican period (1923–1933) and to evaluate their contributions.

O56

Role of the Journal Impact Factor (IF) for the evaluation of veterinary research

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The journal impact factor (IF) is a widely used metric for the frequency of citations in a certain scientific journal over the previous two years. A pubmed-research was done on the role of IF in veterinary science and the results of this study have been critically evaluated.

The IF is regarded to correspond with the prestige and importance of a journal but actually it does not correlate with the frequency of citations of an individual article in a specific journal. The IF also varies widely between the scientific disciplines and reflects first and foremost the size and citations practice of a certain research community. This comes on the expense of specialized journals representing small fields, like veterinary medicine.

Important societies, for instance the Association of the Scientific Medical Societies in Germany (AWMF), and the American Society of Cell Biology in the San Francisco Declaration on Research Assessment strongly discourage the frequently used practice to evaluate the research performance of individuals and institutions on the basis of the IF.

O57

Mining a print treasure trove: Creating a new biographical index from hidden print data

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Biographical information about parasitologists can be difficult to find. The Index-Catalogue of Medical and Veterinary Zoology, (ICMVZ), contains primarily references to the parasitological literature with some entries for biographical data. A new resource is being created by text mining a scanned copy of the ICMVZ for these biographical citations.

The ICMVZ is highly regarded and considered to be the quintessential resource for medical and veterinary parasitology literature. It is labour intensive to search because it is comprised of volumes of citations in a series of author volumes and topical supplements. The citations represent early written records to 1982 with no language or geographic limitations.

Pdf files of the author volumes of ICVMZ were searched for several pre-identified standardized abbreviations to locate the biographical citations. As citations were examined, additional terms describing the biographical data itself were discovered. With each new term discovered, previously-examined material was re-evaluated to ensure complete identification.

Notes of biographical importance include portrait, biography, necrology, necrology language notes, bibliography, memoir and autobiography, notes of birth and death, and letter with facsimile of signature, plates, and illustrations.

The hidden biographical data uncovered was grossly underestimated. Data about the parasitologist, and its citation in ICMVZ were delineated by field and entered into Microsoft Excel. This will be the source file to create a new online open access resource that will be searchable by either the parasitologist or the type of biographical information.

Biographical information about parasitologists cited in the ICMVZ was a hidden print resource. This project is a demonstration of subject expertise and library expertise partnering to transform an existing print subject resource into a new online resource with a different subject emphasis. When completed, this project will add to the body of biographical knowledge for human and veterinary medicine.

O58

A roll on equine medicine based on Chinese traditions in Edo-period

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Even though European veterinary science was introduced several times, Chinese traditions characterized

Japanese veterinary medicine before the age of modernization in the second half of the 19th century. "Sakuragari-no-maki," presumably written during Edo-period in the late 18th century to the middle of 19th century by masters of the Otsubo equine school, is a veterinary medical license roll given from the masters to their student. The text is focusing on horses and based on Chinese medicine. Significantly, organs are categorized by Yin-Yan and the five elements principles; wood, fire, earth, metal, and water, Qi plays important "physiological" roles for maintaining the life. It is strongly suspected that the text originally not refers to equine anatomy, but is influenced by Chinese human medical rolls/textbooks. Several indicators are evident such as: the gallbladder is depicted, the shapes of organs differ totally from equine morphology, similar to some human medical text books only one kidney is pictured, with its anatomical features resembling the human organ. In addition to horse anatomy and "physiology," it also describes harnesses, medical treatment, acupuncture and many others. Yet not all lessons were understood as "secret" or "oral tradition" is written on several units.

Due to the insufficient scientific background of Chinese veterinary medicine, western veterinary medicine rapidly spread out during the process of Japanese modernization and Chinese traditions almost disappeared. For better understanding of this transformation further comparison with other contemporary textbooks on equine medicine and also with Chinese human medical textbooks is highly required.

O59

Coming into its own? Projects in comparative neuropathology and veterinary neurology c. 1960

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Around 1959 William Hadlow, Carlton Gadjusek and others proposed a resemblance between scrapie in sheep and kuru, a neurological condition observed in the remote Papua New Guinea communities of the Fore. Half a century later, the case of kuru is familiar from scholarship on global medical exchanges and analyses of the making of disease categories, the case of scrapie from veterinary history. In this paper I draw attention to the wider, contemporaneous post-war groundswell in comparative neurology, neuroanatomy, and neuropathology projects that sought to link human and animal nervous systems and diseases.

Hadlow's 1959 Lancet article was thus preceded by Ernst Frauchiger and Robert Fankhauser's 1957 *Vergleichende Neuropathologie des Menschen und der Tiere*, and subsequently cited in James Robert Maitland Innes and Leon Saunder's 1962 *Comparative Neuropathology*. In this paper I analyse these and other sources to elucidate post-war comparative neurology's contingencies, constituencies, and concerns. The projects addressed practitioners in human and veterinary medicine, amassing research on domestic, experimental, and wild animals and commenting on human and animal specificities. They were characteristic of interlocking cultures of anatomy, pathology, neurology, and veterinary science; international post-war efforts to consolidate disease classifications; studies in zoonoses and veterinary public health; the emergent discipline of neurosciences; and worries about a paucity of experimental studies for key human brain disorders. Authors acknowledged constraints: few species had been scrutinised in neuroanatomical detail; treatment options for neurological conditions were limited for animal patients; and *intra vitam* examinations complicated and costly. Yet, Innes and Saunders argued that *Comparative Neuropathology* had come into its own. They positioned their work as a vital counter-balance to obsessive microbe-hunting. It had the potential to elucidate not only infectious diseases affecting the nervous system, but also to define and systematise other disease entities, for instance, by reconciling analogous neurological disorders in humans and animals.

O60

The Veterinary School of Vienna during the "Third Reich"

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Since November 2014 ongoing systematic research on the history of the Veterinary School of Vienna during the period from 1933 to 1955 is carried out by a team of three historians. Particular emphasis of this qualitative study – initiated by rector Sonja Hammerschmid and financed by the FWF – is laid on the Nazi period, a topic that has been neglected in Austria by scholars for decades. For the first time a broad spectrum of source material from Vienna and Berlin is now investigated systematically, whereas three major thematic complexes are focused on:

1. Institutional, scientific, historical and biographical issues in the context of personnel (dis-)continuities as well as the caesura years 1933, 1938 and 1945.
2. Military involvement of the university's personnel and wartime service in veterinary companies of German Wehrmacht or SS.
3. Postwar history in a legal and sociopolitical context with a special focus on denazification and judicial proceedings that involved faculty and staff members as well as students.

In our study we hypothesize that what took place at the University during the Nazi era was above all the result of a polycratic meshwork of governmental and social influences, and that academic policy making was formed by cooperation and, above all, conflicts among protagonists associated with government agencies, social institutions and the Nazi Party. Thus, the project covers a rather complex political and biographical field of interrelating institutions, academic and non-academic staff, legal frameworks and official policies. In our presentation we will focus on selected aspects of this history as well as on the outstanding source material that has been found in the Archive of University of Veterinary Medicine in Vienna.

O61

Practical training for modern practitioners: Nils Lagerlöf, India and early Swedish development aid at the Veterinary College

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This paper examines the origins, contents and some consequences of a course in animal reproduction for Indian and Thai veterinarians, given at the Veterinary College of Sweden in 1954/55. The course was part of new attempts by Western countries to provide techno-scientific knowledge to the so-called underdeveloped countries, and had been conceived of by the college's obstetrics-gynaecology professor Nils Lagerlöf during an expert assignment in India on behalf of the U.N. Studying it makes two contributions to veterinary history: first, it increases our understanding of veterinary expertise in early development aid, particularly of how veterinary development agendas played out and were renegotiated on the ground; second, it provides insights into the unresearched area of Swedish veterinary expertise in animal reproduction. More specifically, the paper addresses two questions: how and why did Lagerlöf frame his expertise in the 1950s development context? Which strategies did he advocate for the improvement of animal reproduction? The findings show how Lagerlöf mediated between aid doctrines and practice. He rejected the U.N. Food and Agriculture Organization's (FAO) narrow approach of transferring technologies for artificial insemination. Instead he created a broader capacity-building project that started from a systemic understanding of animal reproduction and built on practice-centred education along Swedish lines. Education was crucial, because to Lagerlöf, promoting modern animal breeding hinged on promoting the veterinarian as a modern professional, with the understanding, skills and attitude needed to serve an increasingly technologized animal reproduction. His training courses accordingly served both to provide a necessary set of skills and a new professional identity. But though he argued for local knowledge production and local capacity-building, Lagerlöf's approach was ultimately as one-way as FAO's: he had no interest in changing the Swedish model he wanted to export in response to what he encountered abroad.

O63

Richter ‚the Goatee' and his contribution to Turkish veterinary anatomy

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During the first years of the Turkish Republic, the most important cultural reforms were begun after Swiss Professor Malche's invitation to prepare a reform plan for the universities. These efforts of the government, based on Professor Malche's report, marked an important turning point in the Turkish higher educational system. The new situation provided also good chances for the 'academic' victims of Nazi Ideology in Germany. The Turkish Government invited a large group of Jewish academics as well as German academics opposing Nazi regime and employed them at the higher educational institutes. Apart from these two groups, there was another group that was invited to Turkey: *Third Reich Professors*. Between the years 1933–1937 a total of twelve German professors, who were invited by official channels, carried out their academic activities at the Veterinary School in Ankara. One of them was Hans Richter ‚*the Goatee*'.

Richter was a veterinary anatomist. As one of the members of the German Military Mission during World War I, he had stayed in Turkey before, was familiar with Turkish culture and spoke fluently Turkish. After his arrival in Turkey, he was appointed as the director of the Institute of Veterinary Anatomy at the Veterinary School in Ankara. He stayed in Turkey until 1942 and managed to establish a modern Anatomy Institute at this University. Four years after his return to Germany, he passed away because of a heart attack.

This presentation is aimed at providing an overview of the life and scientific activities of Professor Hans Richter, who maintained a place in the memories of his students and colleagues as Richter the Goatee.

O64

Comparative study of the ceroplastic techniques in anatomical models of human and veterinary medicine in Spain (18th - 19th centuries)

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Anatomical models are a very valuable tool in the study of the evolution of Anatomy. They provide data about the knowledge, the teaching and the current theories of each period. Wax models spread out from Italy to Medical and Veterinary Schools of other countries, forming the core of collections with high patrimonial and artistic value. In Spain, the "Real Colegio de Medicina de San Carlos" in Madrid, set up in 1788, and the "Real Escuela de Veterinaria de Madrid", established in 1793, each built up collections of wax models since their beginnings. The ceroplastic technique was transmitted from the Medical to the Veterinary school, but the latter evolved with its own characteristics.

This presentation intends to work out differences and similarities of the two mentioned collections in terms of type of exhibits, elaboration techniques, supports, materials, educational purpose and scientific and artistic value.

Results are derived from two competitive projects:

Ref.: HAR 2013-42460: *The veterinary ceroplastic: documentation, characterization of materials and methods of conservation and restoration at the Complutense collection.*

Ref.: HAR 2009-10679: The art of anatomical ceroplastic: characterization of materials and methods of action for the conservation of the collections of anatomical models in wax (Museum of Anatomy, Faculty of Medicine, Universidad Complutense de Madrid).

O65

The book "The History of Veterinary Medicine" through the eyes of an anatomist

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The scientific veterinary medicine sprouted in Turkey with the establishment of the Military Veterinary School (1842) and the Civil Veterinary School (1889) respectively. In 1909, the Director of the Civil Veterinary School selected four graduates to be sent to Europe for training. Amongst them Hilmi Dilgimen was trained in the field of veterinary anatomy. After their return to Turkey in 1911, these veterinarians, including Dilgimen, were appointed as members of the teaching staff of the School.

Following the establishment of the Higher Agricultural Institute (HAI) in Ankara in 1933, the course on history of veterinary medicine and deontology was given by the Institutes of Anatomy and Internal Medicine at the Veterinary Faculty of the HAI. This course was added to the veterinary curriculum as a compulsory subject in 1944 and Ord. Prof. Hilmi Dilgimen was assigned to act as lecturer. He was not only the first tutor of the course on history of veterinary medicine and deontology but also the author of the book "*The History of Veterinary Medicine*", officially ordered by the then President and published in 1947.

The History of Veterinary Medicine comprises two chapters with 20 subchapters on 127 pages. Following the introduction, the first chapter outlines *the history of veterinary medicine* in numerous ancient civilizations, while the second chapter deals with animal breeding, veterinary medicine, the appreciation of horses, veterinary manuscripts and bibliography section.

This presentation aims at providing information on the place value and importance of "*The History of Veterinary Medicine*" in Turkish veterinary medicine and at discussing its analytical assessment within historical context.

O66

Eradication of virus or massacre? – Rabies control in Korea in the early 20th century

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Although remedies for rabies, one of the well-known zoonoses since ancient times, were mentioned in medical texts of the 3rd century, rabies as an epizootic disease for the first time drew attention in the early 20th century in Korea. First surveillance statistics of rabies (1 case in swine, 1 in cattle and 17 in dogs) were announced in 1907. Official epizootic reports from 1911 to 1942 indicated about 16,000 rabies cases. Humans wounded by rabid dogs amounted to 27,200 from 1926 to 1942. Because rabies was already endemic it is not clear whether there was a sudden increase in outbreaks in Korea. Additionally, dogs that bit people and rabid dogs were supposed not to be differentiated in the statistic. In 1909 'Domestic dog control regulation' came into effect

and gave permission to capture and kill all dogs the owners of which were not registered. Unowned "wild dogs" were legally clubbed. From 1926 to 1942 over 275,000 dogs were slaughtered for the purpose of prevention. The number of killed dogs was even higher than that of slaughtered cattle infected with rinderpest virus during the same period. Likely, the organization of the rabies control project aimed at intensified control public in the context of sanitation policy. 'Uncontrolled mad dog' was a symbol of uncivilized people to be controlled. Prevention of a zoonosis by means of eliminating pathogen was considered as a process of modernization, treating a dog with risk of Rabies and the pathogen identically. The regulation and the danger of rabies were frequently addressed issues in media. However, the violent and fearful execution of the control procedure was criticized by public and those who were involved in the process were satirized.

O67

Food hygiene steps of the New Turkish Republic

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With its establishment, and after a long and devastating period, starting with the end of the Ottoman period and continuing with Balkan War, World War I and Turkish War of Liberation (1912 - 1922), the Republic of Turkey initialized a movement that headed for new developments in all areas, including Veterinary services. In this period, when veterinary services entered into a state of reconsideration, one of the first studies was about food control. Sevki Bey, who was a Veterinary School Lecturer of Pathology and Meat Inspection, published a book on "Meat Inspection Methods and Booklet about the Causes for Seizure" in 1926 in Istanbul. Prepared before November 1st, 1928, the work had been written in Arabic letters in Ottoman language. Consisting of two parts, the booklet includes a wide scope of animals from slaughtered birds, domestic rabbit, fish and other aquatic products and game animals to horse meat which is not consumed by people in Turkey. In the booklet the slaughtering of animals, live and *post mortem* examination, consumption conditions, stamping the meat and the handling of confiscated cuts of meat has been explained. The author discussed the fact of neglecting food hygiene for a long period, and he also stressed that despite of obvious knowledge, there was still a lack of legislative regulation. Although the work is short, the legislative assumptions have been considered in Switzerland, Belgium, Germany and France. The author wrote about the efforts and achievements of the pioneers in this field. He stated that he had prepared this booklet because of the importance for human health and the economy of meat inspection. In this study, the booklet will be examined in a retrospective historical analysis. The booklet will be compared with the curriculum and also the importance of a meat inspection course will be examined.

O69

Caponization in Austria and adjacent areas – a historical overview

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The purpose of this study was to establish a historical overview of caponization methods in Austria and surrounding areas (Europe) as well as to get an insight of the actual method of caponization in Slovenia, identical to the one practiced in Austria up to 2004 when it was forbidden by law. Historical references mentioning caponization techniques date back to antiquity (Ancient Greece & Rome), additional sources have been found in medieval texts (Holy Roman Empire) and, increasingly, in literature of the Modern Age (present-day Switzerland, France and Germany). Caponization history of today's Austria (geographical territory of former Western Austro-Hungary) was particularly studied in detail. Contemporary photographical as well as video material was gathered from the field during caponization in Slovenj Gradec. In agreement with previous studies we couldn't find any written proof that cocks were ever caponized in antiquity. Antique texts define caponization as the scorching of body parts (loins, extremities), never referring to valid surgical or chemical methods. The first European mentioning of surgical caponization (digital method) provides Conrad Gesner's book "*De avium natura*" from 1555 in its original Latin version. In Western Austro-Hungary, first texts on caponization appear at the end of the 18th century. Styrian capons were well known for their meat quality, even beyond Austrian borders. For centuries, in Styria the performance of caponizations remained strictly reserved to women. Nociceptive stimulation during observed caponizations (Slovenj Gradec) was followed by behavioural as well as physiological responses. Therefore, it is recommended to carry out the operation under general anaesthesia.

P150

A study on veterinary anatomy books published in Ottoman Turkish

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In the Ottoman State, scientific veterinary education was initiated with an aim to meet the needs of the army and is known to have started in 1842 in Istanbul with the tutorship of the Prussian Military Veterinarian Godlewsky. With the start of scientific veterinary education, firstly, the originals of western manuscripts were used by tutors for their lectures, but later these manuscripts were translated into Ottoman Turkish. Although the first translations date back to the 1860s, there were only very few translated manuscripts available until the last quarter of the nineteenth century. Following the revision of the veterinary curriculum by the teaching staff of the Military Veterinary School in 1873, and in line with the decision of the tutors to have the textbooks translated into Ottoman Turkish, a significant increase occurred in both translation and compilation efforts. The same sequence of events is known to have occurred for veterinary anatomy books, and it has been reported that during the first years of scientific veterinary education, Godlewksy used the pictorial anatomy book written by Gurlt in his anatomy lectures. According to archival research, the oldest book found, which was published in the Ottoman era and contains chapters related to veterinary anatomy, is dated 1871 and includes information on equine anatomy. It has been ascertained that, in the subsequent years, following the proclamation of the Turkish Republic, in order to eliminate the spelling and writing difficulties associated with the use of Ottoman Turkish, a multiple language written in the Arabic alphabet, several either compiled or translated veterinary anatomy books were published in Ottoman Turkish during the period until the Turkish language reform. This study is aimed at contributing to the history of veterinary medicine by providing information on veterinary anatomy books published in Turkey in Ottoman Turkish.

P151

Carlo Ruini's book in the Spanish Albeyteria's books (17th - 18th centuries)

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The aim of this study was to determine the impact of the book written by Carlo Ruini „Anatomia del cavallo. Infermita et suoi rimedii" (Bologna, 1598) on Spanish horse medicine. From the Middle Ages to 1847 the Veterinary profession in Spain was mainly practiced by Albeytares. They were specialized professionals in horse medicine, who wrote valuable books on Albeyteria, including contents of anatomy, medicine, surgery and art of shoeing. We have revised a total of twelve Albeyteria books written during the XVIIth and XVIIIth centuries to check for references to Carlo Ruini's book. Of all the revised books only one quotation of Carlo Ruini was found ("Llave de Albeyteria", written by Domingo Royo in the XVIIIth century), referring to the treatment of a disease referred as „haba". However, two more books with illustrations depicting various aspects of horse anatomy were found, which were written by Pedro García Conde (XVIIth century) and Fernando de Sande y Lago (XVIIIth century). It is our belief that those pictures had been copied from Carlo Ruini's book, although these Albeytares never cited Ruini among their consulted authors. In conclusion, although we proved that some Albeytares knew of Carlo Ruini's book, it did not gain wide dissemination in Spain. Spanish Albeytares, therefore, at that time could not incorporate the valuable stock of knowledge reported by Carlo Ruini in their books on Albeyteria.

P152

Anatomy teaching during the early years of the Royal School of Veterinary Medicine in Madrid (1793–1840)

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The School of Veterinary Medicine in Madrid, which was established in 1792, initially reproduces the

teaching methods of Alfort, including anatomic models and dissection methods. The very first appointed lecturers of this school started to build up the collections of skeletons, preserved specimens and models while they were adapting the teaching methods to the particularities of Madrid. In this communication we describe the succession of lecturers in the School and the evolution of the subject's name and its positioning in the Faculty's curriculum. Additionally, we describe the evolution of teaching materials as well as of training methods. The teaching staff consisted of one professor, assisted by some lecturers, and one anatomist responsible for the production of preserved specimens, samples and anatomic models. Three main periods of teaching anatomy are discernible:

First: From the opening in 1793 to 1800 with Mr. Segismundo Malats i Codina as School Director followed by Mr. Hipólito Pérez. During this period only the books of Bourgelat, adapted by Malats, were used.

Second: Since 1800 to 1827 with Mr. Antonio Bobadilla y Brieba as professor, Mr. Damián Oliver as lecturer and Mr. José Atayde Hornill as anatomist. This period was characterized by the hard work of Mr. Bobadilla in the development of teaching methods by incorporating modern innovations, which opened new perspectives.

A third period started with the incorporation of Mr. Guillermo Sanpedro as professor in 1827, assisted by Mr. Cristóbal Garrigó as anatomist.

P153

Veterinary anatomical areas and museums at the Decanato de Ciencias Veterinarias (UCLA), Venezuela

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Since its foundation in 1964 at Barquisimeto, Venezuela, the Decanato de Ciencias Veterinarias of Universidad Centroccidental Lisandro Alvarado (DCV-UCLA) comprised a division of Veterinary Anatomy in charge of teaching and research in the field of macroscopic anatomy. The main issue covers domestic animals. Nevertheless, in collaboration with Barquisimeto's Zoo sometimes also wild animals are dissected. At an early stage, an anatomical museum was installed in this department in order to improve teaching as well as for the conservation of rare pieces.

The collection includes specimens of osteology, myology and neurology obtained by dissections performed through the years by veterinary students; organs preserved by insufflation techniques; specimens conserved by taxidermy; anatomical teaching models made in plastic, wood and paper charts.

As since the early 1980s the Department of Pathologic Anatomy detected the same need for conservation of interesting pieces with didactic value, a museum of veterinary pathologic anatomy was created. Its collection nowadays mainly comprises small transparent glass and acrylic specimen containers with preservative fluids, showing healthy organs, organs with pathologic conditions and even whole foetal or newborn bodies with teratogenic anomalies from various animal species, including humans.

Both museums are permanently open to veterinary students and researchers but also to the general public including students of human medicine, biology and even to pupils of elementary and secondary schools. In general terms, along almost four decades, the work and activities of these museums have contributed to improve the training of veterinary students and to promote the development of comparative anatomy in the region and the country; furthermore they occupy the social role to increase the public interest in knowledge and appreciation of animals, history of veterinary medicine, livestock and pets culture.

P154

Hans Richter's anatomy course guide manual: An investigation through the perspective of the awakening movement of the Turkish language

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The awakening movement of the Turkish Language, which was launched with the enactment of the Alphabet Reform in accordance with the aim of establishing a modern state-nation following the foundation of the Turkish Republic, gained progress by undertaking the activities proposed by the Turkish Language Society, which was founded in 1932, and performed terminological activities to raise the Turkish Language to the levels of other modern languages in the world. The research on scientific terminologies carried out by the Turkish Language Society Division of Terminology was published in the journal of Turkish Language Society, known as the *«Turkish Language»*, in 1936 and these studies introduced the Turkish equivalents of a large number of Ottoman terms borrowed from Arabic in the section relating to Veterinary Medicine. The published outcome functioned as a useful guide whose content was made available for the experts and by which the Turkish terms came into use in the textbooks. An anatomy course guide manual called *«İçörgenler İlmi»*, published in 1937 by the Higher Institute of Agriculture is a remarkable

book that represents the characteristics of the studies conducted in the field of Veterinary Medicine in the Republican period. The School of Veterinary Medicine at the Higher Institute of Agriculture, which was founded in 1933 in Ankara, undertook effective activities for the designation of Turkish scientific terms. The anatomy courses were lectured by the German Prof. Dr. med. vet. Hans Richter until 1942. His anatomy course guide manual was translated by Dr. Mahmut Semsi Kural, who was an academician at the Institute of Anatomy at the Higher Institute of Agriculture. The current study was aimed to bring this academic course guide manual to light for the relevant realms of science through the perspective of the awakening movement of the Turkish Language.

P155

Australian feral camels: Past, present and future

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Australia remains the only country with a large population of feral camels. The first suggestion of bringing camels to Australia was in 1822. The first introduction of camels occurred in October 1840 when a shipment from the Canary Islands landed in Port Adelaide. The second importation of camels (two camels, received in Hubert) was in December 1840. The third importation (24 camels and three Cameleers) landed in Melbourne in June 1860. The fourth importation (124 camels) unloaded in Port Augusta, in January 1866. The first camel studs were established in 1866, by Sir Thomas Elder at Beltana Station in South Australia.

The cameleers together with their camels opened up the Australian outback, helped with the construction of the Overland Telegraph Line and Railways, erected fences, acted as guides for several major expeditions and as suppliers of inland stations. Moreover, cameleers were the first to introduce Islam and the Islamic method of slaughter into Australia. These ‚pilots of the desert' made a vital contribution to the development of Australia's arid regions. With the introduction of motorized transport in the 1920s and 1930s, the days of „working camels" were numbered and many virtually worthless camels were released into the wild. The feral camel population eventually reached a level (about one million now) which caused many problems to the Australian aboriginal settlements and farms, vegetation, water holes, creeks and salt lake ecosystems to an extent that persuaded Australian authorities to control their number by deliberate culling.

More recently there has been considerable interest in developing a camel industry in Australia. Authorities in Western Australia are now supporting many projects to develop camel industries such as building abattoirs and marketing camel meat and fat in Australia and overseas while continuing to support the use of camels in tourism and discovery in the Australian outback.

P156

Beef and pork in medieval Wroclaw and Opole

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The percentage intake of domestic mammals in Silesian archeozoological materials, estimated by NISP, is well documented. The qualitative and quantitative analysis of postconsumptive animal skeletal remains can be a source of information on slaughter, butchery and diet habits in the past. The preurban and urban inhabitation centres of medieval Wroclaw (Breslau) and Opole (Oppeln) show significant changes and differences in NISP from early to late Middle Ages. The aim of this study was to compare archaeozoological findings from both towns, considering historical periods and local characters. The results achieved in Opole, on Ostrówek Island, clearly show the rapid decrease of porcine remains with simultaneous increase of bovine finds in the period between XIth and XIIIth century. This might be interpreted consequential to the introduction of the Magdeburg Law and the foundation of the new castle in Opole. The analysis of results from the same early Medieval period in Wroclaw proved some differences between the two ducal capital cities. The Wroclaw settlement complex was not uniform, but consisted of founded medieval town centers (Old Town, New Town, New Market Square complex), subject to the twice or even three times introduced Magdeburg Law, and prefoundational, preurban areas (Ołbin and Ostrów Tumski) which simultaneously used Ducal Polish Law. Analytically comparing accessible materials, we proved that the New Market Square complex can be characterized as the intermediate area between medieval City and preurban settlement areas, comparable to a bridge between surrounding inhabitance centers. The general comparison of results proved that the replacement of pork by beef in medieval Wroclaw passed prolonged and less significant than in Opole. This phenomenon might be interpreted as an influence of the multiple urban transformations of Wroclaw in contrast to the simple and constant juridical and social status of Opole.

P157

Did humans from the Chalcolithic period look after their dogs?

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The Chalcolithic collective burial „Camino del Molino" (Caravaca de la Cruz, Murcia), dated to the second half of the III millennium BC (2350 - 1830 BC), has an extraordinary value because the same archaeological context yielded a great number of human skeletons (about 1300), chaotically mixed with parts of canine skeletons (≈50 dogs). Recently, one almost complete dog skeleton has been reassembled. It represents the typical medium-sized morphotype of dogs that lived together with humans during the Chalcolithic period, 4,000 years ago, which was possibly used as an assistant for hunting and herding. Interestingly, the analysed specimen exhibited a complex diaphyseal fracture in its right tibia and fibula, which, by means of a CT scan, showed a large bone callus between the fractured ends of the diaphysis. In our opinion, pre-historical cultural attitudes towards animals might be illuminated by studying pathological alterations in zooarchaeological material. In this particular case, the traumatic injury aroused interest in terms of human attitudes towards Chalcolithic domestic dogs, and the care that they may have received. Although we cannot interpret the precise care and attention paid to this dog by their owners from Chalcolithic "Camino del Molino", the healing fracture might witness the existence of potential human attention, and perhaps also personal or emotional links between humans and their dogs in this prehistoric period. The skeleton of this dog is currently exhibited in the Museum of Veterinary Anatomy of the University of Murcia (Spain).

P158

History of animal welfare education in veterinary schools

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Since the publication of the book Animal Machines in 1964 and the development of the Bramell report one year later, concerns about animal welfare are having a great impact from a political, ethical and scientific viewpoint in our society. Many guidelines, protocols, laws and education programs are being implemented around the world to improve our handling of animals. Veterinarians have been considered as a profession in which training of animal welfare is crucial not only to assure the well-being of animals but to inspect, certificate and make sure that standards are continually improved (FVE, AVMA, OIE, etc.). However, the implementation of animal welfare as a subject of veterinary education has been discussed for over 20 years and it has not been uniformly incorporated into the educational programs.

Numerous veterinary schools in Europe, North America, South America and Australasia incorporated animal welfare into their programs. Australia and New Zealand are leaders in the field. In 2012 the AWARE project, by mapping the status of research and education in farm animal welfare in Europe, stated that more than the average percentage of teaching was found in North West Europe, Nordic and Mediterranean countries. However, it confirms that it is also a rather new discipline for most veterinary schools although considered one of the most important.

In our study we review the situation of animal welfare education in the veterinary schools, analyzing differences between countries and describing the main obstacles to strengthening animal welfare teaching, as for example, lack of space in the curriculum, difficulties in organizing practical sessions, financial difficulties, lack of qualified teachers, and a low priority for animal welfare within that faculty.

P 159

Study on the acceptance of horsemeat as food in the course of history based on Thomas S. Kuhn's paradigm theory with a focus on the Vienna area

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The acceptance of horsemeat as a valid resource of food-protein will be discussed referring to Thomas S. Kuhn's theory on paradigms with special emphasis on the history of meat production in Vienna.

Paradigm 1: Pre-Christian and preurban traditions.

Evidence proves that Celtic and Germanic societies consumed horsemeat, often in connection with animal sacrifice. Assumedly horsemeat also was used as food in areas inhabited by Slavic ethnicities.

Paradigm 2: The ban of horsemeat consumption.

In the process of Christianisation the consumption of horsemeat was taken for holding on to paganism and the tradition was banned by Pope Gregor II (715–731) by means of a Papal Bull. As a result, prejudice and distaste for horsemeat increased over the centuries, even more when knackers illegally sold the meat of perished horses for consumption.

Paradigm 3: The promotion of horsemeat based on animal welfare arguments.

From around the mid-19th century animal welfare campaigned for regular slaughter and consumption of horsemeat to ensure a more gentle treatment of horses, and, as selling horsemeat could yield a certain profit. Persistent interventions found expression in a letter from 1850, written by the Governor of Lower Austria and addressed to Vienna's Municipal Authority asking to permit the regular slaughter of horses.

Paradigm 4: The paradigm of the butchers – horsemeat versus beef.

The slaughtering of horses had to face the opposition of those butchers who had the exclusive right to slaughter cattle. They denounced horsemeat as low quality food. Nonetheless the first regulation on the slaughtering of horses was issued in 1850; in 1854 the first horse abattoir opened in Vienna.

Paradigm 5: The modern paradigm – the horse as a partner.

Despite growing acceptance of horsemeat there is a tendency towards considering horses as partners and not as animals for slaughter. There has been no slaughtering of horses in Vienna since 2014.

P160

Fleeing from the French: The Luis del Corral case and the death of the horse „Soberbio"

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During the Spanish War of Independence (1808–1814, Napoleonic Wars), the supply of food and horses to the armies, which were fighting on the Iberian Peninsula, was a serious problem. Just on the French side, there was an average of 200,000 soldiers (25,000 of which were cavalry). Given the scarcity of resources, a fierce struggle for the supplies was triggered by the difficulty of covering the needs of all combatants.

This paper shows a peculiar case of concealing some horses owned by the Duke of Infantado. A small herd composed of five foals and five stallions, commanded by Luis del Corral, was driven from Pozoblanco (Cordoba, Spain) to Alberique (Valencia, Spain) in order to avoid being captured by the French army. The documents consulted in the Nobility Section of the National Historical Archive allow to illustrate the conditions of the transfer as well as suffered events. At the end of this expedition, Luis del Corral reported that a stallion called *Soberbio* became ill, which was diagnosed by an *albeitar* (a veterinarian, named Nadal Puig) as a urine retention. Eventually *Soberbio* died and del Corral blamed the *albeitar* on its death. Arguing by reference, the veterinarian submitted a report which described and explained the diagnosis and the applied treatment.

Based on contemporary veterinary manuals (De Rus 1792, Aphorisms of medicine and veterinary surgery), the symptoms described by Luis del Corral and the report of the veterinarian, we tried to investigate whether the diagnosis and the prescribed treatment were suitable. We can conclude that there was no negligence in the *albeitar's* performance.

P161

High ringbone with proximal interphalangeal joint ankylosis in an early medieval horse coming from Wrocław Stronghold

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The investigated material comes from archaeological excavations near St. Idzi Church on Wrocław Ostrów Tumski Stronghold. The material was dated to XIth century. Equine remains represented a marginal number in the excavated bone collection (NISP 0,9%). We present the compedal and coronal bone of one individual with advanced pathological changes concerning mainly the proximal interphalangeal joint.The osseous finds were assessed macroscopically and subsequent radiological

examination and computed tomography were performed. Extensive new bone formation distodorsally on the compedal bone and proximodorsally on the coronal bone was observed. It took a squamous shape, covering the dorsal aspect of the proximal interphalangeal joint. Structures that were influenced by those pathologic changes are the common digital extensor tendon, extensor branches of the third interosseus muscle and the dorsal recess of proximal interphalangeal joint. Enthesophyte formations in the area of insertion of oblique sesamoidean ligaments, collateral ligaments of proximal interphalangeal joint and sesamoidean collateral ligaments were clearly visible. Radiology and computed tomography allowed detailed assessment of pathological changes, excluding the potential diagnosis of osteomyelitis. Partial ankylosis was revealed by CT in the dorsal aspect of the analyzed joint but the rest of the joint space was preserved. This led to joint collapse probably resulting in angular deformity. Observed changes suggest advanced osteoarthritis of the proximal interphalangeal joint, also known as high ringbone syndrome in horses (arthritis et periarthritis ossificans articulationis interphalangea proximalis chronica) (cf. Baxter 2011, Adams and Stashak's lameness in horses; Bartosiewicz 2013, Shuffling nags, lame ducks: The archaeology of animal diseases). The process had turned already chronic at the time of death, presumably following a long and painful course which is considered to be regular in ankylosis of the proximal interphalangeal joint (Ross et al. 2011, Diagnosis and management of lameness in the horse).

P162

The development of veterinary administration in Lower Austria from 1861 to 1889 with special emphasis on disease control

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Despite numerous historical investigations on the administrative organisation of political structures during the last century of the Habsburg empire, at present no comprehensive studies on the competences and duties of the veterinary administration on state level are available.

The chronological extent of our study coincides with the first phase of political function of the Lower Austrian Landtag from its installation by enactment of the newly resolved imperial constitution in 1861 until a substantial modification and diminution of the Landtag's political sphere of action in 1889. Hypothetically, we presumed that agenda of the veterinary administration, in particular concerning issues of disease control, shifted from a general governmental decision level to the responsibility of the state government.

First results clearly indicate that since 1867 official veterinarians, assigned as "Bezirkstierarzt" have been allocated to administrative districts, bearing responsibility for a broad range of duties. A priority task was the improvement of breeding quality, associated with specific education of the farmers. Similar importance had been attached to the proper organisation of meat inspection, due to the implementation of official abattoirs.

However, central competences of disease control remained within the decisional power of the general government, discernible also by regulations of the law on cattle plague of 1868 and the imperial law on sanitation of 1870. At the present state of research the operative role of the "Bezirkstierarzt" in agenda of disease control is not clearly recognizable, therefore causing needs and opportunity for further investigations.

P163

The Civil Veterinary School according to the yearbooks of the Ottoman State

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Salnames, which are yearbooks that were published in the Ottoman State starting from the nineteenth century, are one of the major primary sources containing significant information on the structure, administration and institutions of the Ottoman State. The State Salnames, which are among the official yearbooks of the Ottoman State, were published uninterruptedly from 1847 to 1912, but were ceased to be published during the politically and economically critical period between 1913 and 1916 and were last published in 1918. The State Salnames contain information on veterinary schools, apart from other state institutions, as well as further complementary data on veterinary education, including the curricula and administrative and teaching staff of these schools.

In the Ottoman State, scientific veterinary education is known to have started in 1842 under the tutorship of the Prussian Military Veterinarian Godlewsky. As the number of graduates of the Veterinary School, subordinated to the Military School, proved to be inadequate in controlling the spread of diseases among animals raised by the common people, and with an aim to increase the number of veterinarians throughout the Ottoman territory, firstly, a civil veterinary class was set up, followed by the founding of a separate Civil

Veterinary School in 1889. After the building of the Civil Veterinary School burned down in 1920, it was merged with the Military Veterinary School in 1921 to operate under the name "Higher School of Veterinary Medicine".

This study was aimed at contributing to the history of veterinary medicine by compiling the original information available in the Ottoman State Salnames on the Civil Veterinary School, which was in service during the period between 1889 and 1921.

P164

Cavalry officers in Napoleon's 'grande armee': Self-educated hippiatrists or ignorant commanders?

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In depth research, primarily based on first hand literature sources, revealed that the veterinary care in Napoleon's 'Grande Armée' was controlled (and sometimes even provided) by self-educated cavalry officers, some of them completely ignorant to the needs of the horses under their command. In addition, the role of professionally trained military veterinary surgeons seemed extremely limited not only due to the lack of efficient therapies and pharmaceuticals but also because of their subordinate position within the military hierarchy. Military vets were only to obey the orders of their commanding staff and therefore dependent on their goodwill for the treatment of sick and wounded patients. Some commanders communicated their ideas on veterinary care by publications revealing huge differences in competence and appreciation.

As a case study, two key publications of two eminent cavalry officers are described and compared. Both were respected military trained commanders who served in Napoleon's 'Grande Armée' and never had any formal veterinary training. The first one is general Antoine Fortuné de Brack, author of *'Avant Postes de la Cavalerie Légère'* (1831), a classic in French cavalry literature. The second is the Dutch General-Major Cornelius André Geisweit van der Netten, author of an 800 pages reference book *'Handboek der Paardenkennis'* (1817). While the first one turns out to be an old-school army general still advising 'bloodletting' for nearly every equine disease in his widely distributed manual, the second summarizes in a very comprehensible way all available knowledge on horse diseases and therapies available at that time.

This comparison illustrates that the fate of a wounded or sick horse was not only dependent on the availability of a professional care provider and efficient drugs but, more importantly, on the goodwill and competences of the military commander in charge who too often considered his horses as senseless transportation machines.

P165

Jakob Lechner (1838 - 1922): An outstanding career from the „Bachschmiede"-workshop to a professorial chair at the Vienna School of Veterinary Medicine

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A blacksmith's son from the small village of Wals near Salzburg, passing through a remarkably successful military, medical and social career provides the subject matter for a truly very unusual life story. The obviously extremely intelligent and eager boy visited the State High School in Salzburg. During his studies in veterinary medicine he was fighting as a soldier in two major battles (Magenta and Custozza) and graduated. Alongside being a military veterinarian he acquired the Doctor of Medicine with honours and became professor at the „Militär-Thierarznei-Institut" (military veterinary institute) in Vienna. He was highly distinguished and decorated with numerous honours and medals and recently awarded with the title of an imperial and royal „Hofrat" (Councillor). In the position of the very first provincial veterinarian in Salzburg (which by now may be compared with a state veterinary director) he promoted the desolate state of cattle and horse breeding in the Austro-Hungarian Empire. Furthermore, he developed the patented Lechner's horseshoe, which from 1901 on represented the obligatory horseshoeing of the Austro-Hungarian army. In spite of his social advancement he always remained closely connected to his place of origin. He never lost contact with his family, remained a humble personality and returned to Salzburg after his retirement at the age of seventy. His achievements in the field of veterinary medicine, his close relationship with the home community and in particular the generous support he provided the Parish Church Wals with, in 2012–2014 had been the subject of a special exhibition from 2012 until 2014. This exhibition took place in his birthplace and childhood home, the „Bachschmiede", which is by now an important cultural centre.

P166

Founding history of the Veterinary School Hannover 1778

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The poster documents the planning and founding history of the Veterinary School Hannover which was opened in summer 1778 and raised to the status of a university in 1887, which has kept its independence until today.

A letter from George III, King of England and Elector of Hannover, signed in St. James on July 7th 1778, was the decisive step after 13 years' groundwork to founding an École vétérinaire based on the French model - and the project nearly failed at the last minute. Landgrave Friedrich of Hessen-Kassel did not want his blacksmith and court horse physician Johann Adam Kersting, who had been called to Hannover on November 1st 1777, to go. The lengthy and controversially conducted location issue (Göttingen, Hannover or Celle) had meanwhile reached a decision. Kersting was 50 years old and was a reputed hippiater beyond the country's borders. He was offered an annual salary of 300 thalers, free lodging and 70 thalers per annum for every pupil. After his letter of resignation had bee turned down in Kassel, Kersting's sole option was to escape the sovereign's punishment by fleeing to Hannover. There he handed over his suggestions concerning the *"setting up of a general school of veterinary medicine"* to the royal stables department on January 18th 1778. An official extradition request from Kassel was turned down by the Hannoverian Chamber. The letter of July 7th 1778, initially quoted, ordered Kersting's appointment and confirmed the employment of August Conrad Havemann, the stud assistant from Celle, as an assistant. An official order from the cabinet from July 18th 1778 finally sealed the existence of the school. According to Friedrich Günther it is a fact that the school *"enjoyed a very good reputation"* under Kersting. Kersting died on March 2nd 1784 from the consequences of a hoof kick.

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