

Past and current identity of the Zoology Museum of Ghent University

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Abstract

This paper investigates the history and aim of the Ghent University Zoology Museum on a whole, and looks at the achievements of its more interesting directors and curators in specific. In 1817 Ghent University purchased a natural history collection in order to illustrate the lectures. Anatomy and zoology were taught in sciences and medicine by people of importance to the university, and the Flemish community. The paper stresses on the specific views of the directors, e.g. Professor F. Plateau was convinced that anatomy was best studied by dissecting animals yourself. Very important to the University, Flemish community and the city of Ghent, McLeod introduced Dutch as the teaching language. This didactic collection struggled between the Great War and World War II, but from the late 1990s evolved into a museum on demand, introducing science communication within and outside the university, and eventually growing into a workshop centre promoting the scientific method and critical reasoning.

Introduction

Taking care of any kind of collection requires a special kind of passionate people. In 2017 the Ghent University and the Zoology Museum will celebrate their bicentennial anniversary. So in almost 200 years we had quite a few colorful people caring for the collections. Colorful and important not only for the Zoology Museum, but also for education at Ghent University, and even for the Flemish community. This article gives tribute to those people.

From the early years on: A pure didactical collection

Ghent University was founded in 1817. At the first annual meeting of the founding professors, the professor of zoology reported the acquisition of a natural history collection. This was done because of a Dutch law of 1816 (the 'Zuidelijke Nederlanden' that became 'België' on October 4th of 1830) stated that every academic institution should start collections in order to be able to illustrate the 'ex cathedra' classes. Collections of anatomy and zoology were established. Article 129 of the *Règlement sur l'organisation de l'enseignement supérieur dans les provinces méridionales du royaume des Pays-Bas* of September 25 of 1816 states: "Pour l'enseignement de l'histoire naturelle et spécialement de la zoologie, il y aura dans chaque université un cabinet pour l'histoire naturelle des animaux et pour leur anatomie comparée".

Up to the 1870s such collections were the focal point for class instruction. Research laboratories only started to appear from the 1870s onwards. 'Biology' as such didn't yet exist. Among others, anatomy and zoology were given as subjects of study for obtaining a PhD in sciences, or to pursue a degree in medicine. That was still the case at the turn of the 19th to 20th century.

The first professor responsible for zoology, comparative anatomy, as well as botany, was F. P. Cassel (1784–1821). Cassel bought part of the collection of C. J. Temminck. Though we cannot prove this, it is likely that our Tasmanian Tiger (*Thylacinus cynocephalus*) came with that purchase. Although the collections started in 1817, at that time no entry logs were kept. These were only started in 1853. Our Thylacine is mentioned in a systematic log dating from 1906, but is not mentioned in the entry logs between 1853 and 1906, implying that it was acquired before 1853.¹

¹ Anonym, unpublished hand written entry catalogues of the Zoology Museum, 1853–present.

Cassel's successor was F. J. Cantraine. Professor Cantraine purchased part of the famous fish collection of Risso in 1844 (HASPELAGH 1992). Unfortunately this collection, as well as other specimens, vanished during the German occupation.

After this period comparative anatomy and zoology was taught by two different professors. Charles Poelman held the chair of comparative anatomy, while Richard Boddaert was responsible for zoology. Professor Charles A. C. Poelman (1815–1874) contributed mainly by dissecting and preserving many anatomical specimens himself. When he arrived, the comparative anatomy collection was quite small, and mainly consisted of skeletons. Poelman knocked on every door, and contacted anyone who could provide him with cadavers. He built up a collection with many organ- and muscle-specimens, aside from the skeletons, the collection may currently be the largest in Belgium. He would be a great example for his successor Félix Plateau. From 1853 onwards many dead animals arrived from the newly established Ghent zoo. The collection grew so much that in 1868 he published a catalogue of comparative anatomy (POELMAN 1868); the only printed/published catalogue the collection has. In this catalogue we find an interesting feature: on page eight he mentioned a collection of 270 human skulls of “decapitated men and criminals who died at the Ghent prison”. He furthermore commented that these skulls bear special features: they had pronounced eye brow ridges and heavy, protruding jaws. In fact, this early phrenology leads him to describe murderers as being Neanderthals.

Before speaking of Félix Plateau we need to address his father Joseph Plateau. Joseph Antoine Ferdinand Plateau was born in Brussels on October 14, 1801. He graduated as a candidate in physics and mathematics in 1824. For his PhD study he worked on the (after) effects and impression made by light on the retina of the eye. He became a professor at Ghent University in 1835, after being introduced by his mentor, Lambert Adolphe Jacques Quetelet. He was such a tenacious experimenter that at one time he looked directly into the sun for 25 seconds, which supposedly was the reason why he became blind in 1844. Through his studies of the light impressions on the retina, he stumbled on the aftereffect these impressions have on the eye (e.g. why do we see raindrops falling as lines and not as separate droplets?). He worked out optical illusions and proved that with light impressions on the retina the illusion of smooth movement can be obtained: we observe a moving image instead of a series of still pictures. To demonstrate this, he designed his phenakistiscope. Joseph Plateau truly is the father of cinema/cinematography.

The university archives try to collect as many hand-written text books of their former professors. Professors dictated and from time to time wrote down their classes on the blackboard, in order to enable their students to write down their own text book. Among others, the university was able to collect copies of Félix's as well as of Joseph's classes. In Joseph's class book we can read a curious entry: it seems that when Joseph was teaching about vacuums, and thus mentioned the experiment with “les boules de Magdeburg”, he didn't write this on the blackboard as the student, who definitely hadn't understood his professor very well, wrote the following in his text book: “les boules de Marc De Boer” (meaning ‘the balls of Marc the farmer’).

Prof. Dr Félix Plateau, the son of the father of cinema, was convinced that morphology and especially anatomy should not be studied from a book, but by dissecting the actual specimens yourself, only using books to guide you as a recipe book does whilst cooking (fig. 1; specimen drawn ‘d'après nature’ in Plateau's *Zoologie élémentère* (1884), restoration D. Verschelde).

Félix Auguste Joseph Plateau (1841–1911), son of physicist Joseph Antoine Ferdinand Plateau and Augustine Thérèse Aimée Fanny Clavareau, was born in Ghent on June 16, 1841. He grew up in a family atmosphere focused on the arts and sciences. From an early age, he collected and studied plants and animals. His father gave him a separate room in the house which he could organize as his own small museum. He collected insects, kept amphibians and reptiles in spirits, and stuffed birds and



Fig. 1 - Restored skeleton of a frog. Photo: D. Vershelde. Specimen drawn 'd'après nature' in Plateau's *Zoologie élémentaire* (1884). Restoration: D. Vershelde. Photo: D. Vershelde

small mammals. Apart from this he had a talent for drawing and painting, painting many places he visited. This talent proved to be of interest during his later studies.

After getting his PhD degree on April 18, 1866, he went to Paris to obtain an extra PhD degree (thesis on parthenogenesis in 1868). Witnesses of this come from a self portrait, and from a drawing of 'Gina', a gorilla in Paris's Natural History Museum. Félix Plateau wanted to be a professor at Ghent university, and for this end he had talked with C. F. Thiery, director of the Department of Education. It was Thiery who recommended that

Felix get a second PhD degree, in order to enhance his chances.

Félix taught in Bruges for two years where he organized excursions, already showing his conviction that nature and science are to be studied hands on.

Musical chairs: It seems that whenever a professor retired, the other established professors could choose what subject they wanted to take and teach, leaving the 'left-over's' for the new guy who had yet to be appointed. During the academic year of 1869–1870 professor Poelman of Ghent University asked to be relieved of his course on comparative anatomy, because of health reasons. It was to be given temporarily by M. Ch. Van Bambeke. But by the end of that same year Prof. Poelman had to retire. His 'chair' of 'Physiology' was now to be given to Prof. Richard Boddart, who himself vacated the chair of Zoology.

The government combined the two vacant classes and put them under one chair. Soon after father Joseph wrote to Thiery to remind him of the fact that his son thought himself to be fully qualified. Félix Plateau got the job. He now cared for the museum as we know it today, containing the combined collections of comparative anatomy and of zoology.²

From the very beginning, Professor Félix Plateau was convinced of the importance of anatomy in zoology and of the hands-on approach. He elaborated on this in the introduction of his book *Zoologie élémentaire*, published in 1884: "It is necessary, if one wants to become a zoologist, to study the animals with the aid of a scalpel and microscope, this in order to witness oneself how the remarkable structures and organs work." He emphasizes that zoology in all its facets (anatomy, physiology, histology, embryology etc.) can only be studied by scientific observation. According to Plateau, books only serve as a reminder and a guideline. His conviction can be recognized in the comparative anatomy collection that contains many muscle, pulmonary, heart, and other anatomical specimens made by him.

He stresses that anatomical studies supports morphological and systematic research. Through the entire collection, there are cross sections showing the internal structures of animals, and disarticulated exoskeletons of arthropods. It is worth remembering that when he started teaching, the collections

² P. VANHOUTE, unpublished hand written text book of the classes of Professor Félix Plateau, 1890; in ownership of D. Vershelde.

were still the focal point of university; they were studied and fully used in the education of students. Research laboratories only emerged around 1870.

Félix Plateau also was a family man. He made comical drawings of the adventures of cats for his grandchildren. The cats go to school, do stuff around the house, go shopping, and visit different places. The cats in reality represent the Plateau family and what they were doing in real life.

At a later stage in his career he made a huge number of smaller diorama's illustrating mimicry and camouflage. He published 120 articles on arthropods, mollusks, and on the anatomy of the African elephant (*Loxodonta africana*).

Victor Willem – his pupil, later 'préparateur' (a position somewhat like a curator) and 'chef de travaux' (work leader), and finally his successor – writes that under the wings of professor Félix Plateau about 28,000 specimens were added to the collection (WILLEM 1913).

After a career of 38 years Plateau retired in November of 1909. He died on March 4, 1911.

Dr Julius McLeod was born in Ostend on February 19, 1857. At first, in high school he studied literature, but later gained a PhD in sciences (zoology). The government sent him on numerous scientific trips (Holland, Germany, France, Algeria etc.), trips concerning zoology as well as botany. Eventually he taught at the Faculty of Medicine at the university. In this period he also was 'préparateur' in the Museum. He also was asked/ordered by the university governors to teach at the 'Normaalschool voor de wetenschappen' (training schools for teachers, in his case in sciences), connected to Ghent University. At that time (1888) he was the first to teach botany in Flemish (all higher studies were done in French). Eventually he taught zoology, botany, and ethnography in these high schools, all were delivered in Dutch (Flemish). From this time onwards, most of his articles were no longer written in French but in Flemish. He also wrote articles on *Dutch and Science*, and about Ghent High schools turning to Dutch as the teaching language. He was the first to publish a Flemish (Dutch) illustrated flora (MCLEOD & STAES 1892), as he was a strong believer that Dutch should be the primary language used at Ghent University. Julius McLeod laid the foundation for us to have a Dutch (Flemish) speaking university in Ghent. Hand written text books of the classes of Prof. Van Rampen³ and of Professor Sluiter dating from 1914 and 1915 are already in Dutch.⁴ So, if it hadn't been for Julius McLeod, we would have been educated in French.

Prof. Victor Willem (1866–1952), Plateau's successor, was responsible for collecting many marine samples and specimens from marine stations such as Napels, Roscoff, Banyuls, and Wimereux. He also published several papers on respiratory organs in fishes; some were published the year before he died (WILLEM 1951a+1951b).

In 1967 Prof. De Coninck (1909–1988) sent a very promising scientist by the name of August Coomans to the Great Barrier Reef. Coomans collected many marine specimens, mostly comprising invertebrates. This expedition was the last of its kind that considerably augmented the museum's collections. Prof. August Coomans was our previous director of the Zoology Museum (till September 30, 2001).

Nowadays two, somewhat idiosyncratic, yet passionate, people take care of the Zoology Museum. Dominick Verschelde was the first curator in a Flemish university in modern times (since 1997). In 2002 he was joined by a new director, Prof. Dr Dominique Adriaens. Dominick Verschelde is the conservator-curator-scientist-guide, but also still answers to the historic name of 'préparateur'. To give

³ M. Lau, *Anatomie der ongewervelde dieren*, unpublished hand written text book of the classes of Prof. W. Van Rampen, 1914.

⁴ M. Lau, *Vergelijkende anatomie I*, unpublished hand written text book of the classes of Professor Sluiter, 1914, 1915; M. LAU, *Vergelijkende anatomie II*, unpublished hand written text book of the classes of Professor Sluiter, 1915.

one example, on May 23, 2001, he dissected a newly acquired elephant cadaver (fig. 2). He worked on the elephant for five consecutive days after which the skeleton was chemically cleaned, and mounted two years later by him. Both Dominick Verschelde and Professor Adriaens are very dedicated to the task of spreading scientific method and critical reasoning into the community.



Fig. 2 - Skeleton of the Asian elephant 'Chamba'. Photo: D. Verschelde

The people – Science connection

In the early days, the collection was an elaborate didactical one. From the Great War until after the Second World War it experienced many difficulties and was ignored for years. During the occupation many specimens were either taken by the Germans (collection of Risso, type material of insects and of dolphins, skeletons of whales, and a collection of deep-sea fish) or were destroyed. During the interbellum most of the dioramas of Félix Plateau, together with a range of stuffed animals from Ghent Zoo were given to start up the 'school museum' in Ghent. Bad management and WW II meant specimens were either stolen or eventually incinerated in the 1960s. Elderly citizens of Ghent testify that during the 1930s the 'schoolmuseum' was not used or exploited, but neither were the doors locked. So with the doors open, people could just enter and take what they wanted. During WW II a bomb demolished the roof, leaving the stuffed animals open to the elements. Even though they were covered beetle infestation followed. So, after the war, what hadn't been stolen, had been eaten. When, in the 1960s, they wanted to move the museum to another location, the natural history collection was too damaged to move. Everything was left on the street, and what people didn't take, was finally burnt.

So, after a few difficult decades, we gradually picked up the pieces, and from the late 1990s we evolved towards a museum in demand, passionately struggling to introduce science communication within and outside of the university, and eventually growing into a hands-on workshop centre promoting the scientific method and critical reasoning.

From 1997 the objective of the museum changed. The university students are still our primary public, we provide lessons, practical courses, and support for research in the context of bachelor dissertations. Now we also reach out to the general public. This started with topical exhibitions and guided tours, and expanded into organizing workshops for all groups and ages. As they are the



Fig. 3 - Students working on a bachelor dissertations subject. Photo: D. Vershelde



Fig. 4 - Swifts by their nest. Photo: D. Vershelde. Though 'Belgium' was no longer under Dutch rule by that time, it seems that the Ghent University still held good contacts with the Dutch prince.

scientists of the future, we gladly focus our efforts towards young children. A few of our most successful workshops are: *Pond-critter*, *Animals and their sex*, *See, hear, feel, taste ... to believe or to know*. The latter is an extensive workshop in which we convey the importance of the scientific method and associated critical reasoning.

For our primary public, we organize research topics for two types of bachelor dissertation: one concerning science communication towards the general public, where the student needs to write and work out a topical exhibition; the other is more research focused as students compare and study skeletons of different but related vertebrates with the aid of statistical analysis tools (fig. 3).

To attract more than nature enthusiasts to our exhibitions, we present our natural history specimens not only from a biological point of view, but also try to include possible historical data and cultural contexts of certain specimens. To give a few examples: we have specimens gifted by F. Plateau, which very likely first landed on the dinner table when he was a young boy at his father's house before he cleaned and mounted the skeleton (e.g. *Pleuronectes platessa*); we have the cervical vertebrae of 'Betsie', the most famous and sung about elephant from the Ghent Zoo (1887);⁵ we have a mounted diorama from Java of swifts on their saliva nest, which was brought back in 1838 by Prince Hendrik van Oranje (fig. 4; though 'Belgium' was no longer under Dutch rule by that time, it seems that Ghent University still had good contacts with the Dutch prince).

⁵ Text and translation on demand with the first author.

In short

As most museum personnel are, we are neither pure laymen nor are we strict research scientists, but we are both and we act as in-betweens. We don't endeavor doing research for the sake of research, but to act as the glue that links research to scientific outreach, to disseminate it and share it with our colleagues and the entire general community.

The Zoology Museum plays a role in the preservation of specimens for future generations and the provision of hands-on education to students at secondary, high school and university levels. It also cares for specimens important to the cultural history of the city of Ghent.

New directions

Since 2010 five of our university collections have been meeting and working towards a new collective aim, mission and strategy. They are the ethnographic collection, the archeological collection, the Museum for the History of Sciences, the Morphology Museum (Faculty of Veterinary) and the Zoology Museum. For the moment we are fine tuning our efforts and aims; we are working towards an uniform database, and are organizing themed exhibitions. In short we are working towards an integrated and complementary, uniform Ghent University Museum in which all collections of our alma mater will reside and made accessible to the general public.

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