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01 November 2009.

Miriam Claude Meijer

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PREO

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- 1 The Dutch anatomist Petrus Camper (1722-1789) attempted to collaborate with Buffon through the intermediary of the former’s son, Adriaan Gilles Camper (1759-1820), while he was studying in France. Newly found letters, unknown to even Jacques Roger, reveal intimate details about the ups and downs of the Campers’ negotiations with Buffon. During my dissertation research on Petrus Camper, I had the pleasure of accidentally coming across a living descendant of his, who had 200 original letters on her ranch in California. In 1989 Mary Camper-Titsingh donated these letters to the University of Groningen.¹ Most of this correspondence was created during two journeys taken by Camper’s son abroad.² In 2002 Hans Bots and Rob Visser published the letters that were written during the son’s residence in Paris, from June 1785 to June 1787,³ including relevant previously known letters.⁴ Petrus Camper’s personal diaries were written in his native Dutch, his son’s in French, but the Campers wrote letters to each other in French.⁵ The newly discovered letters give us an insider’s view about naturalists’ business deals, the rivalry between anatomists, and their authentic awe for a celebrity like Buffon.
 - 2 Through the years Petrus Camper’s attention shifted more away from medicine to zoology. After 1773, he concentrated only on animal com-

parative anatomy. His favorite research subjects became mammals that had not been or barely studied, having both the finances and the colonial connections to obtain exotic animals. Camper's museum, like that of John Hunter (1728-1793), belonged among the richest and most important private collections of the eighteenth century.⁶ Along with Louis Jean Marie Daubenton (1716-1800) and John Hunter, Camper was one of the few eighteenth-century zoologists who valued the primacy of anatomy for understanding the animal organism. They believed that only from laborious dissections the "*connoissances générales*" would be ultimately derived.⁷

- 3 Buffon was among the first to benefit from Camper's striking tendency to confide the results of his research to others before he had published them himself.⁸ Camper initially met Buffon in Paris during his 1749 Grand Tour. He practiced surgical operations on a plentiful supply of cadavers with the French surgeon, Antoine Louis (1723-1792), who became his life-long friend: "During three months in Paris Monsieur Camper came almost every day to spend several hours with me. It is with me that he paid a visit to Monsieur de Buffon ... of the Academy of Sciences, ... from where he left always flattered and grateful for the gracious welcome he received."⁹
- 4 When Camper returned to Paris in 1777 for four months, he was in the prime of his career. He lectured on breast cancer, the illness from which his wife had died in the previous year, at the Royal Academy of Surgery, on cattle inoculations at the Royal Academy of Medicine, and on his "facial angle" theory at the Royal Academy of Sciences. Daubenton was in the audience, but not Buffon.¹⁰
- 5 By 1785 the Academy of Sciences in Paris elected Camper a foreign associate (an "*associé étranger*"), an honor that only one other Dutch scientist had received: the eminent physician Hermannus Boerhaave (1668-1738). Boerhaave, while no great discoverer, was an excellent teacher, known as the "Medical Instructor of Europe,"¹¹ whose influence through his students was to dominate the progressive development of medical instruction throughout Europe.¹² Boerhaave taught medical Newtonianism by trying to embody the empirical method of Isaac Newton (1642-1727) in his theoretical work and clinical practice. He systematized the chaotic body of fact and opinion embraced within eighteenth-century medical thought. Boerhaave prepared the

way for the emergence of the University of Leiden as a leading center of Newtonian and experimental science on the continent.¹³ His student, Willem Jacob 's-Gravesande (1688-1742), created a unique method for Newtonian physical science. This precise program may have been the model for Buffon's determination to achieve a similar one unique for the life sciences.¹⁴ Jean Nicolas Sébastien Allamand (1713-1787), the Swiss-born professor at the University of Leiden, apparently thought so because he translated and edited 's-Gravesande's and Buffon's books respectively.

- 6 Buffon often quoted Dutch naturalists' observations of animals in the Prince of Orange's menagerie, animals that had never been seen alive in France.¹⁵ Arnout Vosmaer (1720-1799) was the Director of the Prince's menagerie and museum. The Prince placed the exotic animals he received as gifts in het Kleine Loo, a zoo on his estate at Voorburg, one kilometer east of The Hague. The menagerie of this Stadholder William V (1751-1795) was famous for welcoming even foreigners, as described in a 1785 guidebook to The Hague:

Facing het Huis ten Bosch is a little estate called het Kleine Loo that the Prince of Orange acquired since many years. A long lane which is the avenue of another estate, named het Oude Loo, and which also belongs to the Prince of Orange follows it. It is an ancient seigniorial land. The chateau was pulled down and almost only the doors remain; but the gardens and the groves there are still very beautiful. The most remarkable that they enclose is a very beautiful menagerie, furnished with birds, and other unknown and curious animals. Foreigners should not fail to visit it. Beyond this territory the lane continues to the Voorburg road.¹⁶

- 7 Vosmaer was the first to publish zoological illustrations made from living animals instead of stuffed specimens and he focused particularly on animals not treated or fully treated by Buffon.¹⁷ Many mammal plates in Vosmaer's *Regnum Animale*, published in practically simultaneous Dutch and French editions, were copied in Buffon's Paris edition.¹⁸
- 8 Allamand, who edited new Buffon editions respectively in French and in Dutch, both published in Amsterdam, often copied plates from Vosmaer's book and referred to Vosmaer's descriptions. His editions were called the *Nouvelle Edition* or "Edition de Hollande." Allamand

wrote 41 articles about new or hitherto imperfectly known species to Buffon. Many of Allamand's additions were republished later in Buffon's own supplements.¹⁹ Copies of the Dutch engravings were often reversed.²⁰ Aware that Camper was dissecting the comparatively unknown Scandinavian reindeer, Allamand invited him to contribute to his Buffon edition.²¹ Five years later Buffon published Camper's "Observations sur le renne faites à Groningue" again in his own third supplement.²²

- 9 When Buffon pointed to the exceptional form of the speech organ in the tropical America's howler monkey, but bemoaned his inadequate material, Camper sent him the complete description of this "most peculiar organ of speech, hitherto unknown except through my dissection" in November 1778.²³ The following month, in reply, Buffon proposed possibly collaborating with Camper on little known ape and cetacean species.

I received, Monsieur, with great satisfaction, the letter that you gave me the honor of writing on the 15th of last November. I begin by assuring you that I regret that you were in Paris without my seeing you during your last [1777] stay. I remember your first interview in 1749 very well. And, since that time, Monsieur, you have already demonstrated the great talents that distinguish you, making you justifiably regarded as one of Europe's most excellent anatomists.²⁴

- 10 Camper became the first to distinguish the genuine orangutan anatomically from the chimpanzee.²⁵ This pioneering research Camper accomplished only after Buffon had already published on the great apes in 1766.²⁶ The "orang utan," the generic term that served for both the chimpanzee and the orangutan and even monkeys, was one of the most discussed yet least known animals in Europe. Partly due to the long-standing assumption of two varieties, the black in Africa and the red in Asia, Europeans completely confused ape species. Camper's pioneering treatise, *Essay on the Natural History of the Orangutan and Other Simian Species; On the Double horned Rhinoceros; and On the Reindeer*, that declared the Asian anthropoid ape to be a separate species from the African ape, would be published in Dutch only four years later (1782).²⁷ Between 1770 and 1777 Camper had investigated a total of eight orangutans, five of which he had personally

dissected. So much anthropoid material available to the Dutch had some call their eighteenth century “the century of the orang-utan.”²⁸

- 11 In 1778, Buffon wrote Camper about his expertise in primatology as well as in cetology.

As I expect to publish next year a second volume of supplements to the natural history of the quadruped animals to which I have numerous additions on the subject of several simian species, I would be enchanted to mention your name and all your discoveries on these animals' anatomy.²⁹

- 12 Flattered, Camper informed Buffon about his significant discovery that the Asian orangutan was a different species from the African “orang-outang” dissected by Edward Tyson (1650-1708) in England. Buffon would receive a French proof of his orangutan book as soon as it was printed.³⁰ The following year, when it was printed in Harlingen (1779), Camper made arrangements to send a copy to Paris. By 1779 Camper knew that the true orangutan came only from Borneo, was always reddish, and never had a nail on their great toes. Tyson's “Orang” and Buffon's “Jocko” all came from Angola, had black hair, and large nails upon the great toes. They were always represented as very strong and muscular. The East Indian orangutans were the opposite, with long, very lean arms and legs, and their heads set into their shoulders.³¹

- 13 Another great gap in eighteenth-century zoological knowledge was the Cetacea, the genus of whale-like animals. Except for the smaller species of the porpoise and dolphin, sufficient material presented the greatest challenge to researchers. Buffon wanted to copy drawings of the cetacean specimens in Camper's museum.

... I have in fact some desire to give the public a history of the cetacean animals and to add one on lizards and reptiles, but this work has not yet progressed much. I plan to finish the entire history of birds and then my quadruped supplement before applying myself seriously to the cetaceans and the reptiles. Nevertheless I have already collected a rather large number of drawings, and several surveys, for this subject. You would do me a real pleasure if you would, Monsieur, let the small whales and other cetaceans, that you have in your Cabinet, be drawn at my own expense. Rest assure that I will

cite you in my work with all the praise due to you. Of course, I do not ask this favor of you except in the event and assumption that you do not want to write the natural history of these animals yourself.³²

- 14 Camper replied by mail that he would send Buffon drawings.³³ Seven years later his son personally delivered a portfolio to Montbard, with considerably more mammals than the originally requested apes and whales.

It is only because Mr. Daubenton knew that I planned to work on this history of cetaceans that he was a little angry that you had drawn the Cachalot without having notified us. But I beg you to no longer think about that for you are well placed to give me much more than I could give you...
The Count de Buffon³⁴

- 15 Camper had already notated the friction with Daubenton in 1777 in his private diary.

Then I went to the king's *Hortus medicini* in order to see and draw the cachalot head. However, Daubenton appeared uneasy about that because Buffon wanted to describe the Cetacea, an unforgivable jealousy between these men. In order to put him at ease, since I still wanted to sketch the jaw, I told him that I would not publish my drawing during Buffon's and his own, Daubenton's, lifetimes.³⁵

- 16 In late 1766 Buffon had invited Daubenton to work on a sub-series on whales to follow the series on quadrupeds.³⁶ Buffon was trying to appease Daubenton for excluding his anatomical descriptions from the new editions, in his attempt to improve sales by making the *Histoire Naturelle* less technical and more "readable."³⁷ The fact that the *Histoire des cétacés* was never realized became one of the reasons Daubenton no longer collaborated with Buffon by the end of 1767.³⁸

- 17 As Buffon's anatomist and assistant, Daubenton exercised broad authority in the *Jardin du Roi* for much of the year. During long summers Buffon resided in Montbard, as in June 1785 when Adriaan Gilles moved to Paris to study mathematics and astronomy. Dutch universities were no longer leaders in science.

- 18 Daubenton's lack of enthusiastic admiration for his father's portfolio soon offended Adriaan Gilles.³⁹ His father explained: "I am not surprised [that] Daubenton's ... viewing of my drawings did not make more of an impression on him. It's jealousy which causes this indifference."⁴⁰ Petrus Camper urged his son to visit Montbard. "The trip to Mr. de Buffon could interest you: to see a famous man, and I believe that the premises, the iron factories, etc. are worth the trouble. You have suffered, because the works that you displayed were by a father you love. They regard them with eyes of indifference and are little accustomed to such things."⁴¹
- 19 At the end of July 1785 Adriaan Gilles journeyed to Montbard. He sent his father a star-struck description.

Imagine a man of large stature, with a very happy physiognomy, brown eyes, black eyebrows, a thick head of hair, white as snow, well done (for since 65 years he has always inserted curl-papers every day), looking at age 78 like many do at 56 or 58.⁴²

- 20 Interestingly, Marie Jean Hérault de Séchelles (1759-1794), who visited Montbard the same year as Adriaan Gilles, published a rather similar description of Buffon.⁴³ Numerous signs of respect shown to him at Montbard made Adriaan Gilles feel vindicated.

Scarcely had I put up at the inn and that I let him know about my arrival, that two servants invited me on behalf of the Count to come take my rooms at his home, saying that they had orders to take my luggage. I was hardly ready to change my lodgings when they escorted me into a very beautiful room, where Mr. Necker was in the habit of staying when passing through Montbard. After I was led to Mr. Buffon's room, he told me he was pleased that I had been willing to make the trip to see him. I could stay as long as I liked. After finishing some business, he would be pleased to see me again. Meanwhile I could get settled in my room, etc.

It was barely an hour when he had me come to him. I found him with his secretary reading aloud your letter of introduction. Mr. Buffon received your praises smiling, saying that you were very kind and that it was very honorable on your part. He was most curious to see the portfolio, etc.⁴⁴

- 21 The purpose of this visit was Petrus Camper's portfolio containing a profusion of original data, so that collaboration plans with Buffon could be worked out in detail.⁴⁵ Buffon admired the mammalian drawings, generously placed at his disposal, but declined to use the cetacean sketches himself. The observation of the cetaceans would be left rather to his much younger naturalist colleagues.⁴⁶ For his supplement on the quadrupeds, however, the 78-year-old Buffon singled out sixteen drawings and descriptions of six mammals.⁴⁷ Neither Camper nor his son let their disappointment show yet about Buffon's indifference to the cetacean sketches. After his return to Paris on August 3, Adriaan Gilles felt "happy as a king by the most flattering reception and welcome of the greatest and most amiable genius of France" and "touched almost to tears in leaving his charming residence."⁴⁸
- 22 The "blues," however, soon followed euphoria. By the end of August Adriaan Gilles became discouraged about the prospects of any Buffon collaboration. The latter's draftsman had not yet contacted him in Paris.⁴⁹ His father held out hope.⁵⁰ Only at the beginning of 1786 did Buffon show interest in a modest cetacean participation. Buffon's turnaround was due to, according to Adriaan Gilles, his correction of an anatomical error made by Daubenton concerning cetacean jaws. Adriaan Gilles's detection so impressed Buffon that he was inspired to proceed with a common publication, a conversation described in detail:

Mr. Daubenton's blunder and my decision, based on simple knowledge of a little osteology, have put new life into the Count de Buffon's spirit, his desire to examine your drawings, and to become familiar with the structure of these animals. I did my best to explain to him the grand views with which you are busy. I succeeded in conveying to him in a few words how much the structure of these [cetacean] animals, bizarre at first sight, let a naturalist reflect: if one takes delight in contemplating Creation. The Count asked me why you have not published these things. I went on: that [you] having hoped that he would publish your discoveries at a time that he was going to tackle the description of these animals, you imagined that the public would accept them with a greater reverence from his hands, etc., etc. And, finally, there was the difficulty of getting good engravers. The little interest that men solely busy with trade [the Dutch] take in the advancement of knowledge was one of the prin-

cial reasons that delayed the publication of an immense number of discoveries available in your manuscripts.

Well then, Monsieur! Said the Count. That is so interesting, so admirable, and so little known that it should be published, and I will do it at my expense. Monsieur, your father, will have 12 or more samples. I will have the plates engraved and I will write a Preface in which I will inform the public how it is all owed to your worthy father. But it will be necessary that all this be translated into French. No one could do that better than you; start it right away. ... And that is how I find myself translating.⁵¹

- 23 Adriaan Gilles acknowledged very honestly that Buffon's popular appeal would greatly enhance his father's reputation as a comparative anatomist to a much broader audience. He mentioned this objective numerous times in his letters to his father.⁵² Despite his father's proficiency in English, French and Latin, most of Camper's publications appeared in Dutch.⁵³
- 24 Since the sixteenth century, some fifty whales had stranded in the Republic of the United Provinces. Such events were almost always immortalized by artists in these maritime provinces. Formerly seen as bad omens, eighteenth-century strandings were regarded as wind-falls from nature by both naturalists and merchants. The cadaver provided oil used in the manufacture of cosmetics and as an emollient in ointments. In January 1762, when two or three sperm whales (cachalots) were washed ashore on the little island of Griend in the Waddensee, the Harlingen physician Simon Stinstra (ca. 1734-1782) placed some of the bones at Camper's disposal. Camper published about the auditory organ from this specimen twice. The first article made Camper the first scientist to write a treatise specifically on the hearing of whales, and of sperm whales in particular.⁵⁴ The second article added a baleen whale, a porpoise, and a dolphin.⁵⁵ The Franeker artist Pieter Idserdts (1698-1781) drew one of these whales; Camper copied his sketch in outline.⁵⁶ In 1772 Camper delivered three public lectures on the Cetacea in the Groningen Theatrum Anatomicum. Displaying one of the specimen's 48 teeth, along with several anatomical preparations and bones, he received a great deal of applause.⁵⁷

- 25 After 1764, there were no more whale strandings until 17 May 1781 when a 64-foot male sperm whale grounded upon a sandbar, north of Zandvoort. But now no one made the usual illustrations of this curiosity. The outbreak of the Fourth Anglo-Dutch War in 1780 became a disaster for the Dutch. British navy and privateers captured Dutch vessels at home and overseas. Soldiers placed in the fishing villages, and the coast on watch, probably kept everyone off the beaches. Petrus Camper referred to this 1781 stranding as having been a “Trumpo,” a word equivalent to sperm whale used in his day.⁵⁸
- 26 Cetacean source material limited Camper to eight species.⁵⁹ Of the larger ones he had to be mostly satisfied with fragments, mainly of the skeleton, which were spread all over Europe. Camper visited the church of Scheveningen in Holland, where a 56-foot cachalot skeleton had been kept as a curiosity since 1617. The only complete skeleton of a rorqual hung from the ceiling of the Bremen city hall in Germany.⁶⁰ Camper found other specimens in the Paris and London museums, where he had to respectively ask for Daubenton's and John Hunter's permission first.
- 27 The range of forms among the cetaceans had given the impression that the whale skull had no similarity with the mammal skull. Since the sutures were still visible in most of Camper's preparations, he could use the openings for the sense organs and the occipital hole as fixed points of reference. Camper was able to establish accurately the form and the position of the skull bones in seven of the cetacean species. Through comparative anatomy he unraveled the complicated structure of the cetacean cranium to prove that it contained the same parts as the crania of other mammals.⁶¹ This was a proud moment of Camper achieving a “grand view” à la Buffon, i.e. finding order in chaos.
- 28 Private communication revealed how highly Petrus Camper valued Buffon's philosophical genius. “Count Buffon has nevertheless earned more money than me. His style is vaster, his mind more brilliant. Despite his mistakes, he taught me by his example to envision things in the abstract, to make connections between them, etc.”⁶² Adriaan Gilles vigorously protested his father's self-deprecation.

You expressed in the previous [letter] of the 12th that Buffon's mind is more brilliant than yours. I do not agree. His French style should be compared with your Dutch style in the compositions admitting flowery eloquence. Mr. De Buffon derived his system from Whiston, Burnet, etc., furthermore [from] the great immortal Newton who gave his daring views in his famous *Questions*, where he demonstrated the possibility of comets falling into the sun's body when they enter its atmosphere. This idea Buffon embellished. He has constructed a beautiful edifice upon it, but which leaks through all sides. But who has demonstrated Creation's analogy like you? Who has conceived like you the simplicity of the Eternal Geometrician's works? Furthermore, I ask, for I ask if of posterity, of all the centuries to come: *Who between you can have your building ever turned upside down, founded principally of what is the most secure?* Each century will answer: *You are right* and every step towards the perfection of knowledge will expose your insights in all their brilliance, this brilliance that only atheists, the ridiculous defenders of fortuitously-amassed molecules, could call into question.⁶³

- 29 In truth, Adriaan Gilles was unable to judge the historic extent to which Buffon, who was no physico-theologist like Camper, had actually influenced his father's life work. If Buffon had started as a Newton disciple, he had gone beyond Newton.⁶⁴
- 30 Buffon's new methodology was a naturalistic explanation for organized bodies that could present laws similar to – but otherwise different from – those evolved to account for the movement of inert bodies. Buffon's new science would go beyond that which was immediately observable. The naturalist had to penetrate beneath the veil of surface phenomena to the core of reality. He did not need to choose between concentrating upon the concrete singularity and cultivating generalizations because both should be done at the same time. The methods for this program were analogical reasoning and comparative analysis. The interaction between observation and imagination would generate a form of understanding superior to simple empiricism (accumulation of facts) and mathematical abstraction (formal logic). Buffon called this type of understanding divination or intuition. The life sciences would acknowledge both nature's diversity and unity by reducing the manifold appearances of nature to simple principles.⁶⁵

31 Buffon redefined matter as a complex conjunction of related parts. There was no such thing as an isolated entity or a simple substance. Rather, everything in living matter was related to everything else, everything was joined. Relation replaced aggregation as one of the defining principles of matter.⁶⁶ An organized body was conceived by Buffon to be a set of relations ("*rappports*") existing between mutually interdependent parts. The *rappports* between the parts constituted the whole, creating a unique organism. An organized body was no mere aggregation of simple identical particles, but a conjunction of symbiotically related parts. Each constituent part of an organized body was both cause and effect of the other parts. Living matter formed a complex combination in which one element could not be subtracted from another without radically changing the relations between the remaining parts. Immense diversity resulted from a mere augmentation or contraction of a single part causing immediate ramifications.

32 The challenge was to join structure and life processes into a unified field of explanation. The goal of comparison was to see similarities and differences, mediate between them, and find analogies not immediately perceived. In an August 1786 letter to Buffon, Camper would describe how:

... my great objective was to constantly study the relations that the animals have between them, and with man.⁶⁷ You have been my master in these parts and the model that I try to imitate!⁶⁸

33 Scientists became fascinated with extremes – boundaries and limits – because real reality always lay in between. Finding similar tendencies between dissimilar things led to the hidden organizer on which all reality was grounded. Locating "real" reality entailed a progressive descent into the depths of observed reality. Camper juxtaposed the extremes of organic forms in order to grasp their reality.

34 With his combined abilities to draw and sculpt as well as to dissect, Camper demonstrated how the correlation of racial features in the human related directly to the protrusion or retraction of the osteological jaws.

In the year 1758, I dissected publicly at the anatomical theatre at Amsterdam, the body of a negro lad, about eleven years of age. This afforded me an opportunity of demonstrating all those diversities in the cranium, which nature had effectuated. By nature, I mean the influence of country, nutrition, air, etc.⁶⁹

- 35 The human head had to be visualized to be like a finite mound of clay that could be molded. Changes in noses, from long to flat, and lips, from thin to broad, modified the mutually-related parts and resulted in the characteristic national physiognomies around the world. This “facial angle” theory, that measured the jaw’s slant in profile and that accounted for the finite physiognomic variations, became Camper’s most lasting legacy posthumously – though often misunderstood.
- 36 While Buffon discussed speculative “internal molds,” Camper literally molded the exterior into a visual clarification. He implemented Buffon’s theories in a very concrete and practical manner. Camper attributed these morphological laws to wise design by the Creator (physico-theology). Buffon accounted for diversity from geo-historical “de-generation” – a word Camper never used – of the original forms. Both believed in the impact of environmental changes, which utilized development and contingency as explanatory concepts.
- 37 Collaborating with Buffon, however, taught the Campers that it was easier to introduce synthetic insights about new material than it was to make corrections to previously published descriptions.⁷⁰ By March 1786 Adriaan Gilles complained to his father about Buffon’s stubbornness.

The cetaceans did not suffer any difficulty in their acceptance, because the Count had not written about them, but the quadrupeds have made me suffer greatly. You judge yourself after I have communicated to you why.⁷¹

... [2] The orangutan ... is not the jocko or true orang ...
The orang is not the orang because the jaw is not so prominent, because it does not resemble the figure, which is in the jocko’s description ... All the names, which you give, are drawn from Linnaeus’s bad nomenclature. You did not follow the Count’s nomenclature! Bless

my soul! If all this kind is confused, then one does not know what it concerns. This is how one speaks!⁷²

... I hope that the Count changes his mind after reading your orang book. I do have here some of your observations concerning this animal, but as you have written about them in French yourself, it is best to take advantage of that.⁷³

38 Adriaan Gilles wanted the “Plinius of France” to adopt his father’s orangutan observations because they were reliable dissections of this rare and enigmatic creature.⁷⁴

39 In August,⁷⁵ in September,⁷⁶ in March,⁷⁷ and again in April,⁷⁸ Petrus Camper repeatedly asked his son whether the orangutan book in French that he had sent Buffon by way of the Spanish ambassador’s secretary had ever arrived safely. Each time Adriaan Gilles answered that it had never arrived.⁷⁹ Please send it again.⁸⁰ By Spring, however, he came to understand the reasons for Buffon’s confusion.

I finally found in the Cabinet the famous *Jocko* or orang-outang described in the Count’s book. I am no longer surprised that the Count does not recognize in your figures the animal that he had as such described. I begin to even lose hope that he will ever adopt your observations, if he maintains that this animal is orang, for it is no more an orang than a broomstick is one!⁸¹

... I [now] see that Buffon must have your book on the oranges, but he works and acts so little on his own that I do not believe that he knows either what he has in the library nor in the Royal Cabinet.⁸²

40 When Petrus Camper had visited the French king’s cabinet on 18 July 1777, he, too, had been quite surprised by the small, ugly, stuffed chimpanzee he witnessed,⁸³ which Buffon’s artist had drawn standing so elegantly as an adult with a walking stick.⁸⁴

41 Adriaan Gilles suggested to Buffon’s current collaborator that it did not make sense to accept Allamand’s orangutan but not his father’s: “I told the Count de Lacépède that I was a little surprised that Mr. de Buffon had hesitated with your figures, because Allamand described the same animal with acceptance.”⁸⁵ This was a reference to the *Suppléments à l’Histoire Naturelle de Buffon* published by Allamand

the prior year (1785) in Amsterdam.⁸⁶ Buffon had observed a living chimpanzee but never any orangutans. The 1740 chimp he saw in Paris later died in London and was returned to Paris and its skin mounted. For Camper, it was the reverse. He had neither seen nor dissected chimps. He had, however, observed Vosmaer's living orangutan, in het Kleine Loo from 29 June 1776 to 22 January 1777, in addition to dissecting five orangutans.⁸⁷ Daubenton had never seen any living ape. Finding the chimp remains in the royal Cabinet too meager, he had to base his anatomical publication on Edward Tyson's authoritative chimp autopsy.⁸⁸ Adriaan Gilles had his sincere doubts whether all this confusion would be resolved in Buffon's supplements.⁸⁹

- 42 Unfortunately, Buffon's advanced age and failing health would fail to give the Campers the outcome that they had labored for so strenuously. Buffon's revisionist requests during Adriaan Gilles's second trip to Burgundy, at the end of September, hinted at a most unlikely completion.

Hélas, I would not know how to promise you when and how all that will be done, for the Count appears to me to be very little inclined to the work. Since his illness (which could well be the stone) does not give him any moment of relief, he is only busy with his work on the magnet, having dismissed his secretary for drunkenness.⁹⁰

- 43 Adriaan Gilles had to admit to his father that the French naturalist did not want nor see the figures nor take the trouble to read the observations he had translated with so much trouble. Buffon, moreover, wanted to cut costs by reducing the number of plates.⁹¹ It was soon made clear to the Campers that Buffon had a different division of the work in mind. Not at all prepared to be concerned with content, Buffon wished to exclusively take care of the style. Finally, he insisted that it was absolutely necessary to place Camper's discoveries into a very broad historical context, supported by excerpts from the books of a considerable number of authors from the last centuries. Overwhelmed by all these demands, Adriaan Gilles begged his father to come to his rescue.⁹²

- 44 But now Petrus Camper himself could no longer cope with rising problems in his normal way. During the 1780s a civil war broke out in

the Dutch Republic that now seems to have been the prelude to the French Revolution. The people's movement, called "Patriots," was opposing the Orangist oligarchy more and more violently. In 1786, when William V had to abandon The Hague, he sold his Kleine Loo estate. The royal family moved to their ancestral castle at the Oude Loo in Gueldre, in the east of the Dutch Republic, and closer to the stadholderian military stronghold in Nijmegen. In November Vosmaer moved the animals, including two Asian elephants, from het Kleine Loo to a new menagerie at het Oude Loo near Apeldoorn. Similarly Petrus Camper became so fearful of losing his property to Patriots' riots, that he dispersed his cabinet, even burying some of it, for safekeeping.⁹³

45 Nevertheless, Camper did not hesitate to give his son his opinions about the bad news from Montbard. He was against a reduction of the number of plates, preferring to pay the extra expenses from his own money. Their costs were cheaper in France than in the Netherlands. As to the excerpts drawn from a great number of books, he thought that that task would require at least a year or two of work. At this point Camper advised his son to merely string Buffon along for he suspected Buffon "to be at death's door, at least his spirit is abating."⁹⁴

46 Indeed, ten days later, Buffon advanced new objections against a publication in its original form. This time, he criticized the purely anatomical descriptions that would not interest, he worried, the less educated scholars.⁹⁵ Realizing that he may not even get, at the very least, a preface penned by Buffon, Petrus Camper now regretted the publishing projects set aside by his exertions in collaborating with Buffon. "I would have finished my book on the facial line which has suffered."⁹⁶

47 Whatever letters Adriaan Gilles wrote his father from Paris thereafter are missing; most likely destroyed. In spring 1787 Adriaan Gilles came down with a venereal disease.⁹⁷ A gap appeared for two months in the Camper correspondence when Petrus Camper had to travel to Paris, despite a painful arm, to visit his seriously sick son.⁹⁸ Later it was asked if Camper had a diplomatic mission on behalf of the Orangists, i.e. prevent France from meddling with their internal affairs? In 1795 the Patriotic preacher, Eelko Alta (1723-1798), suggested that

Camper had bribed the French in April 1787.⁹⁹ The Patriots were hoping for French support of their case, but, when the Prussians restored William V, the French did nothing.

48 The 1787 visit was Petrus Camper's last trip. In the 18 days he stayed in Paris, he dined with Buffon seven times.¹⁰⁰ He also visited Daubenton, Count de Lacépède (1756-1825), and his old friend Louis. Camper attended the meetings of the Royal Academy of Sciences and visited the cabinets of the French king, the crystallographer Jean-Baptiste Louis Romé de L'Isle (1736-1790), and others. He met the geologist Barthélémy Faujas de St. Fond (1741-1819).¹⁰¹ The result of the father and son reunion was the decision that Adriaan Gilles would go on a Grand Tour to the south of Europe to recuperate his health. His heavy-handed mercury treatment had sunk Adriaan Gilles into an ugly depression. His father begged his moody son not to leave Paris without taking courteous leave of their professional colleagues.

49 When Petrus Camper became a member of the State Council, he moved permanently to The Hague. His letters to Princess Wilhelmina in Nijmegen prove that he was well aware of the plan for a Prussian military intervention. Only recent decoding of encrypted archival material reveals that his eldest son, Jacob Camper (1757-1813), gave Laurens Pieter van de Spiegel (1736-1800), the future Great Pensionary, in Zeeland on 25 July 1787 the secret message that Britain would declare war on France if she interfered in any way with the Prussian plan.¹⁰² In September 1787, the new King of Prussia since 1786, Friedrich Wilhelm II (1744-1797), sent an army of 26,000 men into the Dutch Republic to restore his brother-in-law to full stadholderian power.

50 From August 1787 to July 1788 Adriaan Gilles traveled through the south of France to Italy, spending two months in Naples and four months in Rome.¹⁰³ From The Hague Petrus Camper read in 1788 about his son in *L'Esprit des Journaux*:

Among the travelers who visited Rome at the end of 1787 was the son of the famous Camper. Like his father, he knows the principal modern languages. He draws very well, and paints stylishly. In Paris he lived at Count Buffon's home and was received no less favorably by Count Hamilton in Naples.¹⁰⁴

- 51 Adriaan Gilles had never lived in Buffon's home at Paris — only at Montbard. On his return home, through Switzerland, Adriaan Gilles became the first Dutch alpinist to attempt a Mont Blanc ascent.¹⁰⁵ But his departure from Paris had essentially ended the Buffon-Camper collaboration.
- 52 Ultimately only Camper's letter to Buffon about the howler monkey was published in Buffon's supplement on the quadrupeds.¹⁰⁶ After Buffon's April 1788 death in Paris, Lacépède took on the task — apparently against the deceased's wishes — to publish the seventh and last volume of the supplements, which appeared in 1789.¹⁰⁷ The supplement contained mainly additions and corrections to prior descriptions of animal exteriors. Only three of the 82 plates were anatomical, one of which was the howler monkey larynx drawn by Camper.¹⁰⁸
- 53 Buffon's original classification of the "orangs-outangs," or great apes, was rectified somewhat in the seventh supplement, by references to Allamand and Vosmaer only.¹⁰⁹ Lacépède never mentioned Camper's name, even though both Allamand and Vosmaer cited the results of Camper's critical acumen and authoritative autopsies.¹¹⁰ In his "Introduction" Lacépède pointed out that Vosmaer's and Allamand's orangutans were the same animal yet did not mention Camper in terms of orangutans but only in terms of howler monkeys.¹¹¹
- 54 Since only two samples of the French book version of Camper's orangutan treatise, *Histoire Naturelle de l'Orang Outang et de Quelques Autres Singes* (Harlingen, 1779), appear to exist, the French book version must have remained in the proof stage.¹¹² Convinced of its importance, Adriaan Gilles published the orangutan French translation in the very first volume of the three-volumed *Les Œuvres de Pierre Camper* he edited in 1803.¹¹³ The world would see that his father had drawn the very first scientific figures of the genuine orangutan.
- 55 In 1804 Lacépède published his *Natural History of Cetaceans*, whereas Camper's *Observations of the Interior Structure and the Skeleton of Several Cetacean Species* appeared only posthumously, in 1820, written by his son with the assistance of Georges Cuvier (1769-1832).¹¹⁴ In 1793 the old Jardin du Roi and its Cabinet were replaced by the Jardin des Plantes and the Muséum d'Histoire Naturelle. The French declared war on the "tyrant" William V that same year. In Holland the Stadholder's cabinet and menagerie were still his personal property.

Therefore, after the French occupied Holland and the Stadholder sought refuge in England in 1795, the invaders considered his belongings to be war loot. His natural history cabinet had specimens from Africa and the East Indies that the French knew only from the works of Dutch naturalists. Most of it went to the Paris Museum. The Versailles menagerie had been moved to the new menagerie in the Jardin des Plantes. Cuvier, the director of both the museum and menagerie, derived even more benefit from the transfer of the Loo survivors, including the two Asian elephants, to Paris.¹¹⁵

- 56 Petrus Camper had completed all the cetacean illustrations, the greater part of which had been engraved by Jacques de Sève (1742-1788) at Buffon's expense. Forty-six of the final 53 handsome plates were based on Camper's original drawings, including three plates in color.¹¹⁶ But Camper did not live to write the text proper because he unexpectedly died on 7 April 1789. Apart from a number of quotations from the literature and his articles on the auditory organ, he left but a brief exposition in which he compared the skull of whales with that of man, a comparative analogy illustrated in the final engraving.
- 57 Camper's graphical skills had certainly contributed to his international fame. He had always drawn his own illustrations for all of his publications, many of which are still preserved in manuscript form. He had been commissioned as medical illustrator. But Camper was particularly applauded for the dynamic drawings he called "recreations" or "metamorphoses."¹¹⁷ No less an admirer was Denis Diderot (1713-1784): "Camper created from a single model, from which he altered only the facial line, all the animals from man to stork."¹¹⁸ Like Buffon, Camper emphasized how nature always worked in nuances and degrees.
- 58 When Buffon had made the interconnection of nature central, he modified the concept of cause and effect. Immense diversity could result from a mere change in a single constituent part of the organism. The exact same lessons Buffon articulated in literary eloquence, Camper demonstrated in the pictorial representations that he sketched, elongated or shortened, in front of live audiences. Witnesses related how impressive Camper's transformation of an African into a European, and back again, by changing the facial line's degree of inclination. The superimposition of the African's facial line over a

European's readily showed that the Negroid nose was not so much squashed as embedded in a forward-jutting jaw. The nostrils had necessarily to flatten as the nose grew. These morphological demonstrations in chalk were entertaining at the very least.

59 Daubenton's work failed to inspire such popularity.¹¹⁹ In Buffon historiography, there is a debate about whether Daubenton appeared to be the dull but accurate anatomist only in a hyperbolic contrast with the stylish Buffon.¹²⁰ It is therefore rather interesting that Adriaan Gilles reported that Daubenton was a boring lecturer. Admittedly not an impartial witness, Adriaan Gilles brought this topic up independently.

The day before yesterday I was in Daubenton's public class at the Royal College... There were 30 in Daubenton's audience. The professor, with whose expansive mind you are acquainted, was in the Vegetable Kingdom. He almost put me to sleep while galloping across the history of lilacs, leaf and flower buds, etc. Today he had as subject hazel nuts, box-tree, and that of leaves. In my life I have never seen or heard a more stupid nor childish thing. He narrates all that without raising or lowering his voice, without allocution or exordium. He starts like that, and then, in a voice hardly loud enough to be heard. *The hazel-tree is a tree*, etc., etc. I need a lot of patience!¹²¹

60 Petrus Camper answered his son that Daubenton's manner of teaching did not surprise him.

61 Other than the dryness of technical details costing readership and sales, another historiographical explanation for Daubenton's declining contributions to Buffon's *Histoire Naturelle* was the difficulty of getting exotic specimens from overseas. Their necessity for an accurate international coverage required collaborating with foreigners and anatomists. Unlike Daubenton, Petrus Camper was both.

62 But, like Daubenton, Camper soon came to learn that Buffon did not consider comparative anatomy to be the cornerstone to natural history. Buffon approached the anthropoid ape only from the exterior whereas Camper was in complete solidarity with Daubenton that the scalpel had the final say.

63 Daubenton's uniform descriptive method, on an unprecedented broad scale to facilitate comparison, was an innovation.¹²² The same

anatomical observations for each dissected specimen should be recorded so that species could be usefully compared before generalizing about their relationships.¹²³ Although Buffon had prescribed a period of fact-finding followed by comparison and generalization, he began his *Histoire Naturelle* with theories before turning to details. Ironically, Daubenton's research reflected Buffon's methodological precepts far closer than Buffon himself!¹²⁴ Following Daubenton's innovative lead, Camper gave a tabular review of his specimens' principal dimensions in his orangutan book.¹²⁵ Despite fierce rivalries for precedence in discoveries, the nascent discipline of comparative anatomy could not advance without mutual cooperation between anatomists.

64 The most instructive revelations in the Camper epistolary exchange were Petrus Camper's private views about Buffon. His many public tributes to Buffon were not obligatory signs of deference but sincere compliments. The letters confirm that the author he described as the "Architect of genius" had inspired Camper's metamorphoses. The letters also prove that Camper was a success as a father and that Adriaan Gilles was a worthy heir to his father's museum and manuscripts. However, regardless of their respective health problems, the differences in goals and methods probably guaranteed that the envisioned co-publication between Buffon and Petrus Camper would result only in a collaboration *manqué*.

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1 Mary Camper-Titsingh donated her family's letters to the University of Groningen Library on the bicentennial of Camper's death. Carlos Gysel, "Un Bicentenaire: la mort de Pierre Camper (1722-1789)," *L'Information Dentaire* 71 (1989): 4395. These "newly found" letters, with the call number of "UKLU P. Camper," are stored in the Manuscripts Department of the Universiteitsbibliotheek Groningen (UBG). Most of the newly found letters were from father to son.

2 The first journey concerned the Rhine river cities from Bonn to Koblenz (July - August 1784) where Adriaan Gilles spent a lot of time studying geology and mineralogy. The second journey consisted of a prolonged trip in France, Italy, and Switzerland (June 1787 - October 1788).

3 Hans Bots and Rob Visser, eds., *Correspondance, 1785-1787, de Petrus Camper (1722-1789) et son fils Adriaan Gilles Camper (1759-1820)* (Amsterdam and Utrecht: APA-Holland University Press, 2002) LIAS Sources and Documents Relating to the Early Modern History of Ideas, vol. 28. In a private communication, Dr. Visser provided me with the missing 33rd footnote on page 20: it referred to Robert P. W. Visser, *The Zoological Work of Petrus Camper (1722-1789)* (Amsterdam: Rodopi, 1985): 8-9. Rob Visser, Robert P.W. Visser, and Dr. Visser are the same person.

4 For years Camper scholars have used the letters in the Manuscripts Department in the University of Amsterdam Library (Universiteitsbibliotheek

Amsterdam, UBA). Their call numbers are X 22, X 23, X 24, and X 28. From these Amsterdam letters Dr. Visser knew about the failed cetacean collaboration with Buffon, before the newly found letters. Visser (1985): 15 and 58.

5 Petrus Camper wrote twelve diaries. They are listed in Miriam Claude Meijer, *Race and Aesthetics in the Anthropology of Petrus Camper (1722-1789)* (Amsterdam: Rodopi, 1999): 230 and 238. Adriaan Gilles Camper, "Voyage de Dusseldorp pour examiner les Volcans au bord du Rhijn, depuis Bonn jusques à Coblantz. Dussel[dorp] le 23 Juillet 1784 jusques au 6 d'Août par A. G. Camper et [J. F. M.] Herbell" (1784). UBA ms. G II 54. Adriaan Gilles Camper, "Itinéraire de Paris par Lion, Grenoble, Montélimar, le Vivarais, Avignon, Aix, Marseille à Livorne par mer, Florence, Siene, Rome, Naples de 20 Juin à 16 Octobre 1788." UBA ms. II E 2.

6 Visser (1985): 152-153.

7 Visser (1985): 145.

8 Visser (1985): 48.

9 "Pendant trois mois de séjour à Paris, M. Camper venait presque tous les jours passer plusieurs heures avec moi. Il me voua le plus sincère attachement. Nous étions, à une année près, du même âge, et si j'avais eu moins de zèle pour mon état, je lui aurais eu l'obligation de me l'inspirer. C'est avec moi qu'il a rendu visite à MM. De Buffon ... de l'Académie des sciences; qu'il s'est présenté chez les Nestor de l'anatomie et de la chirurgie ... d'où il sortait toujours flatté et reconnaissant de la gracieuse réception qui lui avait été faite." Antoine Louis, "Éloge de Camper, lu dans la séance publique du 15 avril 1790," *Éloges lus dans les séances publiques de l'Académie royale de chirurgie de 1750 à 1792*, ed. Frédéric Dubois (Paris: Baillièrre, 1859): 382.

10 Petrus Camper, "Verblijf te Parijs en terug reyze 1777" (cahier 7): 27-34. UBA ms. II F 36-37. Meijer (1999): 112-113.

11 "Communis Europae Praeceptor."

12 Pieter Musschenbroek (1692-1761), Bernhard Nieuwentyt (1654-1718), Bernhard Siegfried Albinus (1697-1770), Julien Offray de la Mettrie (1707-1751), baron Paul-Henri d'Holbach (1723-1789), chevalier Louis de Jaucourt (1704-1780), François Marie Arouet de Voltaire (1694-1778), Albrecht von Haller (1708-1777), to name a few.

13 Pierre Brunet, *Les physiciens hollandais et la méthode expérimentale en France au XVIIIe siècle* (Paris: Albert Blanchard, 1926): 106-122.

14 Phillip R. Sloan, "The Buffon-Linnaeus Controversy," *Isis* 67 (1976): 367. Thierry Hoquet, *Buffon: Histoire Naturelle et Philosophie* (Paris: Honoré Champion Editeur, 2005): 299-306.

15 *Histoire Naturelle* (Paris, 1776) supplement 3; *Histoire Naturelle* (Paris, 1782), and *Histoire Naturelle* (Paris, 1789) supplement 7. Carolus Linnaeus (1707-1778), Thomas Pennant (1726-1798), and Peter Simon Pallas (1741-1811) visited the Low Countries to study plants and animals in the museums and menageries that could hardly be found in collections elsewhere.

16 "En face de het Huis ten Bosch, il y a un petit domaine nommé het Kleine Loo, que le Prince d'Orange a acquis depuis plusieurs années. Il est suivi d'une longue allée, qui est l'avenue menant à un autre domaine, nommé het Oude Loo et qui appartient également au Prince d'Orange. C'est une ancienne terre seigneuriale. Le château a été démoli et il n'en est presque resté que les portes; mais les jardins et les bosquets en sont encore fort beaux. Ce qu'ils renferment de plus remarquable, c'est une très belle ménagerie, pourvue d'oiseaux et autres animaux étrangers et curieux. Aussi les étrangers ne devraient pas manquer de l'aller visiter. Au delà de cette terre l'allée continue jusqu'à la route de Voorburg." *Guide de la Haye* (1785): 323, as cited in J. F. Smit, *Zuid-Hollandsche Electriscbe Spoorweg Maatschappij* (ZHESM), *Rotterdam Hofplein - Den Haag - Scheveningen Kurhaus: Hoe het spoor elektrisch werd* (Rotterdam: Phoenix en den Oudsten, 1989): 99.

17 Florence F. J. M. Pieters, "Notes on the Menagerie and Zoological Cabinet of Stadholder William V of Holland, Directed by Aernout Vosmaer," *Journal of the Society for the Bibliography of Natural History* 9 (1980): 552.

18 Warthog, American bison, common duiker, flying lemur, blackbuck, springbuck, slow loris, and large-spotted genet. P. Tuijn and P. J. Van Feen, "On Some Eighteenth-Century Animal Portraits of Interest for Systematic Zoology," *Bijdragen tot de Dierkunde* 39 (1969): 69-79. They enumerated the copies of mammal plates from Vosmaer's book in the first Buffon edition and in Allamand's editions of Buffon.

19 Hippopotamus, giraffe, reindeer, grison, desert jerboa, Brazilian tapir, black wildebeest, eastern grey kangaroo, greater kudu, gemsbok, blaauwbok, Cape hyrax, black rhinoceros, quagga, eland, red hartebeest, Cape mole-rat, aardvark, southern reedbuck, bushbuck, Indian muntjac, lesser white-nosed guenon, orangutan, Diana monkey, white-crested spring rat. L. C. Rookmaaker, "J. N. S. Allamand's additions (1769-1781) to the 'Nouvelle

Edition' of Buffon's 'Histoire Naturelle' published in Holland," *Bijdragen tot de Dierkunde* 61 (1992): 131-162.

20 Adriaan Gilles Camper referred to this as the engraver's neglect to use a miroir when copying. Hans Bots and Rob Visser, eds., *Correspondance*, AGC-PC, Paris, 22 October 1786, UBA ms. X 24 L (CIII): 262. The following citations from this book should be recognized by the Roman numerals enclosed in parentheses, followed by page number. Assume UBG whenever no UBA is cited.

21 "Observations sur le renne faites à Groningue, par Mr. Le Professeur P. Camper," in J. N. S. Allamand, ed., *Histoire Naturelle, Générale et Particuliere, avec la Description du Cabinet du Roi. Par Mrs. De Buffon & Daubenton. Nouvelle Édition* (Amsterdam: J. H. Schneider, 1771) vol. 15, pp. 53-56. Allamand's plate IV of "Le Renne" was signed in the lower left corner, "P.C. ad viv. del.," which must stand for "Petrus Camper Ad vivum delineavit," drawn from life.

22 "Observations sur le Renne, Faites à Groningue par M. le Professeur P. Camper," in *Histoire Naturelle* (Paris, 1776) supplement 3, pp. 138-144. In 1782 Camper published an elaborated version in his own book; but he enlarged reindeer knowledge only in a modest way. Visser (1985): 45-48.

23 Letter draft by Camper to Buffon, 15 November 1778, University of Leiden Library (Universiteitsbibliotheek Leiden, UBL) ms. BPL 247.94. Visser (1985): 48-49. Excerpt from a letter by Camper on "l'organe de la voix des sapajous hurleurs," in *Histoire Naturelle* (Paris, 1789) supplement 7, pp. 93-99.

24 "J'ai reçu, monsieur, avec grande satisfaction, la lettre que vous m'avez fait l'honneur de m'écrire le 15 novembre dernier, et je commence par vous assurer que je suis tout aussi fâché que vous pûvez l'être de n'avoir pas eû l'avantage de vous voir pendant votre dernier séjour à Paris; je me souviens parfaitement de votre première entrevue en 1749, et dès ce temps la, monsieur, vous annonciés déjà les grands talens qui vous distinguent ce qui vous font regarder avec raison comme l'un des plus excellents anatomistes de l'Europe." Buffon-Camper, Jardin du Roi, Paris, 11 December 1778. UBA ms. X 18.

25 Visser (1985): 39. The gorilla was not known until the 1840s.

26 Buffon, "Les Orang-outangs, ou le Pongo et le Jocko," *Histoire Naturelle* (Paris, 1766), vol. 14, pp. 43-71.

27 Petrus Camper, *Natuurkundige verhandelingen van Petrus Camper over den Orang Outang; en eenige andere Aap-soorten. Over den Rhinoceros met den Dubbelen Horen; en Over het Rendier* (Amsterdam, 1782).

28 A. J. van Bork-Feldkamp, "Anthropological Research in the Netherlands, Historical Survey," *Verhandelingen der Koninklijke Nederlandsche Akademie van Wetenschappen* 37 (1938): 9. D. J. H. Nijèssen, "De Nederlandsche Arts als Anthropoloog," *Bijdragen tot de Geschiedenis der Geneeskunde* 7 (1927): 603 or *Nederlandsche Tijdschrift voor Geneeskunde* 71 (1927): 1029. D. J. Nijèssen, "Petrus Camper en zijne tijdgenooten," *Mensch en Maatschappij* 3 (1927): 74. My sincere thanks to Han F. Vermeulen of Leiden University for finding this information. The Dutch have remained active in orangutan research and conservation to this day. L. E. M. de Boer, *The Orangutan: Its Biology and Conservation* (The Hague: Dr. W. Junk Publishers, 1982).

29 "... Comme je compte donner l'année prochaine un second volume de suppléments a l'histoire naturelle des animaux quadrupeds & que j'ai de nombreuses additions au sujet de plusieurs espèces de singes, je serois enchanté d'y faire mention de votre nom et de toutes vos découvertes sur l'anatomie de ces animaux." Buffon-Camper, Jardin du Roi, Paris, 11 December 1778, UBA X 18.

30 "Response à Mr. de Buffon sur la lettre du 11 Dec. 1778. ... Vous verres dans mon livre; que j'aurai l'honneur de vous envoyer par M. le secrétaire de Lliano, des qu'il sera imprimé, que l'Orang differe infiniment du pigmy de Tyson." Letter draft by Camper to Buffon, 9 June 1779, UBL ms. BPL 247.94. Edward Tyson, *Orang-outang, sive homo sylvestris; or, The Anatomy of a pygmie compared with that of a monkey, an ape, and a man. To which is added, A philological essay concerning the Pygmies, the Cynocephali, the Satyrs and Sphinges of the Ancients, Wherein it will appear that they were all either Apes or Monkeys; and not Men, as formerly pretended* (London, 1966).

31 Petrus Camper, "Account of the Organs of Speech of the Orang Outang," *Philosophical Transactions* 69 (1779): 139-159. Petrus Camper, "Kort Berigt Wegens de Ontleding van Verscheidene Orang Outangs, en Inzonderheid van die in de Diergaarde van zyne Doorluchtigste Hoogheid, den Heere Prinse van Orange, Erfstadhouder, enz. enz. enz. gestorven is, in den Jaare 1777," *Algemeene Vaderlandsche Letter-Oefeningen* 1 (1779): 18-36.

32 "... J'ai en éffet quelques desire de donner au public une histoire des animaux cétaqués et d'y joindre celle des lézards et des reptiles, mais cet ouvrage n'est pas encore fort avancé et je compte acheiver l'histoire entière des oiseaux & donner encore mon supplémen aux animaux quadrupèdes avans de m'occuper sérieusemens des Cétaqués et des reptiles; cependans j'ai déjà recueilli un assés grand nombre de dessins, et plusieurs notices a ce sujet. Vous me feriés un véritable plaisir si vous vouliés, monsieur, laisser dessiner

a mes frais les petites baleines et autres cétacés que vous conservés dans votre Cabinet; vous sentés bien que je vous cierois dans mon ouvrage avec tous les éloges que vous mérités; cependant je ne vous demande cette faveur que dans le cas et en supposans que vous ne vouliès pas vous même faire l'histoire naturelle de ces animaux.” Buffon-Camper, Jardin du Roi, Paris, 11 December 1778, UBA ms. X18.

33 Camper-Buffon, 9 June 1779, Bibliothèque Centrale du Muséum National d'Histoire Naturelle, ms. 863, as cited in Jeff Loveland, “Another Daubenton, Another ‘Histoire naturelle,’” *Journal of the History of Biology* 39 (2006): 482n100.

34 “Ce n'est que parce que M. Daubenton savoit que j'avois dessin de travailler a cette histoire des cétacés qu'il a été un peu faché de ce que vous aviés dessiné la tête du Cachotos sans nous en avoir averti; mais je vous prie de n'y plus penser car vous êtes bien en état de me rendre au dela de ce que je pourois vous donner. ... Le Cte de Buffon.” Buffon-Camper, Jardin du Roi, Paris, 11 December 1778, UBA ms. X18.

35 “Daarna ging ik naar [de]s konings Hortus medicini, om den kop des cachalots te zien, en te tekenen, dog daarover scheen D'aubenton te onvre-den, omdat de Buffon over de Cetacea wilde observeren, eene jalousie onder die lieden onvergeefelijk. Om hem gerust te stellen al zoo ik de onderkaak nog tekenen wilde zaid' ik hem bij het leven van De Buffon en hem D'au-benton mijne tekening niet te zullen uytgeeven.” Petrus Camper, “Verblijf te Parijs en terug reyze 1777” (cahier 7): 26. UBA ms. II F 36-37.

36 Daubenton-Buffon 1767, in Gustave Michaut, “Buffon administrateur et homme d'affaires,” *Annales de l'Université de Paris* 6 (1931): 30-31.

37 Buffon-Daubenton, 29 February 1764, in Michaut, pp. 21-24. Starting with *Histoire Naturelle* (Paris, 1764) vol. 12, Buffon would open his volumes with overviews. Loveland (2006): 478.

38 Jacques Roger, *Buffon: A Life in Natural History*, trans. Sarah Lucille Bon-nefoi, ed. L. Pearce Williams (Ithaca and London: Cornell University Press, 1997): 224-226. Loveland (2006): 482.

39 “Je viens dans le moment de chez D'Aubenton, auquel j'ay montré une partie du portefeuille. Il sembloit regarder tout cela avec assés de plaisir melé d'indifférence...” AGC-PC, Paris, 30 June 1785, UBA ms. X 22 s (V): 34.

40 “La façon de donner leçon de Mr. Daub[enton] ne m'étonne pas, ni que la vue de mes dessins n'ayent pas fait plus d'impression sur luy. C'est l'envie qui a causé cette indifférence.” PC-AGC, Leeuwarden, 9 July 1785 (IX): 43.

41 “Le voyage vers Mr. de Buffon vous pourroit intéresser pour avoir vu un homme célèbre, et je crois que le local, les fabriques de fer, etc. valent la peine. Vous avez souffert, parce que les ouvrages que vous montrés étoient d'un père que vous adorés. Eux, ils voyent avec des yeux indifférens, et peu accoutumés à des pareilles choses.” PC-AGC, Klein Lankum, 16 July 1785 (XII): 52.

42 “Figurés vous un homme de grande taille, d'une phisiognomie très heureuse, des yeux bruns, des sourcils noirs, une chevelure épaisse, blanche comme la neige, bien peigné, (car depuis 65 années il a toujours mis tous les jours des papillotes) étant fait à l'âge de 78 ans comme beaucoup le sont à 56 ou 58.” AGC-PC, Paris, 4/5 August 1785, UBA ms. X 22 w (XV): 61-62.

43 Marie Jean Hérault de Séchelles, “Voyage à Montbard, fait en 1785,” in Yann Gaillard, *Buffon: Biographie imaginaire et réelle* (Paris: Hermann, 1977): 141-171.

44 “A peine fus je descendu à l'auberge et que je lui eus fait sçavoir mon arrivée que 2 domestiques m'invitèrent de la part de Mr. le comte de venir prendre mes chambres chez lui en disant qu'ils avoient ordre d'emporter mon bagage. Je n'eus aucune peine à me prêter au changement de mon logis, lorsqu'ils me conduisirent dans une très belle chambre, où Mr. Necker a coutume de loger en passant à Montbar. Après je fus conduit dans la chambre de Mr. de Buffon qui me dit etre charmé de ce que j'avais bien voulu faire le voyage pour le voir; que je pouvais rester chez lui autant qu'il me plairoit et qu'après avoir achevé ses occupations, il se flattoit de me revoir; qu'en attendant je pouvois m'arranger dans ma chambre etc.

Il étoit à peine une heure qu'il me fit venir chez lui où je le trouvais accompagné de son secrétaire qui lut à haute voix votre lettre de recommandation. Mr. de Buffon reçut les éloges avec sourire en disant que vous aviez bien de la bonté et que cela étoit bien honnête de votre part, qu'il étoit curieux de voir le portefeuille etc.” AGC-PC, Paris, 4/5 August 1785, UBA ms. X 22 w (XV): 59. Jacques Necker (1732-1804) became directeur général des Finances in 1777. His wife became a close friend of Buffon.

45 Although there is no inventory of the drawings which Camper sent with his son to Buffon, there is a survey of them in Herbell's 31 May 1786 “Vorrede” in the second volume, part 2, of *Herrn Peter Campers Sämmtliche Kleinere Schriften die Arzney-, Wundarzneykunst und Naturgeschichte betreffend. Im Teutschen mit vielen neuen Zusätzen und Vermehrungen des Verfassers bereichert von J. F. M. Herbell* (Leipzig, 1784-1790).

46 “Il a fait beaucoup de cas de ce qui concernoit les cétacées, mais il n'en fera pas usage, puisqu'il a laissé aux autres naturalistes d'en faire connaître les propriétés et qualités dont son grand âge lui défendoit d'acquérir les connaissances suffisantes...” AGC-PC, Paris, 4/5 August 1785, UBA ms. X 22 w (XV): 59.

47 Orangutan, mandril, sloth, anteater (which Buffon claimed was an aardvark), giraffe, porcupine, and reindeer. AGC-PC, Paris, 4/5 August 1785, UBA ms. X 22 w (XV): 59.

48 “Me voilà revenu depuis hier au soir, content comme un roi de la réception et de l'accueil les plus flatteurs du plus grand et du plus aimable génie de la France ... touché jusques aux larmes en quittant son domicile délicieux.” AGC-PC, Paris, 4/5 August 1785, UBA ms. X 22 w (XV): 59.

49 “M. Buffon qui m'a chargé de remporter les dessins choisis à Paris, ne m'a pas encore envoyé son dessinateur. Je crois qu'il les a oubliés ou bien que cela ne presse pas. ... De tout cela il résulte évidemment que Gallitzin vous ayt très mal informé des intentions de M. de Buffon, car il ne veut ni cétacés ni rien de tout cela.” AGC-PC, Paris, 28 August 1785, UBA ms. X 22 Z (XXI): 80. Prince Gallitzin (1738-1803), the Russian ambassador in Paris in 1763-1773 and thereafter in The Hague, was a mutual friend of Camper and Buffon.

50 “Lorsque Mr. de Buffon sera à Paris, vous devés luy les faire voir. Il vous enverra probablement alors son dessinateur.” PC-AGC, Klein Lankum, 5 September 1785 (XXIII): 85.

51 “La bévue de M. Daubenton et ma décision fondée sur des simples connoissances d’un peu d’ostéologie, ont ranimé dans l’esprit du comte de Buffon le désir d’examiner vos dessins et de connoître de plus près la structure de ces animaux. J’ay fait mon possible pour lui expliquer les grandes vues dont vous vous etiez occupé et j’ay réussi à lui rendre en peu de mots combien ces animaux par leur structure, bizarre au premier abord, laissoient à penser au naturaliste, qui fait ses délices de la contemplation des êtres créés. Le comte m’ayant demandé pourquoi vous n’aviez pas publié ces choses, je repris qu’ayant désiré lui de publier vos découvertes, dans un tems qu’il sembloit vouloir entreprendre la description de ces animaux, vous vous étiez flatté que le public les accepteroit avec une plus grande vénération de ses mains, etc. etc. et qu’enfin la difficulté d’avoir des bons graveurs, le peu d’intérêt que prennent dans le progrès des connoissances des hommes uniquement occupés au commerce, étoit un des motifs principaux qui retardoit la publication d’un nombre immense de découvertes qui se trouvent dans vos manuscrits.

Eh bien Monsieur! dit le comte, cela est si intéressant, si admirable et si peu connu qu’il faudroit publier cela, et je le ferais à mes dépens, Mr. votre père en aura 12 ou plus d’exemplaires, je ferois graver les planches et je ferois une préface dans laquelle je dirois au public que nous devons tout à votre digne père, mais il faudroit que cela fût traduit en français; personne fera cela mieux que vous et commencez y au plutôt. ... Ainsi voilà que je suis à traduire; mais comme je ne connois pas assez l’ostéologie en français, j’avois demandé quelques livres à mon ami Louïs qui s’est d’abord prescrit à revoir ma traduction et le style, et vous voyez par là que Mr. Louïs, M. le comte et moi, nous sommes occupés à faire paroître vos ouvrages, dont je suis d’autant plus charmé que sûrement les Français vous en auront obligation; si ce n’avoit pas été le pauvre ridicule Daubenton, mais vous qui avez secondé Buffon dans son hist[oire] naturelle, je crois que cela auroit été un ouvrage superbe et tout à fait immortel. Si vous auriez encore quelque chose à ajouter touchant ces animaux, quelque description particulière, tirée de vos admirables démonstrations publiques au théâtre anatomique de Groningue, je vous supplie de me les envoyer au plutôt.” AGC-PC, no city, no date, January 1786, UBA ms. X 23 o (LIX): 165-166.

52 AGC-PC, Paris, 19 March 1786, UBA ms. X 23 u (LXXI): 195. AGC-PC, Paris, 20 April 1786, UBA ms. X 23 y (LXXIX): 213. AGC-PC, Paris, 27 April 1786, UBA ms. X 23 z (LXXXI): 216.

53 Camper's work was better known in the German world than elsewhere thanks to Johann Fredrik Mauritz Herbell (1752-1819), a lawyer and friend of Adriaan Gilles, who translated Camper's major works into German.

54 Petrus Camper, "Verhandeling over het gehoor van den cachelot of potwalvisch," *Verhandelingen uitgegeeven door de Hollandsche maatschappye der weetenschappen te Haarlem* 9 (1767): 193-229. However, Camper failed to locate the semi-circular canals, which are extremely small in cetaceans, altogether.

55 Petrus Camper, "Verhandeling over de zitplaats van het beenig gehoor-tuig, en over de zitplaats van het beenig gehoortuig, en over een voornaam gedeelte van het zintuig zelve in de walvisschen," *Verhandelingen uitgegeeven door de Hollandsche maatschappye der weetenschappen te Haarlem* 17 (1777): 157-200.

56 Petrus Camper, "Verzameling aanteekeningen over de walvischsoorten." UBA ms. B III.

57 Petrus Camper, "Lessen gehouden over de walvisschen. Groningen, 11 November 1772." UBA ms. II F 78. A silver-mounted sperm whale tooth from this specimen is on display in Terschelling's 't Behouden Huys museum. W. M. Zappey, "Strandingen van walvisachtigen in de 18de eeuw," "Op het strand gesmeten." *Vijf eeuwen potsvisstrandings aan de Nederlandse kust*, eds. B. C. Sliggers and A. A. Wertheim (Haarlem en Enkhuizen: Walburg Pers, 1992): 80-84.

58 "... paraît avoir été un Trumpo," Petrus Camper, *Observations Anatomiques sur la structure intérieure et le squelette de plusieurs espèces de cétacés ... publiées par ... Adrien-Gilles Camper ... avec des notes par M. G. Cuvier* (Paris, 1820), vol. 1, p. 105. Zappey, pp. 96-98. Adriaan Gilles Camper, *Description Succincte du Musée de Pierre Camper* (Amsterdam / Den Haag: Cleef, 1811): 23-26.

59 Greenland whale, common rorqual, bottle-nosed whale, cachalot, narwhal, pilot whale, dolphin, and porpoise.

60 "Le squelette assez mal conservé de ce baleinoptère est suspendu dans une salle de l'hôtel de ville de Bremen. Attaché à une hauteur considérable du plancher, il n'a pas été possible d'en tirer un dessin plus correct." Camper, *Observations anatomiques*, vol. 1, p. 74.

61 Visser (1985): 53-60.

62 “Mr. le comte de Buffon a pourtant gagné plus d'argent que moi. Son genre est plus vaste, son esprit plus brillant. Malgré les erreurs il m'a appris par son exemple à envisager les choses en grand, à combiner etc.” PC-AGC, Klein Lankum, 12 August 1785 (XVII): 66.

63 “Vous vous exprimés dans la précédente du 12 que l'esprit de Buffon soit plus brillant que le vôtre et je ne suis pas d'accord là dessus. Il faut comparer son français à votre style hollandais dans les compositions susceptibles des fleurs d'éloquence. M. de Buffon a puisé son système après que les Whiston, Burnet etc., encore le grand immortel Newton avoit donné ses vues hardies dans ses fameuses *Questions*, où il démontre la possibilité de la chute des comètes dans le corps du soleil en cas qu'elles viennent dans son atmosphère. Buffon a orné cette idée. Il a bâti là dessus un bel édifice, mais qui croule de tous côtés. Mais qui est ce qui a démontré l'analogie de la création comme vous? Qui est ce qui a conçu comme vous, la simplicité des oeuvres de l'Eternel Géomètre? Je demande plus, car je le demande à la postérité de tous les siècles à venir: 'Qui d'entre vous pourra jamais renverser votre édifice, bâti sur tout ce qu'il y a de plus solide?' Chaque siècle dira: 'Vous avez eu raison,' et chaque pas à la perfection des connaissances exposera vos lumières dans tout leur brillant, ce brillant que les seuls athées, les ridicules protecteurs des molécules fortuitement amassées pourront revoquer en doute.” AGC-PC, Paris, 28 August 1785, UBA ms. X 22 z (XXI): 81. William Whiston (1667-1752), Thomas Burnet (1635-1715).

64 Roger, p. 92.

65 Buffon was reintroducing concepts that had constituted part of the Aristotelian worldview dismissed by the mechanical philosophers of nature. He wanted to heal the breach between mind and matter by rehabilitating the ancient procedures of analogical thinking, comparison, and divination. Peter Hanns Reill, *Vitalizing Nature in the Enlightenment* (Berkeley: University of California Press, 2005), Chapter 1.

66 Thus, one attribute of organic matter was conjunction. A second primary attribute of living matter was the ability to reproduce. The third and final attribute was matter's organizing agent (Buffon's “*moule intérieur*” was the action of natural forces). Reill, Chapter 1.

67 Like all anatomists before Georges Cuvier, Daubenton worked in an anthropocentric framework. His zoological anatomies proceeded from the head “downward,” the tradition in human anatomy. He and Camper emphasized human uniqueness. Loveland (2006): 475. Camper's interest in animals

had a similar perspective with his zoological questions: can whales hear? Can orangutans speak? Are orangutans bipedal?

68 "... mon grand but étoit d'étudier constamment les rapports que les animaux ont entre eux, et avec l'homme. Vous avez été mon maître dans cette partie, et le modèle que j'ai tâché d'imiter!" Letter draft by Petrus Camper to Buffon, 29 August 1786, UBL ms. BPL 885. Visser (1985): 58.

69 Petrus Camper, *The Works of the late Professor Camper, on the Connexion between the Science of Anatomy and the Arts of Drawing, Painting, Statuary, etc. in Two Books containing a Treatise on the Natural Difference of Features in Persons of Different Countries and Periods of Life; and on Beauty, as exhibited in ancient sculpture; with a new method of sketching heads, national features, and portraits of individuals, with accuracy, etc.*, trans. Thomas Cogan (London, 1794): 23.

70 "Il est étonnant combien le comte sache peu de la structure intérieure et même Daubenton!" AGC-PC, Paris, 19 February 1786, UBA ms. X 23 r (LXV): 181.

71 "J'ay achevé la traduction des cétacés et des observations sur les quadrupèdes que M. de Buffon avoit choisis à Montbard et je ne regrette pas le tems ni la peine que cela m'a donné. Les cétacés n'ont souffert aucune difficulté pour la réception, puisque le Comte n'avoit pas écrit là dessus, mais les quadrupèdes me font beaucoup souffrir et vous jugerez vous même, lorsque je vous auray communiqué le pourquoi." AGC-PC, Paris, 19 March 1786, UBA ms. X 23 u (LXXI): 194.

72 "... [2] l'orang outang qui n'est pas le jocko ou le véritable orang ...
"L'orang n'est pas l'orang, puisque la mâchoire n'est pas si prominente, puisqu'il ne ressemble pas à la figure qui est dans la description du jocko... Tous les noms que vous donnez, sont tirés de la mauvaise nomenclature de Linnaeus. Vous n'avez pas suivi la nomenclature du Comte! Peste! Si tout cela est embrouillé de la sorte, alors on ne sait pas d'où il est question! Voilà comme on parle!" AGC-PC, Paris, 19 March 1786, UBA ms. X 23 u (LXXI): 194.

73 "J'espère que le Comte reviendra de sa pensée en lisant votre livre sur l'orang. J'ay bien icy quelques unes de vos observations concernant cet animal, mais comme vous les avez rédigées vous même en François, il vaut mieux en profiter; aussi, [je] n'ay pas assez de tems, j'ay été trop occupé depuis quelque tems." AGC-PC, Paris, 19 March 1786, UBA ms. X 23 u (LXXI): 194.

74 “Je ne m’étendrai pas sur tout ce que je pense au sujet de l’histoire du jocko dans M. de Buffon. Vous sentez mieux ce qu’elle vaut que moi, ni dirais [je] mon sentiment sur les détails de l’anatomiste; quoique votre description diffère beaucoup de celle qu’a donnée le Plin de la France et qu’elle fronde même ses opinions. J’espère que doucement vous prévaudrez sur ce qui concerne la structure interne de l’animal et qu’on parviendra à adopter vos observations.” AGC-PC, Paris, 19 March 1786, UBA ms. X 23 u (LXXI): 195.

75 “Je suis étonné qu’il n’a pas parlé de mon ouvrage sur l’orang en français. Le secrétaire de Mr. Liano d’Espagne l’a pris sur soi à Paris par la direction du prince Gallitzin qui est encore en Allemagne.” PC-AGC, Klein Lankum, 12 August 1785 (XVII): 66.

76 “Il a seurement bien reçu mon livre sur les singes, parce qu’il a déjà remercié le prince de Gallitzin pour sa bonté etc. etc.” PC-AGC, Klein Lankum, 5 September 1785 (XXIII): 84.

77 “... Mr. Le Comte doit avoir vu par ma dissertation sur l’orang que le Prince Gallitzin luy à envoyée... Je dis la même chose au sujet de l’orang, nom des Indiens que j’ai gardé, qu’on en donne un autre n’importe. La grande question est si les découvertes que j’ai faites sont vrayes, et si l’on puisse compter sur mes observations. J’ose dire que oui. ... Il faut que Mr. Le Comte ait reçu ma dissertation sur l’orang ou mon-orang, l’orang de l’Asie, aussi nommé par Mr. Forster, par tous les naturalistes Indiens.” PC-AGC, Leeuwarden, 28 March 1786 (LXXIII): 199. Jacob Cornelis Mattieu de Radermacher (1741-1783), Friedrich von Wurmb (d. ca. 1782), Joshua van Iperen (1726-1780), Johann Reinhold Foster (1729-1798).

78 “Il faut que Mr. de Buffon ait mes observations, car ce Monsieur les a délivrées. J’ai écrit derechef au Prince Gallitzin. C’est la jalousie de Daubenton qui cause tout cela.” PC-AGC, Klein Lankum and Leeuwarden, 2 and 7 April 1786 (LXXV): 205.

79 “Je suis presque sur qu’il n’a pas reçu les descriptions de l’ourang. Il faut que ce M. le secrét[aire] de Liano qui s’en étoit chargé, les ayt gardés pour lui.” AGC-PC, Paris, 28 August 1785, UBA ms. X 22 z (XXI): 80.

80 “Je crois que vous ne feriez pas mal de m’envoyer par quelque occasion votre livre publié sur les orangs outangs etc., afin d’en faire cadeau à Buffon, car je crois qu’il est en françois comme en hollandois.” AGC-PC, Paris, 12 March 1786, UBA ms. X 23 t (LXX): 192.

81 “J’ay trouvé enfin dans le cabinet la tête du fameux Jocko ou orang outang décrit dans le livre du comte et je ne m’étonne plus de ce que le comte ne

reconnaisse pas dans vos figures l'animal qu'il a décrit comme tel. Je commence même à désespérer qu'il adopte jamais vos observations, s'il est vray qu'il faut que cet animal reste orang, car il n'est pas plus orang qu'un manche de balais n'est un orang." AGC-PC, Paris, 27 April 1786, UBA ms. X 23 z (LXXXI): 216.

82 "Je vois que Buffon doit avoir votre livre sur les orangs, mais il travaille et agit si peu par lui même que je ne crois pas qu'il sache ni ce qu'il a dans la bibliothèque ni au cabinet Royal." AGC-PC, Paris, 27 April 1786, UBA ms. X 23 z (LXXXI): 217.

83 Jorge Martínez-Contreras recently found and photographed this famous "jocko," the oldest taxidermied animal in existence, in the Muséum National d'Histoire Naturelle.

84 "Buffon's *Jocko* was not smaller than Tyson's, yet little was to be trusted about the size, for Daubenton even says that he was 2 feet and 4 or 5 thumbs high, but because the skin was stuffed he preferred to use Tyson's measurements. I saw this mounted animal on 18 July 1777 and found it set up very poorly." Petrus Camper,"... Voortreffelykheid der Menschen boven ... dieren" (1771), p. 28. UBA ms. IV A 11¹.

"Orang outang so perfectly drawn in Buffon. One would not believe that it was a little miserable creature, poorly stuffed, from which the beautiful embellished drawing was made." Petrus Camper, "Verblijf te Parijs en terug Reyze 1777" (cahier 7): 19. UBA ms. II F 36-37.

"Nothing shocked me more than the *Jocko*, so elegantly portrayed in Buffon's work, I saw on 18 July 1777 in the King's Cabinet in Paris: it is there a small unseemly stuffing." Petrus Camper, *Natuurkundige verhandelingen van Petrus Camper over den Orang Outang; en eenige andere Aap-soorten. Over den Rhinoceros met den Dubbelen Horen; en over het Rendier* (Amsterdam, 1782): 33.

85 "Je disais au comte de la Cépède que j'avais été un peu surpris de ce que Mr. de Buffon avait hésité sur vos figures, puisque le même animal décrit par Allamand avoit été reconnu. Il ne me dit pas grand chose là dessus." AGC-PC, Paris, 2 July 1786, UBA ms. X 24 g (XCIII): 242.

86 J. N. S. Allamand, "Addition à l'article des Orangs-outangs, Volume XV, pag. 71," *Histoire Naturelle, Générale et Particulière. Servant de Suite a L'Histoire des Animaux Quadrupèdes. Par M. Le Comte de Buffon. Supplément Tome Cinquieme. Nouvelle Édition* (Amsterdam, 1785) vol. 34 or supplément 5, pp. 45-48, plate XVIII.

87 The number that Camper saw and dissected was an exceptional privilege, particularly since he was a private researcher. Miriam Claude Meijer, "The Century of the Orangutan," *New Perspectives on the Eighteenth Century* 1 (2004): 62-78.

88 "Je n'ai vu que la peau bourrée et la plus grande partie du squelette du Jocko, que l'on montroit à Paris en 1740: il mourut l'année suivante à Londres où il fut ouvert; on le rapporta ici dans de l'eau-de-vie, et on le mit au Cabinet: dans la suite on a fait bourrer la peau et préparer le squelette. Ce singe avoit été pris en Afrique dans le fond du Gabon, sur la côte d'Angole." Daubenton, "Description du Jocko," *Histoire Naturelle* (Paris, 1766), vol. 14, p. 72.

89 "... je ne crois pas que M. de Buffon sera très friand d'en faire usage dans son supplément, car la plupart de ces éclaircissements seroient des armes offensives qui pourroient lui nuire. Ce sont pour lui des détails qui frondent ses vues générales; ou comment se flatter raisonnablement d'un désintéressement pareil?" AGC-PC, Paris, 14 June 1786, UBA ms. X 24 e (XCI): 237.

90 "Je ne sçaurais, hélas, vous promettre quand et comment tout cela se fera, car le comte me paroît être bien peu disposé au travail. Depuis que son mal (qui pourroit bien être la pierre) ne lui donne aucun moment de relâche, il ne s'occupe que de son travail sur l'aimant, ayant chassé son secrétaire à cause d'ivrognerie." AGC-PC, Montbard, no date, September 1786, UBA ms. X 24 h (XCVI): 247.

91 "M. le comte ne veut pas suivre le système de Ray, mais le sien. Enfin, il ne veut ni voir les figures ni se donner la peine de lire vos observations. Il n'a pas vu la tête du jeune marsouin, et fera réduire les figures à la moitié pour diminuer le nombre des planches, à cause des frais de 49 planches à 60 livres chacun, ce qui reviendra à 1000 écus." AGC-PC, Montbard, 2 October 1786, UBA ms. X 24 i (XCIX): 252-253. Visser (1985): 58. John Ray (1627-1705).

92 "Il m'est impossible sans désobliger le comte de me soustraire à ce travail et sans craindre de l'irriter, mais il m'est impossible en même tems de négliger mes études mathématiques et d'exécuter ce qu'il me demande. Indépendamment de toute la peine que je prendrais volontiers pour l'avancement de votre renommée, il n'est pas possible à moi de donner un détail juste et la comparaison exacte de vos ouvrages avec ceux des autres naturalistes. Il faut pour cela connaître à fond tout l'ouvrage et ce n'est que l'auteur lui seul qui puisse en avoir cette connaissance. Ainsi, mon cher

père, je vous supplie de venir à mon secours ou de me permettre que venant à Paris je fasse extraire et traduire quelques choses à vos dépens. Mon Dieu! Si l'on avait prévu tout cela! Encore, j'ay peur que l'on pourrait retrancher ou diminuer le mérite! Que faut il faire à tout cela? Je vous prie de me tirer de l'embarras." AGC-PC, Montbard, 2 October 1786, UBA ms. X 24 i (XCIX): 253.

93 Louis, "Éloge de Camper," p. 387. Although both Patriots and Orangists regarded Camper as an unreliable opportunist, none of Camper's property was damaged. Camper was for progress but no revolutionary. He wanted the status quo improved only gradually.

94 "Moi par contre je vais étudier une lettre polie, flatteuse pour le philosophe et je luy exposerai toutes les difficultés de son plan, la peine que je me suis donnée pour satisfaire à ses désirs que ce n'est pas moi qui luy a[i] fait la proposition, mais que luy, il avoit eu la bonté pour moi de vouloir publier mes ouvrages sur les cétacés, qui sans cela seroient restés dans mon portefeuille et dans un oubli perpétuel etc. Je vous adresserai la lettre ouverte que vous luy apporterez ou enverrez, s'il n'est pas encore à Paris, à Montbar. Il me paroît moribond, du moins son âme baisse." PC-AGC, Klein Lankum, 13 October 1786 (CI): 257.

95 "... une description purement anatomique n'intéresseroit que des anatomistes éclairés ... l'ouvrage ne prendroit pas chez les sçavans moins instruits ..." AGC-PC, Paris, 22 October 1786, UBA ms. X 24 L (CIII): 261.

96 "Laissez faire le comte, il mourra avant que l'ouvrage soit fini et alors c'est à nous à penser à exécution. Si j'avois prévu tant de difficultés, je n'aurois pas passé le beau tems de l'été à ses explications et dessins. J'aurai fini mon livre sur la ligne faciale qui en a souffert." PC-AGC, Leeuwarden, 29 December 1786 (CXII): 279.

97 PC-AGC, Klein Lankum, 25 January 1787 (CXIV): 284.

98 Adriaan Gilles Camper acknowledged this paternal visit. Adriaan Gilles Camper, *Levens-Schets van Petrus Camper* (Leeuwarden: H. Post, 1791): 47. The true nature of this illness was not revealed or not known by his biographer and son-in-law, Jacob Gijsbertus Samuel van Breda (1788-1867). J. G. S. van Breda, *Levens-Schets van Adriaan Gilles Camper* (Gent, 1825): 27. Breda used Adriaan Gilles Camper's diary and Amsterdam letters. Johann Wolfgang Goethe (1749-1832), however, made fun of Adriaan Gilles's condition in a poem published after Adriaan Gilles's death. Meijer (1999): 24n144.

99 H. A. Bakker, "De smaak van de macht: Petrus Camper in de politiek," *Petrus Camper (1722-1789): onderzoeker van nature*, eds. J. Schuller tot

Peursum-Meijer and W. R. H. Koops (Groningen: Universiteitsmuseum, 1989): 34.

100 April 15, 17, 20, 21, 27, 28, and 29.

101 Petrus Camper, "Reyze naar Bentheim, Cleef en Brabant gedaan in den jaare 1776 en Van Breslau naar Parijs in den jaare 1777 en Van Friesland weder naar Parijs in April 1787" (cahier 6). UBA ms. II F 36-37.

102 Karl de Leeuw and Hans van der Meer, "A Homophonic Substitution in the Archives of the Last Great Pensionary of Holland," *Cryptologia* 17 (1993): 225-236.

103 IJnte Botke, "Je Recueille Toujours des Pierres: Adriaan Gilles Camper in Italië, 1787-1788," *Ziedaar Italië! Vijf Eeuwen Friezen en Groningers in Italië*, eds. IJ. Botke, G.C. Huisman, H. Maring, and L.A. de Vries (Franeker: Uitgeverij Van Wijnen, 1998): 67-103. Botke's article was based entirely on the newly found Camper letters.

104 "Parmi les voyageurs qui visitaient Rome à la fin de 1787 on distinguoit le fils du Célèbre Camper. Comme son père, il possède les principales langues vivantes. Il dessine très proprement, et peint avec élégance. A Paris il a demeuré chez Le Comte de Buffon et n'a pas éprouvé un accueil moins favorable du comte Hamilton à Naples." PC-AGC, 22 July 1788. Not published in Bots and Visser (2002) but in Botke, p. 90. *L'Esprit des Journaux, Français et Etranger* (22 July 1788): 375. It was a translation from the *Teutscher Merkur* of 2 March 1788. Sir William Hamilton (1730-1803).

105 M. Wiegiersma, "Adriaan Gilles Camper, De Eerste Nederlandse Alpinist," *De Berggids: Orgaan van de Nederlandsche Alpen Vereeniging* (June 1950): 41-45. Although Wiegiersma learned about the existence of the Camper letters in California, an elderly German scholar was negotiating with Mary Camper-Titsingh's mother up until 1960 without a final transaction. Contact was only taken up again in 1985. Miriam Claude Meijer, "The Fifth Ascent of Mont Blanc: From the Diary and Letters of Adriaan Gilles Camper (1759-1820)," *The Alpine Journal* 150 (2000): 177-189.

106 Excerpt from a letter by Camper on "l'organe de la voix des sapajous hurleurs," in *Histoire Naturelle* (Paris, 1789) supplement 7, pp. 93-99. In his own writings Camper only briefly mentioned the results of his howler monkey speech organ dissection. Petrus Camper, *Natuurkundige verhandelingen over den orang-outang* (1782): 46-47.

107 Roger, p. 383.

108 “Lettre écrite par M. Camper à M. de Buffon, datée de Klein-lankum, le 15 novembre 1778,” *Histoire Naturelle* (Paris, 1789) supplement 7, pp. 93-99. The plate XXVII on p. 87, representing the “Poche osseuse de la gorge de l'alouatte,” was made from Camper's drawing. This is inside the article “Sap-ajou, Addition à l'Article de l'Alouatte,” pp. 87-100.

109 Buffon [Lacépède], “Addition à l'article des Orangs-outangs, Vol. XIV, in-4., page 43,” *Histoire Naturelle* (Paris, 1789) supplement 7, pp. 1-29. Pages 6-22 are cited from Allamand's supplement 5 (“Addition à l'article des Orangs-outangs, Volume XV, pag. 71”) and pages 22-29 are from Vosmaer's “Description de l'espèce de singe aussi singulier que très rare, nommé orang-outang, de l'isle de Borneo.”

110 J. N. S. Allamand, “Addition à l'article des Orangs-outangs, Volume XV, pag. 71,” *Histoire Naturelle, Générale et Particulière. Servant de Suite a L'Histoire des Animaux Quadrupèdes. Par M. Le Comte de Buffon. Supplément Tome Cinquieme. Nouvelle Édition* (Amsterdam: J. H. Schneider, 1785) vol. 34 or supplement 5, pp. 45-48, plate XVIII. Arnout Vosmaer, “Description de l'espèce de singe aussi singulier que très rare, nommé orang-outang, de l'isle de Borneo” (Amsterdam: Meijer, 1778): 7, in Arnout Vosmaer, [*Regnum Animale.*] *Description d'un recueil exquis d'animaux rares, consistant en quadrupèdes, oiseaux et serpents, des Indes orientales, et occidentales. S'ayant trouvés ci devant vivants aux ménageries appartenantes à son Altesse Monseigneur le Prince d'Orange-Nassau* (Amsterdam: J. B. Elwe, 1804). Allamand cited Camper on p. 76 and Vosmaer cited Camper on pp. 6-7 and p. 11.

111 “Nous devons observer aussi que l'individu femelle, dont M. de Buffon rapporte les habitudes naturelles, d'après M. Vosmaer (page 23), est le même que celui dont il donne la description & l'histoire, d'après M. Allamand (page 15 du même article).” “Avertissement par M. le Comte de la Cepède ...,” *Histoire Naturelle* (Paris, 1789) supplement 7 or vol. 36, p. xi.

112 One copy is in the Bibliothèque Nationale à Paris, S. 2828, and the other in the UBL ms. BPL 247.96. Bots and Visser (2002): 68n7.

113 Pierre Camper, “De l'orang-outang, et de quelques autres espèces de singes,” *Œuvres de Pierre Camper*, ed. A. G. Camper (Paris, 1803), vol. 1, pp. 1-353.

114 Petrus Camper, *Observations anatomiques sur la structure intérieure et le squelette de plusieurs espèces de cétacés ... publiées par ... Adrien-Gilles Camper ... avec des notes par M. G. Cuvier* (Paris, 1820), 2 vols. Adriaan Gilles added a little information about a 9th species: the orca. Adriaan Gilles cor-

responded with Cuvier for several years about the fossils in his late father's cabinet. Their correspondence is in the UBA.

115 Michel Lemire, "La France et les collections du stathouder Guillaume V d'Orange," *Een Vorstelijke Dierentuin: de Menagerie van Willem V*, eds. Bert C. Sliggers and A. A. Wertheim (Zutphen: Walburg Instituut, 1994): 87-114.

116 Camper marked the diverse skull bones of the dolphin with the help of different colors seen from under, above, and sideways. This was a graphic novelty in the speciality.

117 "Herschepping" or "gedaanteverwisseling."

118 "Camper fait naître d'un seul modèle, dont il ne fait qu'altérer la ligne faciale, tous les animaux, depuis l'homme jusqu'à la cigogne." Denis Diderot, "Éléments de physiologie," *Œuvres complètes*, eds. J. Assezat and Maurice Tourneux (Paris: Garnier Frères, 1875-1877) vol. 9, p. 264.

119 Loveland (2006): 464.

120 Jeff Loveland, "Daubenton's Lions: From Buffon's Shadow to the French Revolution," *New Perspectives on the Eighteenth Century* 1 (2004): 41-42.

121 "Avanthier j'ay été au cours public de D'Aubenton au Coll[ège] Royal.... Chez D'Aubenton il y avoit 30 auditeurs. Le professeur dont vous connoissez l'étendue d'esprit en étoit au règne végétal. Il m'a presque fait dormir en galopant à travers l'histoire des lilae, des boutons à feuilles et fleurs etc. Aujourd'hui il avoir pour sujet des noisettes, des bois de buis et celle des feuilles. De ma vie je n'ay vu ou entendu chose plus stupide ni plus puérile. Il vous raconte tout cela sans hausser ni baisser la voix, sans allocution ni ex-orde. Il commence ainsi et cela d'une voix à peine assés forte pour l'entendre. *Le noisettier, c'est un arbre* etc. etc. J'ay besoin de bien de patience!" AGC-PC, Paris, 30 June 1785, UBA ms. X 22 s (V): 33.

122 Visser (1985): 145-146. Loveland (2006): 464.

123 Daubenton, "De la description des animaux," *Histoire Naturelle* (Paris, 1753) vol. 4, p. 135.

124 Loveland (2006): 464.

125 Visser (1985): 35. Petrus Camper, *Natuurkundige verhandelingen over den orang-outang* (1782): 28.

English

The Dutch anatomist Petrus Camper (1722-1789) was pleased that Buffon wanted to co-write a book on the natural history of whales. His son, Adriaan Gilles Camper (1759-1820), who was studying in Paris, went to Montbard to discuss this project. Although Jacques de Sève completed his engravings from Camper's drawings at Buffon's expense by 1786, the cetacean book was published posthumously, 30 years later, under Camper's name only. Among the problems that led to their failed collaboration were differences about the division of the work, physical ailments, political problems, but, most of all, the fundamental clash between how they regarded natural history. Buffon prioritized reader-friendly natural history over that based on anatomical dissection, which was paramount to Camper. Camper wrote his son about Buffon that: "Despite his [anatomical] mistakes, he taught me by his example to envision things in the abstract, to mix them, etc." Buffon's "Discours," on a new method for the life sciences, insisted that anatomical accuracies had to be integrated with synthetic laws. While his book detailed eight cetacean species, Camper also speculated which of their anatomical parts could be seen as variations of a common vertebrate structure. He drew a comparison of the whale skull with the human skull. Buffon's discourse, published when Petrus Camper was only 27 years old, had evidently become Camper's lifelong inspiration. The Campers' incredible exertions to satisfy a hoped-for collaboration with the "great Buffon" can only be understood in the context that Petrus Camper acknowledged a great intellectual debt to Buffon in his own contributions.

Français

L'anatomiste hollandais Petrus Camper (1722-1789) était heureux que Buffon voulût écrire avec lui un livre sur l'histoire naturelle des baleines. Son fils, Adriaan Gilles Camper (1759-1820), qui étudiait à Paris, alla à Montbard pour discuter de ce projet. Bien que Jacques de Sève eût achevé ses gravures des dessins de Camper aux dépens de Buffon en 1786, le livre des cétacés n'a été publié après sa mort 30 ans plus tard que sous le nom de Camper. Leur collaboration a échoué par suite de différents sur la division du travail, les maladies physiques, les problèmes politiques, mais surtout l'incompatibilité de leurs vues sur l'histoire naturelle. Buffon mettait en avant une histoire naturelle agréable à lire, tandis que Camper préférait une histoire naturelle basée sur le scalpel plutôt que sur la spéculation. Camper écrivit à son fils à propos de Buffon: « Malgré les erreurs il m'a appris par son exemple à envisager les choses en grand, à combiner etc. » Le « Discours » de Buffon, sur une nouvelle méthode pour les sciences de la vie, insistait sur le fait que les précisions anatomiques devaient être intégrées aux lois synthétiques. Tandis que son livre décrivait huit espèces de cétacés, Camper s'est aussi demandé lesquelles de leurs parties anatomiques pouvaient être vues comme variations d'une structure vertébrale commune. Il a fait une comparaison d'un crâne de baleine et d'un crâne d'homme. Le discours de Buffon, publié quand Petrus Camper avait 27 ans, fut de toute évidence l'inspiration de la

vie entière de Camper. Les efforts incroyables des Camper pour assurer une collaboration désirée avec « le grand Buffon » ne peuvent être compris que si l'on n'oublie pas que Petrus Camper a reconnu dans ses propres contributions qu'il devait une grande dette intellectuelle à Buffon.

Keywords

18th-century, anatomists, naturalists, Buffon (Georges-Louis Leclerc de), Camper (Petrus), orang-utan, cetaceans

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