

**NEW INSIGHTS INTO LIFE AND DEATH
OF THE SELF-STYLED ESTONIAN EMBRYOLOGIST,
LOUIS SÉBASTIEN MARIE DE TREDERN DE LÉZEREC
(1780–1818)**

Jean-Claude Beetschen¹ and Pierre Baudrier²

¹University of Toulouse and ²Généalogie et Histoire de la Caraïbe, Le Pecq

Abstract. Submitted in Jena (1808), Tredern's thesis on the chick embryo was admired by Karl Ernst von Baer a few years later. Baer then tried to find traces of Tredern during the 19th century and found a few testimonies about him. Nevertheless, it was impossible to get precise information about Tredern's life after he had submitted his second medical thesis in Paris (1811). A settlement in Guadeloupe Island had been indicated (von Baer 1874, Beetschen 1995). We found documents providing new details on Tredern's life events between 1802 and 1818. Tredern had passed himself off as a Russian from Estonia for several years. But he had given up his embryological studies after 1809 and was appointed assistant librarian at the Mazarin Library (*Bibliothèque Mazarine*) in Paris (1813-1816), being also chosen (1813) as one of the sworn expert doctors attached to the Imperial Court of Justice. In January 1817, he actually left Paris for Guadeloupe Island where he died from yellow fever at the age of 38, in November 1818.

Keywords: chick embryology, expert doctor, yellow fever, Guadeloupe, Tredern, von Baer

DOI: 10.3176/tr.2010.2.01

1. Introduction

Louis Sébastien Marie de Tredern de Lézerec was born on September 14, 1780, in Brest (Brittany, France). His father Jean Louis de T. de L. (1742–1807) had been a captain in the French Navy during the American War of Independence, then served as director of the Royal Marine Academy in Brest. Both of them emigrated to St. Petersburg (Russia) near the end of the French Revolution, in 1796. It is known that the young Tredern was recruited (1797) as a midshipman on board the *Pimen* in Reval harbour (now Tallinn) in Estonia, then a province of the Russian Empire. The *Pimen* was a battleship of the Azia-class, with 66 guns, built

in 1789 (Veselago 1872). If it really was broken up in 1799, then L. S. M. de Tredern should have been transferred to another ship for the next two years, but we lack information. Direct testimonies have established that L. S. M. de Tredern, interested in comparative anatomy and embryology, had transformed his cabin into a dissection room, in which he studied the embryonic development of hen eggs (Baer 1874, Beetschen 1995, Huard et al. 1963, Stieda 1901). Baer himself (1874) stressed that (we translate): “The citizens of Reval had kept this [apparently] useless work in mind, but they had forgotten [Tredern’s] name”.

In 1801, captain de Tredern was removed from the list of *émigrés* by Bonaparte. In August, he came back to France, where he died in Quimper, in Brittany, a few years later, in 1807. His son had accompanied him to France, but it was not known where Louis Sébastien had spent the following two years before he went to Germany, to Würzburg, where he enrolled at the University as a medical student (October 30, 1804). There he studied with Ignaz Döllinger (Bäumer-Schleinkofer 1993). In 1807, Louis Sébastien moved to Göttingen and presented the results of his previous studies on chick embryo development, along with the many drawings he had produced to illustrate them, to Johann Friedrich Blumenbach. Blumenbach advised him to use only part of them for submitting his thesis, and to analyze the former authors’ works on the topic. However, Tredern decided to complete several observations on the incubated egg and, working relentlessly, he summarized his results in a fairly short thesis (Fig. 1) that he decided to submit to Jena University, on April 4, 1808 (Tredern 1808). Tredern might have been attracted to Jena by the recent appointment of Lorenz Oken to a professorship, and relations between them are ascertained (see Baer’s passage quoted further on). Tredern later returned to Göttingen in autumn and resumed his work on bird embryos during the following winter (Beetschen 1995, Huard et al. 1963, Stieda 1901). Nothing was still known about Tredern’s life between March of 1809, when he left Göttingen again, and July of 1811, when he enrolled in Paris for a second medical thesis, dedicated to the building and organization of new hospitals. The thesis was submitted on August 20, 1811 (Tredern 1811). Again, nothing was known about Tredern after this date, in spite of Baer’s stubborn efforts to find traces of him during the 19th century (Baer 1836a, 1836b, 1867, 1874, Stieda 1901). Baer himself had studied in Würzburg with Ignaz Döllinger for one year in 1815/1816 and there he chose to become an anatomist (Raikov 1968:35–39). When Baer found Tredern’s thesis, Döllinger told him that he should know the author, who came from Estonia like him. This assertion first led Baer to the wrong track since he did not succeed in finding any Tredern family in Estonia during the following years. Later on, Baer searched for witnesses who might have met Tredern, by publishing announcements in a German Baltic newspaper (Baer 1836a, 1836b). He thus obtained information about the presence of Tredern in the Baltic Fleet at Reval. In 1867, he repeated this search for witnesses in another German newspaper (Baer 1867), and found new testimonies from people who had met Tredern in Reval or in Göttingen. As mentioned by Baer (1874:71), Lorenz Oken, at the end of 1817, had claimed that Tredern had prepared his thesis with him, a statement that Baer already rejected; Oken also asked for news from

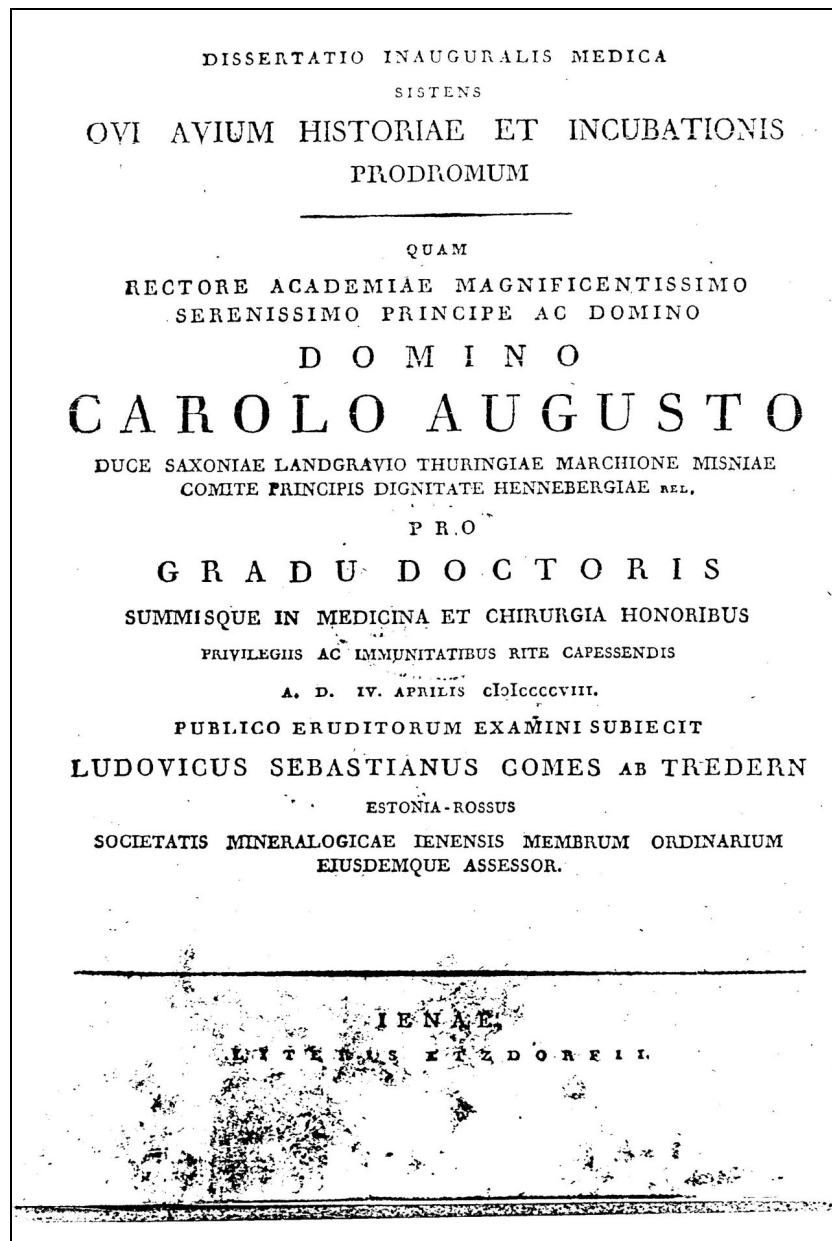


Figure 1. Cover page of Tredern's first thesis (Jena, 1808). The quality of *Estonia-Rossus* is mentioned in the lower part of the text.

Tredern, who had disappeared since then. In the following, we will show that Tredern had already left Europe in 1817. At that time, Baer was beginning his academic career in Königsberg, where he wanted to study chick embryo development, then prepared the first of his fundamental books on Vertebrate development,

that he based on it (Baer, 1828). Why was he so anxious to find traces of Tredern? He later expressed his feelings (Baer 1836a:255), one of them translates as follows:

The work schedule is so impressive that, if someone could bring it to its conclusion, he would need to be immortal (!).

Again, Baer (1867) repeated similar appreciations:

This thesis is extremely remarkable, for the accuracy of the observations, the exactness and the precision of the drawings.

Several of those drawings showed for the first time several stages of facial and beak development of the chick embryo (Fig. 2).

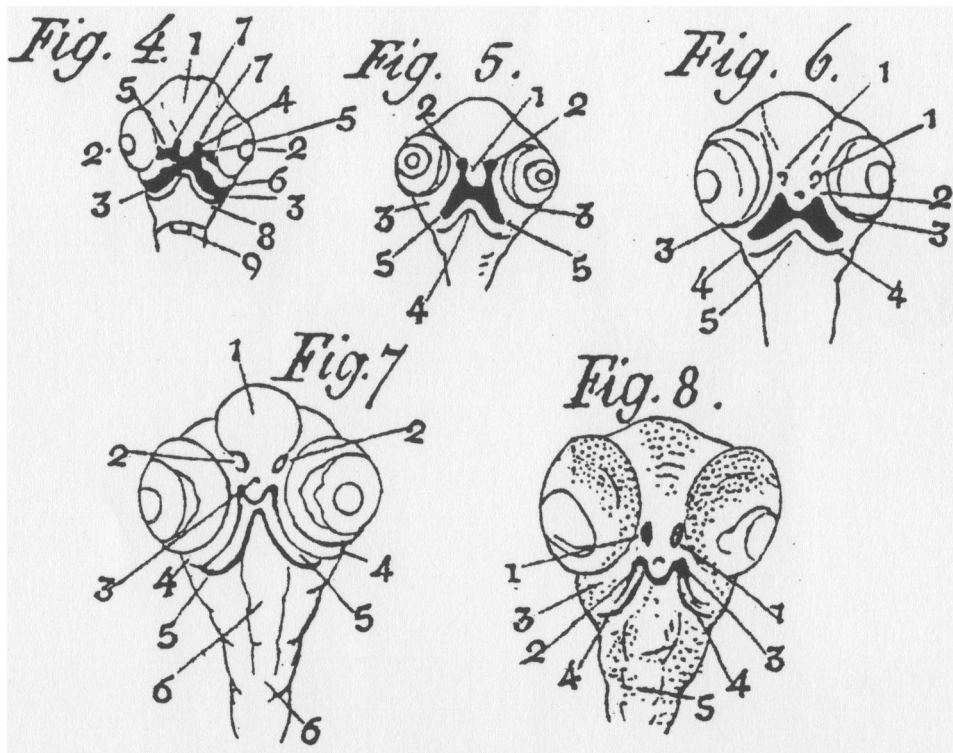


Figure 2. A series of enlarged Tredern's drawings. They illustrate beak formation and facial development of the chick embryo from day 6 of incubation (Fig. 4) to day 13 (Fig. 8). (Reproduced with the consent of *The International Journal of Developmental Biology* from Beetschen (1995), *Int. J. Dev. Biol.* 39:299–308)

It seems appropriate to repeat here what had been written by one of us (Beetschen 1995:302) about the reasons why Baer searched information about Tredern for such a long time:

[Baer] considered [Tredern] a forerunner of his own ambitions of the comprehensive study of Vertebrate development. He was anxious to pay homage to him because of the scope of his views and the precocious talent he had shown. Though he had later neglected embryological studies in favour of other aspects of zoology and natural history, von Baer never stopped evoking Tredern's short career and its interruption. Only near the end of his life he summarized what he learned about it, which shows how persevering von Baer was and how true he remained to his early feelings.

In 1873, Baer finally obtained information from Armand de Quatrefages (1810–1892), a professor at the National Natural History Museum in Paris. Quatrefages had sent to Baer copies of the birth registers of Brest, providing evidence that Tredern was born French, a fact that Baer had doubted (Fredern is a German name). Moreover, Quatrefages told Baer he had been informed that Tredern had been recruited as a ship's doctor, and that he had founded a hospital in Guadeloupe Island, before he died at an unknown date (Baer 1874). Baer's reply to Quatrefages has survived (Baer 1873), but we were not able to find the originals of Quatrefages's letters (see Beetschen 1995:303). Since that time, those unchanged statements have been repeated in the few articles in which Tredern was cited during the last century (Bäumer-Schleinkofer 1993, Beetschen 1995, Huet et al. 1963, Stieda 1901, Vialleton 1902). Stieda (1901) in his biographical article on Tredern, had included several unpublished documents from Baer's archives, and a German translation of Tredern's thesis, together with a copy of the Latin original.

During the 19th century, Tredern's name was frequently cited in embryological contributions and textbooks, but it disappeared from most reference lists after 1900, except in German ones. In Baer's opinion, Tredern's accurate observations on chick embryo had rejuvenated the domain of Vertebrate embryology, after four decades. Caspar Friedrich Wolff's contribution to the concepts of epigenesis versus those of preformation had been the most significant progress towards modern embryology at the end of the 18th century (Perrin and Dupont 2003, Wolff 1768). Though Tredern himself did not write about the importance of his own findings in that respect, they represented strong arguments in favour of epigenesis, especially with regard to the growth of the head, – showing progressive formation of the beak (Fig. 2) – and to the nice development of foot digits from the growing limb bud. Considering Tredern a 'forgotten pioneer of embryology' thus seemed justified (Beetschen 1995, Vialleton 1902). Actually, his name has been cited again in recent reviews (Callebaut 2008, Dupont 2007, Hall 1997, 1998).

Biographical data on Tredern were still very sparse in 1995. The post-1811 period, including the end of his life, was completely unknown. We were able to use modern means of inquiry, including online libraries, genealogical associations, World Wide Web, etc., to find traces of Tredern during periods for which information was missing. In spite of the lack of personal documents, we found unexpected details on his life in Paris after 1811, before he left for Guadeloupe Island (1817), where he died on November 8, 1818.

2. Details on Tredern's life for years 1801–1811

As mentioned previously, Tredern returned to France from Russia with his father, in August of 1801. However, we found that in France he had passed himself off as a Russian, born in Reval (now Tallinn), and thereafter was enrolled as a Russian in the Parisian Academy for Painting and Sculpture. There he was a student of the painter Regnault who presented him on 9 Floréal an XI, i.e. on April 21, 1803. Tredern's address in Paris is also mentioned (Roche 1909). We would suggest that being considered a foreigner might have been safer for him than being the son of a French *émigré*. Tredern's taste for painting is confirmed by a letter of Théophile-Marie Laennec to his son René-Théophile, the future great physician, who was one of Tredern's second cousins, younger than him, and was studying medicine in Paris. The letter (February 18, 1804) was reproduced by Huard *et al* (1963). The relevant passage translates as follows: "The young Tredern knows Russian and German languages. He was, for some time, enthusiastic about painting". Laennec's father wanted his son to meet Tredern, who was 'studying medicine in Paris', and that he should give him advice for his own medical degree course. Huard and his collaborators nevertheless did not find any trace of Tredern's registration in the Paris School of Medicine at that time. Tredern was probably thinking about his future medical program. We don't know the details of his meeting with Laennec. Actually, Tredern left France for Würzburg in October of 1804 and enrolled in medicine at the University (Stieda 1901).

From Würzburg, Tredern went to Göttingen in the summer of 1807 and asked Johann Friedrich Blumenbach to support his thesis project (see Introduction above). He decided to describe and illustrate the observations he had previously done. It has long been known that, possibly attracted to Lorenz Oken, Tredern chose to go to Jena University for printing and then submitting his thesis, on April 4, 1808. The cover of the thesis, printed in Latin (Fig. 1), mentions that the author is *Estonia-Rossus*. It is also noted that he is an ordinary member and an assessor of the Jena Society for Mineralogy. An explanation for this fact could be that Tredern had a French cousin, Pierre Marie Sébastien Bigot de Morogues, who had been a geologist and mineralogist, had visited Germany and was himself a member of the Jena Society for Mineralogy, which had been founded a few years earlier by Professor Georg Lenz. We shall find these names again later. We must first recall that Stieda (1901:28) published the letter from a Latvian notary, Stender, who became friends with Tredern in Göttingen during autumn 1808. Stender reported that he had seen Tredern steadily working again on bird embryos, until he suddenly left Göttingen at the beginning of March 1809: a dated and dedicated engraving with Tredern's handwriting was sent in 1836 to von Baer with the letter by Stender, but the whole testimony was published only by Stieda (1901). The dedicated engraving was also reproduced more recently by French authors (Huard *et al.* 1965).

Here we find something unexpected: Tredern had been enrolled in the School of Forestry at Dreissigacker, close to Meiningen (a small town southwest of Jena,

in Thuringia, Germany), during the years 1808–1809: there he declared his country of origin (*Heimatort*) to be Estonia (see list of students at Dreissigacker School in Bechstein 1855:417). The school, founded in 1801 by Johann Matthäus Bechstein (1757–1822), had been a pioneering institution in its field. It is known that Blumenbach, in Göttingen, had sent a number of his gifted students to Dreissigacker (Walter Uloth, personal communication). Moreover, poultry farming was important in the School of Forestry: Bechstein's nephew and adoptive son wrote that his father had sought for ornithologists to help him with his knowledge of birds (Bechstein 1855:229). Bechstein himself was a renowned ornithologist. Tredern then probably went to Dreissigacker on Blumenbach's recommendation. He had much experience of artificial egg incubation. However, it is quite doubtful that he would have regularly attended the lectures: he had to stay in Jena in March 1808 before he submitted his thesis, and he went back to Göttingen during the autumn and winter of 1808–1809. After March 1809, Tredern might have frequented Dreissigacker, before he returned to France, but this is an assumption.

Nothing was previously known about Tredern between his second departure from Göttingen in March of 1809 and his registration at the Paris School of Medicine in July of 1811. We have reason to believe that he was again living in France during the year 1810 because his name appears in the list of national correspondents of a new scientific society, the *Société des Sciences physiques, médicales et d'agriculture d'Orléans*. Trederne (*sic*) is *docteur en médecine* in Paris. In the same list, we found also Lentz (*sic*), *Director of the Academy of Jena*. The link between both of them was again Tredern's cousin, Pierre Marie Sébastien Bigot de Morogues¹, *naturalist, member of the Academy of Jena*, who ranked among the administrators of the Society: he had switched from geology and mineralogy to agriculture after he married and began managing his wife's estate near Orleans (Duckett 1856). We might suspect that Tredern and Bigot de Morogues had kept up with each other during the first decade of the 19th century, but details are missing.

Tredern, as we know, submitted his second medical thesis in Paris, on August 20, 1811. Documents of his enrolment at the School of Medicine and his preliminary examinations were already reproduced and analyzed (Huard et al. 1965). His thesis proposed valuable hygienic improvements for building and organizing hospitals (Vialleton 1902). This work was also mentioned during the subsequent decades, and so was the first thesis on the chick embryo, which was cited in embryology textbooks in the 19th century, before it fell into oblivion in the Anglo-Saxon and French scientific literature. We did not find details on Tredern's life in 1812, but our new findings for 1813 and the following years are quite significant and we shall see that they are at variance with earlier proposed assumptions.

¹ Tredern's mother, whose Christian names were Louise, Magdeleine, Symphorose, was née Bigot de Morogues.

3. Tredern no longer embryologist (1813-1818)

In Paris, the *Almanach Impérial* for 1813 mentions hundreds of names, including those from imperial, royal and sovereign European families, but mostly of civil servants and employees in the various government services in the French Empire. It also includes an alphabetical list of the physicians working in Paris and its surroundings. Tredern does not appear on that list, but we found two occurrences of his name for the first time in the yearly *Almanach Impérial*. Surprisingly, Tredern appears to be one of the two assistant librarians and the bursar of the *Bibliothèque Mazarine* in Paris, close to the *Institut de France*, i.e. the seat of the French national Academies, on the Seine riverbank (Fig. 3). He very probably obtained this position by personal recommendation. The examination board for the submission of his second thesis included a well-known surgeon, Philippe Petit-Radel, whose brother Louis-Charles-François Petit-Radel had been appointed librarian and deputy administrator of the Mazarin Library in 1811. L.C.F. Petit-Radel had been a non-juring priest under the French Revolution, then an *émigré* in Rome, where he became an archaeologist, who later brought his collections to the library when he came back to Paris. He became himself the chief administrator of the Mazarin Library in 1814 (Franklin 1901).

Tredern's position in the library certainly was a good one. His annual salary was 2,400 Fr. fr. and, at that time, the public was admitted into the library only between the hours of 10 a.m. and 2 p.m., a situation that could allow the librarians

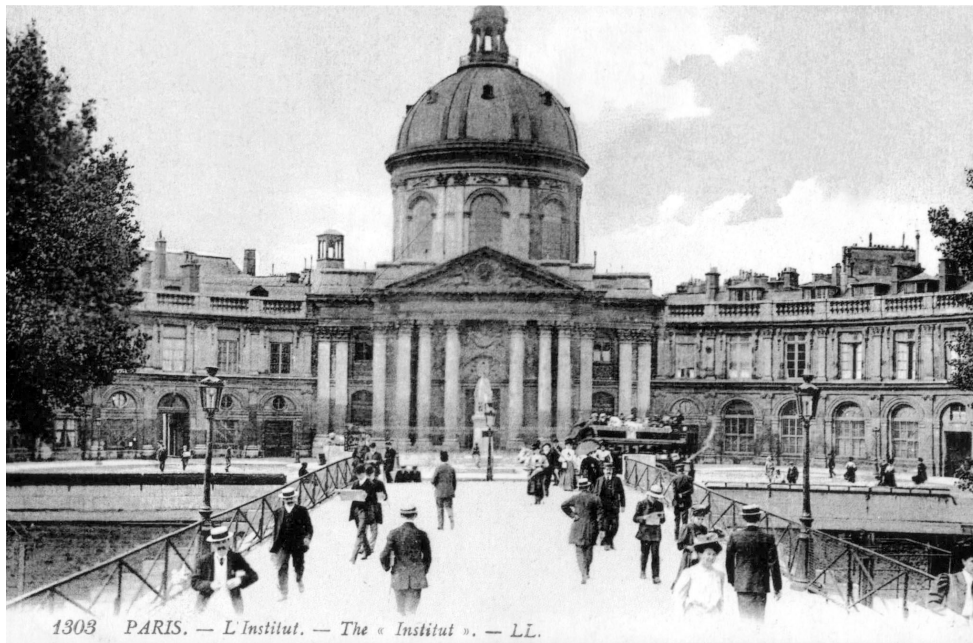


Figure 3. The Institut de France in Paris at the beginning of the 20th century. The Mazarin Library (*Bibliothèque Mazarine*) is located in the left part of the buildings.

to carry on personal work (Franklin 1901). Moreover, in that same year of 1813, Tredern is mentioned in the list of the twelve sworn expert doctors attached to the Imperial Court of Justice. These experts were chosen following the reform of the penal code (1810, 1811) under Napoleon I. Among them appeared René-Théophile Laennec (1781–1826), already a famous physician and a second cousin of Tredern (see above). In one thesis dedicated to Laennec's correspondence (Huybrechts-Rivière 1980:127), the author mentions an official summons of February 13, 1813, which informs Laennec that he has been nominated expert doctor on January 29 and that he is invited to be sworn in, on February 20. We suppose that Tredern's nomination occurred around the same period. Other expert doctors were practicing medicine in Paris, but there is no evidence that Tredern did so. The experts were paid by the act and it seems that the position might have been mainly honorary. Actually, the magistrates were allowed to choose experts among other doctors, provided they had a good reputation and were considered skilled. The choice of expert doctors gave rise to recurrent polemics in France until end of the 19th century.

It was then found that Tredern had asked to be on leave for one year, in order to go to Guadeloupe Island 'for putting in order family affairs' (Franklin 1901:297). He actually embarked for Pointe-à-Pitre on board the *Saint-Jacques*, on January 13, 1817. We could not find mention of his activities during that same year or the following one, since he did not return to France at the end of 1817. We were then surprised to learn that he unexpectedly died in Port-Louis, a small town in Guadeloupe, on November 8, 1818. The death certificate at this date is unequivocal. It translates as follows:

In the morning, at Mr Renard's house, death of Louis Sébastien Marie de Tredern, son of the late Jean Louis count of Tredern and of lady Louise Simphorose de Morogues, doctor of medicine, expert doctor to the government and ex-librarian of the Mazarin Library in Paris.

At the Mazarin Library, Tredern was replaced by Denis Goujon, a former pupil of the famous *École Polytechnique* and one of Petit-Radel's nephews (Franklin 1901).

We subsequently found that the reason for this death, at the age of 38, was briefly mentioned in two books written by Dr Jean-André Rochoux (Rochoux 1822:271, 1828: 22). Trained in Paris, Rochoux (1785–1852) had been a doctor in the army and a private doctor in Guadeloupe and Martinique from 1814 to 1819. He especially studied patients suffering from yellow fever (*vomito negro*), which was common among sailors, soldiers and recently arrived Europeans. Rochoux considered that yellow fever was a non-contagious disease and the role of mosquitoes in its transmission remained unknown until end of the 19th century, after a physician, Carlos Juan Finlay, had produced evidence that these insects should be the vectors of the disease (Del Regato 1980, Schatzki 1992). Rochoux briefly mentioned that during his stay in Guadeloupe two distinguished physicians, Drs Pépin and de Tredern, died in Port-Louis victims to yellow fever. Actually, Dr Pépin's death was recorded September 13, 1816, one month after his arrival at

Port-Louis, and three weeks after death of his own young wife. In spite of the great number of victims to yellow fever at that time, such events did not escape the attention of the physicians. In any event, we were not able to find any reference to a hospital founding in Guadeloupe by Tredern. But we found in the Archives Nationales d'Outre-Mer (ANOM, Aix-en-Provence, France) that Tredern dictated his testament to a notary a few hours before his death, on November 8, 1818². It appears from the document that Tredern had no estate in Guadeloupe. We shall consider an additional hypothesis in the following.

4. Discussion and conclusions

Stieda (1901) ended Tredern's biography with a series of questions, following up the scarcity of documents available to reconstruct Tredern's life and career. Among them were the following ones. Why did Tredern abruptly abandon his program of embryological studies in 1809? Why did he prepare a second medical thesis, including the description of German hospitals that he submitted in Paris in 1811? Why should Tredern not have been able to carry on a scientific career in Paris? One century later, the answers are still hypothetical, because we lack personal documents or directly related testimonies. It was previously suggested by one of us (Beetschen 1995) that Tredern might have given up the embryological program he had written in his thesis (Tredern 1808) because the new concepts of embryology, i.e. those of epigenetic development that were expanding in Germany, were not yet accepted by French biologists: most of them were still impregnated by preformationist ideas. Considering our new findings, other assumptions should be discussed and partial explanations be proposed. But we cannot reply to the first abovementioned question. Tredern came back to France and might have decided to obtain a French doctorate to be able to practice medicine in his native country.

But first, Tredern quickly obtained a position of assistant librarian at the Mazarin Library, which was respectable and well paid for a modest amount of work. He probably never practiced private medicine, and we did not find his name in several lists of physicians in Paris at that time. His title of sworn expert doctor to the Imperial Court of Justice might have been mainly honorary.

Second, did Tredern try to carry on his embryological studies in Paris? Probably not: the great anatomist Georges Cuvier should have been aware of such a project. Actually, Cuvier (1817) mentioned Tredern's thesis on the chick embryo in one of his reports, but he believed Tredern to be a German scientist, since Cuvier included him into a series of authors from Germany that he cited. Therefore Cuvier probably was unaware of Tredern's position at the Mazarin Library, where he had been appointed assistant librarian and bursar four years earlier.

² Reference at the ANOM: NOT GUA 1915, 1818.

Third, we did not find the actual 'family affairs' that motivated Tredern to leave Paris for Guadeloupe Island at the beginning of 1817. There is no evidence that he had been a ship's doctor, nor that he founded a hospital before he died on the following year. Quatrefages's letters to von Baer in 1873 were probably misinformed in that respect, though the statement about Tredern's journey to Guadeloupe was correct. However, a confusion of parallel events might have occurred 50 years later, involving Tredern and another young physician, Antoine Jenin de Montègre (1779–1818). Already known by his writings, Montègre had left Paris for Haiti where he landed on August 1818. He proposed to the President of the young Republic to establish a School of Medicine but unfortunately died from yellow fever a few days later, on September 4, 1818 (Colombel 1819, Virey 1819). His death was deeply regretted in both countries. We do not know whether Tredern himself had planned such a project of building a hospital in Guadeloupe. At that time, hundreds and sometimes thousands of people died from yellow fever in the Caribbean islands and in many other countries, including the United States, Central and South America, and also Southern Europe (Dupont 1880). Tredern certainly had to bear in mind the occurrence of that disease during the 20 months that he spent in Guadeloupe, before he too succumbed to it.

In conclusion, as far as we can judge from the available information, Louis Sébastien Marie de Tredern appears to have been a gifted young biologist with several other interests, in both art and medicine. However, his practice of medicine was probably limited and his passion for embryology did not produce more results than his first thesis: after he had submitted two remarkable medical theses in Jena and in Paris, he gave up his embryological studies and there is no evidence that he came into contact in Paris with biologists from the Natural History Museum or from the University. We confirm that, for unknown 'family affairs', Tredern left Paris for Guadeloupe Island in January 1817. Nevertheless, nothing was found about his plans in this colony. We could establish that he spent only 20 months in Guadeloupe, where he died from yellow fever, at the age of 38. Had he known the details of Tredern's last years, from 1811 to 1818, K.E. von Baer would have been sadly disappointed.

Acknowledgements

We wish to express our sincerest thanks to several colleagues and organizations whose help was essential for finding various new documents: Prof. Dr Jacques Krynen (University of Social Sciences, Toulouse); Philippe and Bernadette Rossignol, respectively President and Secretary of the Society *Généalogie et Histoire de la Caraïbe*, Le Pecq, France; the Genealogical Club of Le Havre, France; Walter Uloth, Seeba, Rhönblick, Germany. We are very grateful to Jeff Carpenter (Arizona State University) for improvement of the English text.

Addresses:

Jean-Claude Beetschen
 Université Toulouse 3- Paul Sabatier
 Centre de Biologie du Développement, Bât. IVR3
 118, Route de Narbonne
 F-31062 Toulouse Cedex 9, France

E-mail: jcbeetschen@orange.fr

Tel.: +33 5 61 733 331

Pierre Baudrier
 Généalogie et Histoire de la Caraïbe
 Pav.23, 12 Av. Charles de Gaulle
 F-78230 France Le Pecq

E-mail: pierre.baudrier@neuf.fr

References

- Baer, Karl Ernst von (1828) “Über Entwicklungsgeschichte der Thiere. Beobachtung und Reflexion. Erster Theil”. Königsberg: Bornträger.
- Baer, Karl Ernst von (1836a) “Bitte um eine Nachricht über die Literaturgeschichte unseres Vaterland, besonders an diejenigen Herren gerichtet, welche in den Jahren 1806-1808 in Jena oder Göttingen studiert haben”. *Das Inland* (Dorpat) 15, 253–256.
- Baer, Karl Ernst von (1836b) “Wegen des Grafen von Tredern. Zweite Aufforderung”. *Das Inland* (Dorpat) 23, 391–392.
- Baer, Karl Ernst von (1867) “Anfragen 1”. *Literarisches Centralblatt für Deutschland* (Leipzig) 26, 726.
- Baer, Karl Ernst von (1873) “Letter to Armand de Quatrefages, 8–12 June 1873”. In *Muséum National d’Histoire Naturelle, Paris, Archives*, no 2258.
- Baer, Karl Ernst von (1874) “Biographische Nachrichten über den Embryologen Grafen Ludwig Sebastian Tredern”. *Bulletin de l’Académie Impériale des Sciences de Saint Pétersbourg* 19, 67–76.
- Bäumer-Schleinkofer, Anne (1993) *Die Geschichte der beobachtenden Embryologie*. Berlin: Peter Lang.
- Bechstein, Ludwig (1855) *Dr Johann Matthäus Bechstein und die Forstacademie Dreissigacker*. Meiningen: Brückner.
- Beetschen, Jean-Claude (1995) “Louis Sébastien Tredern de Lézerec (1780-18 ?), a forgotten pioneer of chick embryology”. *The International Journal of Developmental Biology* 39, 2, 299–308.
- Callebaut, Marc (2008) “A review: Historical evolution of preformistic versus neoformistic (epigenetic) thinking in embryology”. *Belgian Journal of Zoology* 138, 1, 20–35.
- Colombel, N. (1819) “Notice nécrologique sur M. de Montègre, docteur-médecin”. *Nouveau Journal de Médecine, Chirurgie et Pharmacie* 4, 1, 98–103.
- Cuvier, Georges (1817) “Rapport sur un mémoire de M. Dutrochet, médecin à Château-Renaud, intitulé: Recherches sur les enveloppes du fœtus”. *Mémoires du Muséum d’Histoire naturelle* (Paris) 3, 82–97.
- Del Regato, Juan A. (1980) “Carlos Juan Finlay (1833-1915)”. *Journal of Public Health Policy* 22, 1, 98–104.
- Duckett, William (1856) “Bigot de Morogues”. In *Dictionnaire de la Conversation et de la Lecture*, 2nd ed., vol.3, 201–202. Paris: Firmin-Didot.
- Dupont, Dr (1880) “Histoire médicale des épidémies de fièvre jaune pendant le dix-neuvième siècle”. *Archives de Médecine navale* 34, 241–269 and 350–381.
- Dupont, Jean-Claude (2007) “Pre-Kantian revival of epigenesis”. In *Understanding purpose: Kant and the philosophy of biology*, 37–49. P. Huneman, ed. Rochester: University of Rochester Press.

- Franklin, Alfred (1901) *Histoire de la Bibliothèque Mazarine et du Palais de l'Institut*, 2nd ed. Paris: Welter.
- Hall, Brian K. (1997) "Germ layers and the germ layer theory revisited". In *Evolutionary Biology*, vol. 30, chapter 5, 121–185. Berlin: Springer.
- Hall, Brian K. (1998) *Evolutionary developmental biology*. 2nd ed. Basel and Boston: Birkhäuser.
- Huard, Pierre, C. Laurent, and M. Wong (1963) "Sébastien Marie de Tredern de Lézerec, enseigne de vaisseau de la marine russe, embryologiste et petit-cousin de Laennec". *Revue générale des Sciences pures et appliquées* 70, 215–224.
- Huard, Pierre, C. Laurent and M. Wong (1965) "Deux marins au service de la médecine: le lieutenant général Sébastien François Bigot de Morogues (1705–1781) et son petit-fils l'enseigne de vaisseau Louis Sébastien Marie de Tredern de Lézerec". *La Presse médicale* 73, 6, 309–312.
- Huybrechts-Rivière, C. (1980) *Correspondance des Laennec des années 1808 à 1815 d'après le fonds Rouxau*. Thèse Université de Nantes, no 2463.
- Perrin, Michel Jean-Louis and Jean-Claude Dupont (2003) *Caspar Friedrich Wolff. De formatione intestinorum. La formation des intestins (1768–1769)*. Turnhout, Belgium: Brepols.
- Raikov, Boris Evgen'evič (1968) "Karl Ernst von Baer 1792–1876. Sein Leben und sein Werk" *Acta Historica Leopoldina* 5, 1–516.
- Roche, Denis (1909) "Perečen russkix i polskix xudožnikov, imena kotorix znacatsija v spiskax parižskoj Akademij živopisy i skulptury". [List of Russians and Poles whose names were registered in the Parisian Academy of Painting and Sculpture.] *Starye Gody*, June 1909, 306–31. [Title in Russian, text in Russian and French.]
- Rochoux, Jean-André (1822) *Recherches sur la fièvre jaune et preuves de sa non-contagiosité dans les Antilles*. Paris: Béchet jeune.
- Rochoux, Jean-André (1828) *Recherches sur les différentes maladies qu'on appelle fièvre jaune*. Paris: Béchet jeune.
- Schatzki, Stefan C. (1992) "Conquerors of yellow fever". *American Journal of Roentgenology* 159, 3, 462.
- Stieda, Ludwig (1901) "Der Embryologe Sebastian Graf von Tredern und seine Abhandlung über das Hühnerei". *Anatomische Hefte. Beitr.u Refer. zur Anat.u. Entw. Gesch. Abt. 1.* 18, Heft 1, 1–69 with 2 plates.
- Tredern, Ludovicus Sebastianus (1808) *Dissertatio Inauguralis Medica Sistens Ovi Avium Historiae et Incubationis Prodromum*. Jena: Eitzdorf.
- Tredern, L.S.M.de (1811) *Propositions sur les Bases fondamentales d'après lesquelles les Hôpitaux doivent être construits*. Thèse Faculté de Médecine de Paris, no 104. Paris: Didot.
- Veselago, F.F. (1872) *Spisok russkix voennyx sudnov s 1668 po 1860 god*. [List of Russian naval ships from 1668 to 1860.] St. Peterburg: Tipografia Morskogo Vedomostva.
- Vialleton, Louis (1902) "Un embryologiste français oublié, Louis Sébastien de Tredern". *Nouveau Montpellier Médical* 14, 1–17.
- Virey, Julien Joseph (1819) "Notice nécrologique sur le docteur Montègre". *Journal de la Pharmacie et des Sciences accessoires* 5, 3, 143–144.
- Wolff, Caspar Friedrich (1768-1769) "De formatione intestinorum praecipue, tum et de amnio spurio, aliisque partibus embryonis gallinacei, nondum visis, observationes in ovis incubatis institutae". *Novi Commentarii Academiae Scientiarum Imperialis Petropolitanae* 12 (1768), 403–507 and 13 (1769), 478–530.