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Barbara HELLY

Introduction

At the end of the 18th century, during the period of the Enlightenment, Francis Masson worked for the Royal Society of London for the Improvement of Natural Knowledge. He started as an anonymous staff member of the Royal Botanic Gardens at Kew, which had been officially created in 1759. But a decade later, he was already taking a most active part in the successful development of this new institution's world ambitions in botany. Francis Masson's contribution to the botanical discoveries of his time has been regularly commented upon, but often times the articles have dealt with specific fields of his activities or they have presented the main events of his life for encyclopaedias. The following article would like to provide a broader view of Francis Masson's life in the light of new information taken mostly from the archives. These elements from the human sciences will emphasize the role of the non-European lands, the -not necessarily British- colonies like that of the Cape in the process of rapid knowledge development at the end of the eighteenth century. Some details and new interpretations will also help understand the everyday conditions of scientific work at the Cape essentially, but also in the West Indies, the Azores or even Canada. This will hopefully help precise Francis Masson's contribution to natural sciences as well as underline some historical facts illustrating how an obscure British subject was able to foster a subsequent international circulation for hundreds of African plants, or to a lesser extent to Canarian or North American ones –some of them as famous as the *Protea*, *Strelitzia* or *Trillium*, and others more austere like the *Stapelia*.

Francis Masson was a gardener for the Royal Botanic Gardens at Kew and was sent on expeditions between 1772 and 1805, almost 12 years being spent solely in the Cape colony. His outstanding life and career really started when he was chosen as the first person to be deployed and paid on royal budget, not only to study plants *in situ*, but also to bring living species or viable seeds back to London in order to acclimatise them. Except for a Spanish version published in 2009 in the Canaries for the general public, encyclopaedic articles and academic papers studying Francis Masson's botanical achievements have come mainly from the Anglo-Saxon world¹ (Great Britain, South Africa or more recently the United States). Most of them were written by specialists in botany and they have been published in botanical journals.²⁻⁹ This paper

proposes to look at Francis Masson's activities during all his various expeditions from the point of view of the humanities and to replace them, when relevant, in their scientific or historical context.

The primary sources comprise seventy-five manuscript letters by Francis Masson⁹⁻¹¹, two texts published in the Philosophical Transactions –the Royal Society journal^{12,13}, a detailed memorandum by Joseph Banks, who had become the Society's president, summarizing the last ten years of Masson's activities on behalf of the Royal Gardens and the King¹⁴, and a scientific exposé which Masson wrote in Latin on the genus *Stapelia*.¹⁵

Some of these texts have never or only partially been published and commented upon: by confronting these texts from the end of the 18th century it will be shown how Francis Masson was in fact a modest yet tenacious and under-appreciated individual of the 'useful knowledge' of the period.

Francis Masson was born in 1741, in Scottish Old Aberdeen and he died on December 23, 1805, in Montreal, Canada. As far as can be ascertained the period when he started employment at Kew, he served the Royal Gardens over a period of 45 years. It was an outstandingly long-lived service. Starting in 1772, he was dispatched for thirty years in four major regions of the globe: in some of the islands of what is now the Macaronesia region -the Canary Islands, Madeira, the Azores archipelago- the Cape colony, the West Indies, and Canada (plus the Iberian Peninsula and Morocco). The scope and span of his travels and expeditions give a first indication of how uncommon his experience was and how exotic his findings have first been. However, in an era of crucial changes, Masson's original contribution rests upon different aspects.

Scientific context of the development of botany: from dried to living plants and a modern classification

Like the other branches of the larger tree of natural sciences, botany was a relatively young science counting 6,000 described species in the beginning of the 17th century. Those who would devote themselves to it, still by leisure or aristocratic passion, had to be wealthy enough to amass collections, to develop them or buy them from others. Wealth was also necessary to go on expeditions, to dedicate time to studying, classifying or publishing floras. But up to that time, very few exotic specimens had been transported over long distances without damage; however, the numbers were increasing.

European capitals were drawing huge riches from all parts of the world and in this context the Netherlands have operated as a transit centre, not only for the circulation of trade capital, but also for the spread of information from botanical research and discoveries. These phenomena created new cultural habits, like new subjects for painters who became real talents in flower painting¹⁶, but they also aroused enough interest that they caused strong yearnings and lead, in the middle of the 17th century, to what became the first speculative bubble in history based on tulip bulbs imports from the Ottoman Empire.

Holland also contributed to the changes and transfer of knowledge in botany. For example, the collections of Paul Hermann, a German scholar of Dutch origin who was working for the Dutch East India Company in the 1670's, found their way to Sweden and Linnaeus's personal library, seventy years later.^{17,6} Linnaeus studied in detail Hermann's Ceylon herbarium, whose second part was dedicated to the Cape flowers, and he took inspiration from it to establish his own flora from that region even though he had never been there.

The development of international trade and colonial expansion greatly enriched this pattern. In 1736, Linnaeus was for example given unlimited access to Hans Sloane's herbarium in London. Hans Sloane was a wealthy physician who had travelled to Jamaica, and his collection would later form the basis of the London British Museum. In the world of botany, herbaria and dried plants were the rules at the time but they were now made to travel on long distances, following the paths of colonial acquisitions.

At a theoretical level too, there had just been a revolution. Linnaeus had been writing, studying, teaching since the year 1735 and his new codification, his new classification of the living world, was quickly adopted and spread, despite competing interpretations. The diversity of specimens brought back from the numerous Dutch and British colonial lands strengthened his conclusions on how to classify the living world according to the disposition of the reproductive system, including that of plants. Exchanging specimens or full herbaria prepared the ground work and accompanied the theoretical changes which were going to affect this portion of the natural sciences. Linnaeus's works were rapidly circulated and translated.

In this period, Great Britain, whose empire had grown and which showed new economic and scientific ambitions, started to move from the race to discover and conquer to a reasoned willingness to get the most out of its territories. This was another stage, and in the world of plants in particular, all sorts of species could prove useful. There was then a vital need for collecting seeds and seedlings to be acclimatised; a need for all kinds of information about

recently discovered species and their potential for products for practical uses to meet the Empire ever-expanding and immense needs. This was not only another stage, it was a new scale required by economic interests now rooted in all five continents.

Keeping these broad objectives in mind, Francis Masson was, in 1772, simply the first emissary remunerated by the Crown whose priority was to bring back live specimens and species. Besides, he was one of the very first professional botanists to implement Linnaeus's classification; and he undertook the collecting, describing and determining of species in an orderly manner. In that sense, a recent article by a British-Canarian-American team and written for the celebration of the 300th anniversary of the birth of Linnaeus, considers Masson's descriptions, specimens and drawings from Macaronesia as the first modern work of botany on this region.⁹ Referring still to Linnaeus's influence, it must be added that in the second half of the 18th century in Sweden, the Linnaeus, father and son, were not the only ones of their kind: there was rather a whole generation of men of science and the Linnaeus encouraged the youth of the kingdom who had access to the university. In this context, it was not by chance if two Swedish students of Linnaeus were successively at the head of Joseph Banks's collections and library in London: Daniel Solander –who was also on Cook's first expedition and lived in Soho Square with Banks' family- and Jonas Carlsson Dryander.

However, it was not merely because Great Britain aspired to be in the lead that her envoy to the Cape colony would be immediately recognized as an authority in the field. In the history of the first important writings describing the interior of South Africa or the Cape Flora, Francis Masson has regularly been mentioned in third place behind two Swedish traveller-botanists: Carl Peter Thunberg (considered as the 'father of South African botany') and Anders Sparrman (considered as a 'naturalist'). It would be expected that this unofficial ranking would only be based on sheer competence, but other considerations were added, leading to a lasting portrait of Masson as an 'under-gardener', or as a 'garden hand'.^{13,5} He was indeed hired as a gardener in the Kew royal botanic gardens, but in his hometown, the Cruickshank Botanical gardens' commemorative plaque in his honour says: 'Francis Masson, 1741-1805, botanist and explorer, lived in Old Abderdeen', clearly defines him as a 'botanist and explorer'.

How to explain these contrasting images?

A modest man in a stimulating and powerful environment

From the very beginning, Francis Masson was stigmatized because he made mistakes when writing. The stigmatization was mainly due to a note by the German naturalist Georg Forster,

who was on board the *Resolution* in 1772, in place of Joseph Banks, sharing part of the travel with Masson, on Cook's second expedition around the world. In order to understand that there was first a reputation surrounding Masson, suffice it to say that, Mia C. Karsten⁵, South African historian of botany, who wrote, between 1958 and 1966, a series of five meticulously documented and positive articles on Masson's experience in the Cape, thrice mentioned Masson's spelling mistakes, even if she helped understand the question by translating Forster's introduction to the German edition of Sparrman's *Voyage to the Cape* in which the scornful remarks can be found.

This problem has always been more or less linked to what was supposed to be a lack of education, and it has actually often meant –or implied- a lack of expertise. As a contemporary and two non-academic authors on Masson have started to argue¹⁸⁻²¹, it must be recognized that facts show another reality. It is first remarkable that someone who was born in a modest family whose mother tongue was probably Doric, would have been able to master English, some Dutch and Latin, the language of botany as well as all the necessary knowledge and skills required to professional gardening or the collecting of plants in the deserts and mountains beyond the Cape for example. He did all this in such a way that he was able to engage in correspondences with renowned people and that results of his works were published for well-informed audiences. For that matter, there should be a re-evaluation of Francis Masson's environment. The people he worked for or communicated with were, from the start, playing a leading role in the quick development of natural sciences.

Francis Masson was said to have been hired by William Aiton, one of several Scottish figures in the royal botanic garden of Kew, and actually no less than its head gardener. Masson was later dispatched under the authority of John Pringle then Joseph Banks, successively in charge of the gardens at Kew and presidents of the Royal Society. Francis Masson hence worked under the direction of three illustrious characters of science at that time, under royal patronage and in the first institution of the country for scientific botany applied to practical experiments and cultivations. From this context of influential relationships, Masson's friendship with James Lee should be mentioned also. James Lee was a learned nurseryman who translated Linnaeus in order to publish a simplified version of the scholar's conclusions –the first to appear in English-²², and at the same time he was developing the most important nursery house in Great Britain, both growing and selling specimens.

Aspects of Francis Masson's first important mission: the Cape colony. Masson as botanist and explorer

Francis Masson's missions took him to five main destinations, and it is better to follow them in chronological order since he was at the same time building his own experience. He went first to the Cape of Good Hope, to Madeira-the Azores-Canary Islands and from there to the West Indies, to Portugal, back to the Cape and finally to Canada.

Agreeing with a common request by William Aiton and John Pringle who wanted to have the most of the now accessible plants forwarded to London, the king, George III, successively granted two important missions to Masson. It is important to notice that he was not first sent to India but to the non-British and much less known southern part of Africa. From 1772 to 1775, he went first to the Cape of Good Hope and from 1776 to 1781, he travelled from the Macaronesian Islands to the West Indies. He was asked to go, if possible, to what was then called the *Spanish Main*, being mainly in Masson's case the northern coast of South America, then belonging to rival Spain.

In the year 1772 Sr John Pringle, late President of the royal Society, made application to his majesty that Mr. Masson, then one of the under Gardiners at Kew, might be appointed to reside for some time at the Cape of Good Hope, in order to collect there Seeds and living plants, for the Royal Botanical Garden at Kew. [...] Sr. John Pringle again petition'd his Majesty in the year 1776, who was graciously pleased to consent to Mr. Masson's again undertaking an extensive Plan of operations; he was to visit Madeira, the Canaries, the Azores, and by the way of the West Indian Islands, to penetrate, if possible to the Spanish Main.¹⁵

On his return in London in 1775, Masson wrote an account of three expeditions towards the interior of the colony. It was entitled: An account of three journeys from the Cape Town into the Southern parts of Africa; undertaken for the discovery of new plants, towards the improvement of the Royal Botanical Gardens at Kew.¹³ None of the letters sent to Kew and William Aiton from the Cape have survived, which made Vernon S. Forbes's remark in the South African journal of geography of 1945 even more relevant:

Francis Masson was the first to publish in English a personal account of extensive travel in South Africa, and was probably the first Briton to journey any considerable distance into the interior.⁴

This report, which Masson wrote when he returned to London using personal notes he had taken while on excursion, is not a scientific presentation of botanical discoveries or descriptions, but

rather an overview of diverse observations on landforms, landscapes, vegetation and plants, soils, climates and sometimes inhabitants.

One of the points of Masson's text, at a time when photography did not yet exist was to bring to the reader's mind images of living specimens observed in their natural environment in this faraway land, to make an assessment of the potential botanical riches of the territories crossed. Such was the case for a sort of palm tree –a Cycad considered today as the oldest potted plant in Kew Gardens- from which Masson writes that the 'Hottentots' were making bread and whose specimen he sent. This was the kind of information British authorities were looking for since they were doing everything they could to try to solve the food problem in their slave colonies or even in the mainland, as proved the *Bounty* expedition.²³ In just a few words, Masson knew how to pinpoint the important elements which surrounded the plants he collected: he mentions for example the type of soil, the type of terrain or of climate, as often as changes require along the way. And when he says there are areas with very thin white sand around the Cape where a constant strong wind is blowing, that remark could be considered as common place, but in fact it is a most crucial observation to indicate how inhospitable to plants –unlike other places nearby- this particular area could also be. And he did so for many portions of the South African land which had not been described before, sending thus unique information about the Cape area.

Francis Masson went on two expeditions with Swedish botanist Carl Peter Thunberg (September 1773 to January 1774, September 1774 to December 1774), and even if their education and characters were different, their common passion for botanic discoveries as well as the hardships and dangers they experienced and coped with together, created a durable scientific friendship. As he openly admitted in 1796, after almost ten years in the Dutch colony, it was not so easy to attempt the journey to the Cape. In the preface to his last work, he wrote:

*Sir Joseph Banks, on his return to England suggested to his majesty the idea of sending a person, professionally a gardener, to the Cape, to collect seeds and plants for the Royal Botanic Garden at Kew: his Majesty was graciously pleased to adopt the plan, though at that time so little approved by the public, that no one but myself chose to undertake the execution of it.*¹⁶

In joining forces, the two botanist-explorers were able to cover longer distances and gather larger plant collections. Botanical findings coming from Southern Africa was then somehow spread among the educated circles of Europe, but it went further than mere abstract knowledge.

Francis Masson gave full accounts of people he met along the way of the three expeditions (his first expedition took place in December 1772-January 1773). After two hundred years of uncertain European settlement, his testimony provides a good picture of who the settlers were in this southern tip of Africa. Francis Masson writes their names and often states if they are German, Dutch, Swedish or French; in one word or two he says whether they were rich or poor, that is if they have a lot of cattle (beef or lamb) or if their crops are successful or not. If they are poor, he says that they often share their shacks with the ‘Hottentots’ working for and with them. Masson paid close attention to what those farmers said and he often points out their hospitality. Apropos the ‘Hottentot’, called Kohekohe today, the few lines he dedicated to them are precious since there are not so many testimonies from that period and they can give an idea of the conditions these populations lived in at the end of the 18th century. There are two full pages about Kohekohe they met far away from the Cape, that is, those who could still escape a little from the influence of the trade economy –referred to as Gunaquas. For the most part, those lines could have been written by an ethnologist. They provide explanations of how the Kohekohe used certain types of plants to poison their arrows or for other purposes.

*We found here a great variety of curious plants; and in particular, a large bulbous root, growing on dry precipices, which the Dutch call the vergist-boll, poison bulb; the juice of which, they say, the Hottentots use as an ingredient to poison their arrows.*¹³

Francis Masson was inquisitive and fairly open minded that is why he recalls for example how a farmer suggested they should be accompanied by his son who happened to speak the Kohekohe language in order to get more information and have easier interaction with local populations. This is a unique and spontaneous example of existing inter-relations between some farmers and Kohekohe. In this part of the trip, relations proved fruitful and Masson was able to observe some of their habits and crafts: on one occasion for example, the local Kohekohe brought them milk in so tightly woven containers that no liquid would escape: ‘[we] were visited by several Hottentots, who brought us milk in baskets made of fine reeds, which they weave so close that they hold any liquid’.¹³

Although Masson could admire their skills, there were problems which went beyond those of communication. For example, it seems that Masson noticed how miserable some of the settlements were, with European farmers and Kohekohe pastors sharing the same shacks, but in fact, he did not seem to question the prejudices of some of the settlers or previous travellers. It would have been interesting, even for his British patrons, if he had provided at least the beginning of an explanation for the state of weakness or despair of some of the Kohekohe groups

he met. But nowhere does he mention for example the terrible smallpox epidemics which decimated entire tribes at least three times in the 18th century (1717, 1755, 1763). Besides, these pastoral tribes had started to lose economic autonomy in trading with settlers and sailors, not to mention armed conflicts or repeated attempts to force them into servitude. Masson does not say a word about it but he nevertheless observed:

*The Hottentots [in this area] are in general servants to the Dutch farmers; who give them for wages beads, and tobacco mixed with hemp; the latter which intoxicates them, they are extremely fond of. A few free Hottentots still remain here, who live in their ancient manner; but who are miserable wretches, having hardly any flock of cattle.*¹³

Nobody ever mentioned the difference in Masson's text but Thunberg and himself, did not seem to have behaved exactly that way:

*We were visited by several Hottentots, who came out of the woods armed with lances, but behaved very obligingly and slept by our fire all night; and we at the same time entertained them with tobacco of which they were exceedingly fond.*¹³

While he proved to be curious of the know-how, skills or botanical knowledge of the Kohekohe and contemptuous of their destitution or servitude, the fact remains that he compared the Bushmen he met further from the Cape –the San of today- to 'baboons'. Of course, this term showed his prejudices, but it just as much testified to his probable conformist mind since the word was circulating in Europe at the time to describe these populations from the southern part of Africa. Here is how Joseph Banks summarized it:

*the Hottentots, so frequently spoken of by travellers, by whom they are generally represented as the outcast of the human species, a race whose intellectual faculties are so little superior to those of beasts, that some have been inclined to suppose them more nearly related to baboons than to men.*²⁴

And this term was no different from that of 'Orang-utans' used by the French scholar, Cuvier, when he published conclusions on Hottentot Venus's corpse in Paris in 1817.²⁵

Masson's scientific sensibilities were not completely impaired by this common prejudice and in the end he provided a portrait of the Bushmen with various facets. His views were influenced by settlers who were leading a major offensive against these nomadic people who were trying to obtain cattle wherever they could and yet he was amazed when confronted with so many

astonishing social and culinary behaviours. Words were not sophisticated but observations were there.

*The ancient inhabitants of this country, called by the Dutch Boschmenfchen, are a savage people and very thievish; often carrying off 700 sheep at a time, and killing their shepherds. They use bows and arrows, and poison the arrows with the venom of serpents mixed with the juice of a species of euphorbia, which we had no opportunity of seeing. These Hottentots have neither flocks or herds, nor any fixed habitation, nor even skins to cover them; but live in the cavities of rocks, like baboons. Their common food is roots of plants, many of which we have not been able to discover. They eat snakes, lizards, scorpions, and all kind of reptiles. There is a caterpillar which produces a very large moth, and is found commonly on the mimosa nilotica. These are found in great plenty, often stripping the trees of all their leaves, and of them the Hottentots make many a delicious meal. They also eat the eggs of a large species of ant, which they dig out of the ground in great quantities, washing them in water, and afterwards boiling them. They are commonly called Hottentot's rice. This is an excellent country for sheep; but the inhabitants breed few oxen, and those only for their own use. We found few plants here; but those we found were all new. I did not see an erica or protea in the whole country.*¹³

Living around the Cape colony lived approximately 6,000 Europeans, 7,000 slaves and 14,000 Khoekhoe in the 1750's (even if these statistics are debatable, the figures had probably tripled 40 years later). From the record books he kept, we can see that it was possible for Masson to hire a 'Hottentot' for 3 Rix Dollars per month, and that it was a comparable price for a 'slave' or a 'coolie'. An equivalent sum was needed to rent a pair of oxen. Mia Karsten provided unknown documents on Masson's spending in her third article.⁵ We learn from her that Masson's salary was £100 a year and that the royal society accepted annual expenses of £200. In comparison, we know that Masson could withdraw between 1,000 and 1,300 Rix Dollars per year for his expenses. It meant between 83 and 108 Rix Dollars per month, more than 30 times worth the value of a 'Hottentot' or 'slave' work. But the 'Hottentots', who were used as guides because they knew the terrain very well, once refused to go any further for fear of entering a 'Bantu' territory; and that time Masson and his group had to turn around. In this way, our botanist's archives reveal some aspects of society in the Cape colony: even if it was not densely populated, it was already a stratified society in which identification to a group according to cultural and physical features would determine social status.

Enriching the royal gardens, the Linnaeus' collections and the royal society

However, coming back from the Cape and having published his account, Francis Masson had gained experience and self-confidence. Once in London, in a letter dated 28 December 1775, he contacted Linnaeus and announced he was coming back from his two and a half years in the Cape with 400 new species for the Royal Gardens at Kew: ‘My labours have been crowned with success, having added upwards of 400 new species to his majesty’s collection of living plants, and I believe new genera’.¹² This was a considerable contribution. One of the things he asked Linnaeus was if he would agree to the new name and scientific description of the genus *Massonia*, after Thunberg had first suggested this denomination in his honour. Like all the plants Masson was fond of, it was a small plant from the desert with astonishing flowering. As an echo to Masson’s genuine interest, it can be mentioned that in 2001, an American team provided evidence for an unusual pollination in at least one species of *Massonia*, through a little rodent, the Gerbille.²⁷

In Madeira, where he went in 1776 for a new series of expeditions, he had another epistolary dialogue with Linnaeus, who had confirmed and amended his plant determinations. After Linnaeus’ death he kept a short correspondence with his son (‘Linnaeus filius’, Linnaeus the Younger), while most letters Francis Masson sent to William Aiton at the same period have disappeared –according to James Britten³, one of Aiton’s sons destroyed his father’s archives. Those letters were undoubtedly numerous because many of those addressed to Joseph Banks either mention a letter to William Aiton, or ask to give him a message, seeds or specimens as promised. From these short lines at the bottom of letters addressed to Joseph Banks or from the couple of letters addressed to William Aiton’s son, it can be inferred that Masson probably had a closer relationship with William Aiton than with Joseph Banks. The loss of these letters is all the more regrettable as their content could have shed a new light on several aspects of Masson’s botanical work and in particular on horticultural experiments made at Kew.

From 1776 on, the letters Francis Masson sent regularly to Joseph Banks with parcels holding specimens, seeds and bulbs were kept and collected. According to the paper already mentioned on Masson’s contribution from Macaronisia, Masson collected 118 new species whose determinations remain valid today. It can also be added that he did not only send his discoveries to his head-gardener friend William Aiton and to Joseph Banks for his archives, but also for the Linnaeus family. So much so that most of the specimens that Linnaeus’s son relied upon for writing the section dedicated to the Canary Islands in his book *Supplementum Plantarum*²⁸ were coming from Masson, to whom he pays tribute in the introduction to this work (‘In memoriam Francisci Massoni, [...] cui omnia Canariensia in hoc opuscula debeo’³ [to the memory of

Francis Masson, to whom I owe all of the Canarian plants in this book J). It is interesting to note that Masson knew enough about what previous explorers had brought back that he was able to limit his selection by sending only species which had not been discovered before. That is why, when writing to Linnaeus in 1775, he did not think of himself as being illiterate or ignorant in his field, and when referring to his work, he used the term ‘my researches’.¹²

In this productive period, Francis Masson sent to William Aiton a text on the Azores archipelago he wished to be submitted to the Royal Society. From the Canary Islands where he was staying in 1777, he had made every effort possible to sail to this Atlantic Portuguese territory and in 1778 his report was indeed published in the *Philosophical Transactions*. The archipelago was at the time a very important stop for the transatlantic trips: it was a third of the distance from the West Indies.

His account from the Azores was much more perplexing to scientific readers than the one from the Cape colony, especially because botanists could not find any reference to plants in it. And it partly explains why no scientific commentary can be found of these few pages. But it must not be forgotten that often times Francis Masson had to do his collecting or make his observations in foreign territories not belonging, or not yet, to Great Britain. For the Royal Society leadership, Joseph Banks in particular, who were consciously participating in the development of scientific knowledge but also contributing to the increasing domination of their country over the entire globe, it was invaluable to get accounts they could trust and which could give a good idea of the geophysical features of not so well documented territories.

The text faithfully describes the volcanic features of the Island of San Miguel in the Azores archipelago, known today as a ‘hot spot’, and Francis Masson already speaks of a ‘caldeira’, a word still in use today. These types of volcanic areas are often favourable to geothermal activity and indeed it comprises the main body of Francis Masson’s report. He writes at length about the many hot springs that are there and their characteristics. He emphasizes how useful they are or could be. ‘Useful’ is probably the term which can help giving the proper interpretation for this text. As evidenced by the anecdotal title of ‘Commander of the Order of the Bath’ awarded to Joseph Banks, it was fashionable among many aristocrats in Great Britain to develop an interest in cold or hot baths for the benefit of their health and well-being. Some cities with thermal springs even became important centres of socializing for the upper classes. But in parallel to this social curiosity, there was a simultaneous and more fundamental evolution both in medicine and military science for improvements in the sanitary conditions of the armies. In this respect and to explain Masson’s text, John Pringle’s role has probably been under-evaluated: he was

responsible for sending Masson to expeditions; he had been president of the Royal Society and was later appointed physician to George III and he was also an eminent specialist of military medicine. With no less than Benjamin Franklin, his friend and travel companion, he went to Germany in 1766 and 1767 for the benefit of the water, revealed an unpublished source: ‘Sir John Pringle Bart., physician to her Majesty, and Dr. Franklin arrived in town from the spa in Germany’.³⁰ Masson knew who he owed his position to and it is probable that John Pringle had given him instructions on these matters, especially because public health, through epidemics for example, remained of great concern.

Some fevers were still causing devastating effects, not only because they often induced a high mortality among soldiers or sailors, but also because they meant huge losses of working time among indigenous or European labourers.³¹ The text shows that Francis Masson was aware of these trends and he probably wanted to prove his patrons his travels could be useful in different fields. So much so that he did not hesitate in sending twelve different bottles containing samplings of waters from different springs.¹⁴

Ordeal in the West Indies and pause in Portugal: questioning royal service

Very eager to follow the mission set up by his superiors, Masson, however, did not forget his own free will and from the letters he wrote during this period, it can be understood that he did not feel really enthusiast about the last part of his mission. Since the Islands of Macaronesia were at a rather short distance from England, he would often ask for items he most needed in his work: paper, ink and books –which proves he had some itinerant library. But he also asked several times for a ‘shot’, a weapon (Madeira 28 July 1776, 12 December 1777, Tenerife 4 May 1778¹⁰) in preparation of his travel to the West Indies and even if he mentions his interest in birds, it is clear that he grew more and more nervous as the political and military situation was deteriorating, as can be seen from two passages of his letters:

[...] a few pounds of Powder and some of the finest shot for small birds when I arrive in the West Indies, which will greatly oblige your most sincere humble servant.

Madeira, 28 July 1776¹⁰

We have the disagreeable news that hostilities are commenced between G Britain and France, which will render my voyage through the W Indies a little disagreeable.

Teneriffe, 4 May 1778¹⁰

He tried to suggest that Madeira or the Canary Islands, as well as Portugal and the coast of West Africa certainly held many botanical riches still to be discovered and named, but it was to no avail.

The Canary Island are very rich in plants, but at this time I shall not be able to investigate them entirely to my satisfaction. The production of these Islands gives me a great opinion of the neighbouring coast of Africa which I wish it was in my power to visit; I am informed by several merchants, who have travelled in Morocco, that it could be don with great safety. Teneriffe, 4 May 1778¹⁰

He exhausted every possibility (probably postponing his departure several times, under the pretence of delays or total absence of ships bound to the West Indies), but in the end he had to depart.

He was right to be fearful: while approaching the West Indies, the ship he had boarded was under attack by a French ship and in the following battle, British authority in Granada asked him to help defend the island, which he did. It has remained unnoticed up to now, but with the following sentence from Joseph Banks' memorandum to the King, it is almost certain that Francis Masson was asked to take part in the historical battle of Granada in July 1779: 'When the French attack'd Granada he was call'd upon to bear arms in its defence, which he did, & was taken prisoner fighting in the trenches'.¹⁵ After this rather shaking experience, he had to face an inhospitable environment. Society in Granada, in Saint Lucia, Saint Christopher and Jamaica, was plagued by violence and slave exploitation and it did not leave much space for free efforts for the improvement of scientific knowledge. Nobody knows if slavery shocked him in any way, but we know he did not like the poisonous atmosphere there was: 'the unfortunate turn of the times has so affected the dispositions of the people here that every social virtue is extinct'. (Antigua, 25 September 1779)¹⁰

In addition to everything else, he was caught in one of the most violent hurricanes ever to strike the region in all recorded history of the Caribbean.¹⁵ On 14 October 1780, in Saint Lucia, several thousand inhabitants lost their lives; Francis Masson lost what he had gathered with great difficulty, along with most of his papers and belongings.

That is why, when back in England again in 1782, he presented the invitation he had received from a rich Portuguese merchant, Gerard De Visme. Meanwhile, Joseph Banks had succeeded John Pringle as the head of the Royal Society. Among other things, he asked the King to be kind enough to make this trip to Portugal a new royal mission, taking into account the unquestionable

merits Francis Masson showed in serving on his previous mission for the royal gardens as well as the hardships that he had endured; partly due to the orders he had been given. The full report Joseph Banks made to King George III is a rare document (first published by James Britten³) not only because it tells a lot about Banks in his beginnings at the head of the Royal Society, but also about his relationship with the King, and about how science was a royal concern at the time. It provides a lot of information about Francis Masson, his missions and the political environment in which they took place. This report gives tribute to Masson for having made available hundreds of specimens for the Gardens at Kew, many of which thrived immediately. The report includes praise for his invaluable role in Linnaeus son's book: evidence which could easily prove, according to Joseph Banks, that Masson's work was useful and that Masson deserved the King's ongoing support.¹⁵

The episodes when Masson tried to get a weapon or when he tried to suggest a different destination for his next expedition have never been mentioned in academic papers. In much the same way, the invitation by Portuguese merchant De Visme has always been interpreted to the benefice of the King and of Joseph Banks, because they gave their approval. But in these two instances, we get revealing information not only about this tumultuous time in history on a large geographical scale, but also about Masson's character, which suddenly appears as not merely as 'your most humble servant', as he used to sign most letters to Joseph Banks. He was certainly ready to obey orders, but he was also clear-headed. That is why he openly confessed in a letter from Antigua dated 25 September 1779, that he did not readily recognize what new species he could bring from the West Indies, where many botanists had already made collections. After such a trying and disastrous expedition, Masson wished to work in a more serene environment. De Visme's personal invitation can very well be interpreted as a wish to find autonomous activity away from royal authority.

Taking into account what had just happened, it is also possible that Masson was thinking more about what Linnaeus the Younger had asked him a few years before about Portugal than about any further royal service. Writing from Madeira in December 1778, he had answered Linnaeus queries as follows:

Respecting the Physicians and Botanists in Portugal, I have not the honour of being acquainted with any of them. But since my residence here I have contracted a correspondence with Mr. De Visme, a merchant in Lisbon, who has a fine botanic garden, and is an enthusiastic lover of plants. By his last letter he informed me that the Queen of

Portugal had sent several young botanists (students of Vandelli) to their settlements to Angola and Brazil to explore these rich countries. Madeira, 12 December 1778¹²

Joseph Banks, the King or Linnaeus, were all thinking about what Portugal could offer through its huge territories in South America. To avoid losing information or specimens from Portugal, it was agreed that Masson would remain on a royal mission while in this country and Masson responded with a report some time afterwards. The manuscript of this report written in Lisbon on 17 March 1783¹⁰, is unfortunately partly impossible to read because of numerous ink spots, but a passage clearly explains that ‘the other branches of natural history are in their infancy but seem to gain progress’ in the country, despite the presence of a few famous scientists who sometimes had to spend part of their lives abroad, like José Correia da Serra (‘Abad Correa’ in Masson’s letter) who had to go to London.

The Cape colony and the longest of Francis Masson’s expeditions: autonomy, loneliness and achievements

Francis Masson returned to London only to leave for the Cape colony a few months later in 1785. And he did not really like what he first saw. On landing again at the Cape in 1786, he wrote:

Since the war a low ignorant spirit of jealousy exist still among the Cape inhabitants, whose minds were greatly prejudiced against the English by the artful insinuations of our enemies. The inhabitants have lost the simplicity of manners for which they were so much admired and nothing prevails but pride vanity and extortion. Cape of Good Hope, 6 February 1786¹⁰

The ‘enemies’ were the French again; they had occupied Table Bay from 1781 to 1784 acting as a sort of protection for the Dutch against a possible British attempt to seize the colony. For example, and in agreement with the Dutch, they had built kilometres of fortifications along the coastal hills of the ‘city’.³² The French navy of the Old Regime counted about 2,000 men. Added to the growing trade with India, they caused an influx of goods and created inflation, phenomenon which a personal note to Joseph Banks, in a letter by Francis Masson, bears witness to: ‘I shall remember the wine but am sorry to inform you that it is raised from thirty six dollars to eighty, every other article in proportion’ (Cape of Good Hope, 21 January 1786¹⁰). Eccentricities in social life also thrived: ‘the coiffure of today is Parisian’, wrote a German visitor in 1784.³³ The newcomers organized balls on a regular basis, and they created the first theatre of the colony in which men were said to dance in pairs during public performances.^{32,33} A

more mercantile atmosphere, unusual social practices, some daring plays like that of Beaumarchais with influences from enlightened philosophers -which could not prevent rampant heavy drinking habits in town- may all have left impression of 'pride' or 'vanity' in Masson's mind.

Masson was also quite disappointed because it seemed he would not be able to rely on other friends of science: 'There is no collection or collectors or only lovers of Natural Science here at present' (Cape of Good Hope, 6 February 1786¹⁰). This meant loneliness and hardships ahead. But on arrival, he also had to face the hostility of the Dutch who had felt betrayed by the behaviour of Patterson, a British botanist spying for the Crown. Even if the restrictions seem to have been somewhat lightened with time, he was first forced to remain several kilometres away from the coast and forbidden to go on any faraway expedition. In the end, he wrote: 'I think considering the above circumstances it will not be agreeable to remain here above one year' (Cape of Good Hope, 6 February 1786¹⁰); but in reality he was going to stay nine long years.

This nine-year period is represented by forty two letters in the Joseph Banks' archives. Taking into account the difficulties to convey any letter or parcel back to London, Masson had to entrust his consignment to two or three different people travelling on different ships. He would choose the specimens (they were seldom potted plants), the seeds, the bulbs along with descriptions and sometimes new determinations; he would compile them in precise lists attached to most of his mails. During those years, Francis Masson suffered from being isolated from his friends and from Kew supervision, proficiency and advice. It was particularly difficult not to be able to exchange views with other 'lovers of plants' he knew, not to have regular information about how the seeds he had sent were doing in their new London soil and climate –and indeed, he would often ask about them at the end of his letters.

However, he continued his explorations and kept accumulating dozens and hundreds of specimens and seeds. Because of his stable presence in the Cape, he was able to grow his own garden which was both a botanical garden and a nursery. Since he was very scrupulous with royal money and kept precise account of his spending, we know that from time to time, when he would leave for an expedition for example, he would hire somebody to take care of his numerous flowers and plants. He not only sent specimens and seeds from there, but also dried plants for a herbarium and he painted beautiful water-colours of his most interesting findings. From one of his letters, we learn that he particularly enjoyed doing so on rainy days: 'In rainy weather I employ myself drawing some new sp of *Stapelia*, *Hamanthus*, *Amaryllis*, *Oxalis*, etc.' (Cape of

Good Hope, 21 June 1794¹⁰). One hundred and forty seven of these water-colours still exist today³⁴, as well as one hundred and ten dried plants of his herbarium held in the Linnaean Society of London within Smith Herbarium³⁵ - itself composed of Linnaeus and James E. Smith collections. Both these sources may be consulted online but have restricted access.

During those years, Francis Masson discovered and described different species of *Strelizia*: 'I have a fine plant of *Strelitzia alba*³⁴ which I wish much to send home as I think I hve not heard that there is any of that sp. yet in England' (12 December 1789¹⁰). The name was given in honour of the Queen and whose common denomination today is 'bird of paradise' or 'Queen flower' in England. He introduced the *Protea*,³⁴ the *Mesembryanthemum*,³⁴ the *Pelargonium*³⁴, the *Amaryllis*³⁴... but he was fascinated by a succulent, a desert plant, some species of which hardly ever bloom and which often do not grow higher than a few centimetres above ground. He thus grew several dozen species of *Stapeliae*³⁴ in his own garden.

His strenuous activity and probably also his discretion and conformity apparently won him the sympathy of the Dutch local authorities. It became in fact a significant advantage and thanks to their cooperation, Francis Masson was able to do everything he possibly could from so far a distance to ship his treasures. That way, he was able to rely on Cornelis Jacob van de Graaf, governor of the Cape between 1785 and 1791, who allowed him to send his shipments under the protection of his own name and signature as if it were a diplomatic mail. The same thing happened with Daniel Corneille, governor of the island of Saint Helena, who agreed to help him. It can only be noted that he was not very selective because, according to George McCall Theal, Cornelis Jacob van de Graaf was discharged by the Dutch Company for overspending and costly life style: he had many horses and privileges in a time when there were only a few thousand inhabitants in the Cape.³⁶ As for Daniel Corneille, he made a name for himself when several mutineers were sentenced to death and executed under his supervision. In the end, Masson had to act as a geographer, a diplomat, and a politically aware scientist.

With the Cape colony being so isolated, maritime connections were simply vital. Any British envoy living like him in a Dutch territory and dependent upon safe shipping needed to remain in contact with the state of international affairs. Most of his letters mentioned the reasons for choosing such or such person as intermediary, for electing a specific ship or commander for his consignments and he often pondered the risk of losses, making copies and double or triple shipments. But it was painful for Masson to do all this, while wars disrupted communications and could mean a lot of wasted time and energy. From Madeira and the Canaries during the

American Revolution, he had several times expressed his disdain for politics or the present state of affairs: ‘A few lines from you would give me great pleasure for I begin already to languish as no conversation goes on here but that of Politics’ (Madeira, 29 May 1777¹⁰); ‘both the Canaries and Madeira Islands are very much infested with American cruizers’, (Punta de la Orotava-Tenerife-, 20 February 1778¹⁰) ; ‘I sent you a parcel of plants containing about 25 seeds, but the chance of being intercepted by the Americans gives but small hopes of them ever coming to hand’ (Puerto de la Orotava, 19 March 1778¹⁰).

Staying in the Cape for such a long period of time allowed Masson to help many people who were travelling or visiting the Cape. Some of the stories can be read in his letters and they give a good idea of what could be needed or of how risky it was to undertake the long sea travels from Europe to Asia and back. For example, Francis Masson had befriended Colonel Gordon –with whom he had gone on expeditions- and was particularly interested in his descriptions of animals. He tried to help him whenever possible:

I have promised to procure a Box of Reeve’s colors for Col. Gordon he being badly provided with that article. If you hear of any certain opportunity for the Cape it would confer a great favour on me by sending me one. (Cape of Good Hope, 19 April 1786^{10,20})

He also helped Captain Edward Riou who had lost nearly all of his crew, his ship and almost his own life on his way to New South Wales with 300 people on board:

Mr Riou will sail for England in a short time and as he has promised to render me very service in his power, I shall be able to send a good collection by him. (27 January 1791¹⁰)

He also helped Philip Gidley King who had lost a very important cargo intended for the colony of New Zealand: ‘My time has been much taken up helping G. King. Otherwise I should have sent a small collection of seeds’ (17 July 1791¹⁰). He solicited the collaboration of members of the *Bounty*, most notably her captain, William Bligh, but also her midshipman, M. Hayward (12 February 1790¹⁰) and her master, M. Frayer (27 May 1790), in order to safely ship his plants to London.

I have made up several collections and only want good opportunities to send them by. I should have sent one by Capt Bligh, but his situation as passenger on board a Dutch Pocketboat prevented me. 12 December 1789¹⁰

Leaving a writing account of how these men, as well as Captain Riou and the purser of his wrecked *Guardian*, M. Farquharson, had been willing to help him, was also a way to contribute

to their defence after such events as a mutiny or the loss of a king's ship. He was ready to leave such testimonies of their generous conduct towards him arguing it was no less than for science's sake.

From what he writes, he also seems to have been hospitable to Johann Georg Scholl, an Austrian botanist, whose situation was quite desperate and astonishing. Franz Boos, who had been chosen as leader of the expedition by Joseph II, called at the Cape on his way to Mauritius for a much longer period than he had first anticipated (from May 1786 to February 1787). All three went botanizing in the back country, but as soon as weather permitted, Boos sailed to Mauritius where he stayed for about a year. He came back to the Cape and finally left for the port of Trieste in February 1788, loaded with three hundred cases of plants of all kinds. In the meantime, Georg Scholl had been left behind at the Cape where he continued to collect specimens but ignored he would be stranded in the colony until the year 1799. Masson ended three of his letters from this period with comments about the Austrian botanists. It is worthwhile reading them chronologically as they evolve with time and reveal some rare but rather absolute critiques, as well as some Empires' fight for domination even in the world of plants.

We every day expect one of the Imperial Botanists from Mauritius with a very large collection of Oriental plants from the Kings garden there. He has hired a ship intirly for the purpose of transporting his collection to Europe. Their Cape collection of living plants is large but I think not well chosen consisting of many plants which has been long in our Gardens and a great many species of Proteas which is very difficult plants to preserve during such a long voyage and has a much better chance from seed but it is the Emperor's command that they should bring very large Plants even with flowers and fruit upon them. But it may be said of him as a sailor said of a certain British Admiral how should he know he never was at sea in his life. Cape of Good Hope, 5 January 1788¹⁰

The imperial collector is still here and has made a fine collection. But the polite Mynheers show so little respect to his great Master that he is obliged to remain here contrary to his orders and it is with the greatest difficulty that they will receive any part of his collection on board their ships. He remains here under the patronage of Col Gordon and unfortunately he and the governor are mortal enemies. Cape of Good Hope, 13 January 1790¹⁰

The Imperial botanist is set here under the protection of Col. Gordon (who desires his respects to you). He is much distressed by the death of his master and has no prospect of bringing his collection home. Cape of Good Hope, 2 June 1790¹⁰

Here he is clearly criticising Joseph II orders as being inappropriate and ignorant of real maritime conditions. Writing to Banks, it is a way of comforting his patron and the royal requirements of sending seeds, claiming thus a sort of British superiority in the field. (However, the categorical opinion and mocking tone cannot hide the fact that Masson was only partially right. If Georg Scholl's plants taken on board by Baudin in 1790 had to be deposited on the Island of Trinidad after a shipwreck, Boos's voluminous consignment had safely reached the Austrian port of Trieste in June 1788 and they considerably enriched the collection of the Schönbrunn palace directed by Jacquin, the famous naturalist. In the same way, French captain Baudin, often sent on Austrian mission, used what he had learned from Franz Boos to take care of living specimen on board ships during his subsequent Napoleonic voyage of discovery to Australia).

In his memorandum to the King¹⁵, Joseph Banks had clearly stated that the main purpose of Masson's expedition was to help the royal gardens develop the greatest plant collections in Europe.

Kew Garden has in great measure attained to that acknowledged superiority which it now holds over every similar Establishment in Europe; some of which, as Trianon, Paris, Upsala, etc., till lately vied with each other for preeminence, without admitting even a competition from any English Garden.

But behind Francis Masson's professional judgment matching the sense of rivalry existing between the main powers of the time, there may be a hidden criticism of Boos' behaviour, preferring to overload a ship with living collections among which were two hundred and fifty birds, rather than to make room for his 'under-gardener'. Making use again of sentiments of national rivalries, he mocked Joseph II's weak influence for being unable to rescue one of his subjects from a Dutch territory. It is impossible not to think that Masson shared this common protest as 'under-gardener' and labourer of botanic researches because he himself had spent years asking for instructions or permission to leave the Cape. His comments show in the end that he had grown quite close to Georg Scholl, that he respected his 'fine collection', and that he wanted the situation to be known. Another common point between the two was that they both considered Cape botany as a source of plant development for Europe, not for Africa itself, but the explorers could not be the developers at the same time.

Whatever the disagreements with his superiors, Francis Masson remained a faithful royal subject until the end. The last and unpublished example of his long stay in the Cape, from the year 1790,

shows that he was ready to adopt 19th century colonial habits. A Dutch merchant had asked Masson to contact any British authority with the aim of providing meat to British ships calling in Table Bay. Masson, who, we thus learn, could understand Dutch, had had no time for translation of the proposed contract, but he summarised it saying that there could be an agreement on lower prices in exchange for a regular contract. He wrote to Banks as the best intermediary for this matter.

On the solicitation of the Gentlemen contractors for the Cape Butchery I have taken the liberty to inclose you their proposals for supplying the Kings of companies ships on better terms. They requested that I would use my interest get it laid before the Lords of the Admiralty as it might be of some consideration also with regard to Botany Bay. I have not time to make a translation of it. Cape of Good Hope, 14 April 1790¹⁰

From such a permanent residence, he sometimes provided different services which resembled that of a little embassy and went far beyond sending seeds to his patrons.

A scientific publication on the genus *Stapeliae*.

When he finally came back to England, far away from this miniature society of the Cape where each and every one could deal with pretty much everything but where cultural life was weak, Masson immediately started to write his book on the *Stapeliae*. As previously stated, these plants were modest specimens from the desert lands and for that matter they were to be found mostly far away from the Cape boundaries. Going in search of them implied that he had infringed upon Banks' instructions to stay near the coast and not to spend useless sums of money in long travels in the interior of the country. From the correspondence, and the long time span between two letters, it can be understood that Masson and Banks both had their own idea as to where it would be interesting to botanize. But it seems unwise as regards to the Dutch warnings and even cruel to think that Banks had asked him repeatedly not only to get plants from False Bay but also to remain there. In fact, there had been a quite recent recommendation to ships to avoid dangerous port calls to Table Bay, but False Bay was not well developed and remained very isolated from Cape Town, where at least Masson could have some kind of social life. After he had won the confidence of the Dutch authorities, Masson did collect flowers in this area, but he never mentioned any intention to move there. He however organized the travels he thought promising, remembering well some of the desert regions where he had seen new species during his first stay. This is how he finally got a large enough collection to write a book and even draw the illustrations by himself like Anna Saltmarsh revealed from archives held at Kew.⁸ The introduction and preface to his book were in English. He explained how he became interested in

the *Stapeliae* in particular and why it would be of interest to devote some efforts to let these unpretentious, unusual desert succulents be known to a broader scientific audience. The rest of the book, essentially the plant descriptions, is written in Latin as such was still practice at the time. Two species of *Stapeliae* were already known and the name had been given after that of Van Stapel, a 16th century Dutch botanist. Francis Masson added more than thirty species descriptions to these first two. He was so happy and proud of his achievements that, no longer able to write to the Linnaeus since their death, he wrote to Carl Peter Thunberg confident that he, too, could well remember these plants that they had started to find together during their journeys twenty years before. He was also proud to have planned his work within a scientific tradition and did not forget to mention all those who had done some work on *Stapeliae*. For example he did not ignore the work written twenty years before by another Swedish student of Linnaeus, Pehr Forsskål, who had gone to Yemen [Arabia Felix],¹⁴ but had died while on expedition. Masson either had the opportunity to read it during one of his short stays in London, or he had read it on his return: in either case, it tends to show that he was a learned man in his field, well aware of the latest developments of science.

These scientific achievements found some kind of recognition when he was elected as a fellow of the Linnean Society of London on February 16, 1796. He was recommended by Aylmer Bourke Lambert, George Shaw, John Symmons, William Pilkington, James Dickson, Richard Anthony [Markham] Salisbury, Archibald Menzies, and José Correia da Serra (information given by Elaine Charwat, deputy librarian in the Linnean Society archive). Except for R.A. Salisbury, who started as James Edward Smith's friend but ended his life in controversy against the Linnean classification and accused of financial frauds, this group of people is representative of what botanical science was at the time. Some people amassed or described collections (Lambert, Symmons), some liked to study specific plants while working as nurserymen or gardeners (Dickson), some travelled the world and greatly increased the botanic collections of their time, several of them were also fellows of other societies (Royal Society, Horticultural Society...), and of course, Correia da Serra, Portuguese refugee, showed that England could be a heaven for any persecuted lovers of natural science. Francis Masson had known most of these men and he himself shared a lot of these features of 18th century botanical explorations.

Last expedition in the New World and death.

It seems there were hesitations as to where Masson would be sent next, but it was finally decided that he would leave for Canada. As he was entering his 57th year, Francis Masson had to

experience very trying times at sea again. Once again a French pirate vessel attacked the ship he was sailing on. People on board were made prisoners and they were used to attack another ship; they were forced to fight and were then abandoned at sea with only four days of water reserve. From what can be read in a letter he sent to William Aiton's (in Kew archives), Francis Masson was among those who imposed themselves on board, and he confesses that the 'common men' were put in shackles during the night so that bread rations would be preserved.

We found out necessary to put ourselves to the allowance of half a pound of black bread made of the husks of wheat and rye and 3 and a half pints of water each per diem and we were obliged to lay upon the cables at night with the common men. New York, 1 January 1798¹¹

From this passage, it can be inferred that he did not see himself as being a 'common man', another sign that more open-heart content could probably be read in his letters to the Aitons. Both the fact that he once again survived a dangerous act of piracy and that a handful of his letters to William T. Aiton have been rescued from destruction are extraordinary events which could have built some kind of a legend around Francis Masson. In contrast, the impression remained that he had spent the last years of his life in the cold Northern America and little more.

In Montreal he was welcomed and went on expedition with the famous explorer Alexander MacKenzie.

I am under great obligations to the Gentlemen of N. W. furr trade who gave me a passage to the Grand Portage, and particular to Mr McKenzie who is now returned to England. You have no doubt heard of his crossing the continent to the Pacific Ocean. Montreal, 5 November 1799¹¹

Once again he renewed his task of sending numerous seeds and bulbs this time adding as many living specimens as they could to make it across the Atlantic, if handled with care and protected with moss. There were other difficulties in the Atlantic passage, but at least it was much shorter than the route to the Cape and there were more opportunities for shipping consignments. Despite his age and health problems, Francis Masson became interested in this new territory and quickly saw what would be of interest. For example and on several occasions, he sent seeds or living plants of wild rice because he knew the Indians were using them.

I have not yet been in the country where the Zizania grows in any quantity. I got a Speck from the Indians the grains seems to be much broke by shipping. Montreal, October 17 1798¹⁰

While he had developed an interest in desert plants in the Cape colony, he was passionate about aquatic plants in Montreal; he would describe them thoroughly and give precise instructions for their acclimation in Kew.

In the same way that it had been asked of Masson to explore the *Spanish Main*, it was asked of him to enter the American territory. From what is said in two of his letters, he considered going from the Great Lakes to the Mississippi on a very long passage.

I intended to have visited the states about the end of winter and to have explored the back pats of Virginia but travelling there is so expensive that I have given up the idea and I propose going by Lake Erie toward Pittsburg. [...]

I mentioned some plans for the ensuing year one to proceed through the mountains of Virginia and down the Ohio to the Mississippi. The other to get a canoe of 4 or 5 Canadians and proceed up the Ottawa river and explore the south side of the Great lakes which to me seems to be the most elegable as I would be able to carry along with me what I collect. 12 January 1800¹⁰)

As when he was in the Cape, he adopted the European's opinion regarding the Indians, stating, for example, but not elaborating further, that in some regions the Indians were very 'hostile'.

I have consulted my N. W. friends here respecting the red River of the Missouri who say it would be extremely dangerous without a large part as the Indians are very hostil. 12 January 1800¹⁰

But contrary to the Cape (or at least there is no remaining evidence), he seems to have been interested in the different Indian languages around Montreal and Quebec, up to Lake Superior and the border with today's Minnesota. His lists of words, sort of a dictionary, are lost, but he does mention them and names four different languages of Indian tribes: Chippewa, Kinistino, Mississagi and Scioux.

You will find in the box these lists of the Indian language viz one of the Missasagui according to the English pronunciation, one of the Chippawaw filled up by the best interpreter in the country being born among the Indians but had a good grammatical education in Lower Canada. Another list by an Englishman of the Seiwa language which I believe is pretty correct. I have since got two lists of the Kinistinoe Language by different persons which I also send. 12 January 1800¹⁰

The way he repeats references to his ‘interpreters’ shows that contrary to what happened with the Kohekohe, the Royal Society and Joseph Banks were eager to collect any information available about the Indians of Northern America. From this correspondence, they clearly appeared to British elite as being higher up on the human scale.

In this period, Francis Masson showed outstanding abilities to adapt. He had already been through many hardships, but in the Cape for example, he had kept his mind focused on the same type of plants, which created a sort of stable intellectual framework for his activities. But in Northern America, Francis Masson proved he could jump to a totally new environment, forget physical difficulties or age, study new plants and even open his mind to new peoples and cultures. He kept his enthusiasm for the development of natural science till the end, but severe illness and fatigue made him ask for his return. Having received agreement from Joseph Banks to come home whenever he could, he however never saw the Kew gardens again and died in Montreal on 25 December 1805.

Conclusion

Francis Masson devoted his entire existence for the benefit and development of natural science. He wanted to contribute to the discovering of new flora species, but he also desired that his findings be practical and useful. In a letter to Linnaeus, and for probable multiple reasons including personal ones, he once contested G. Forster’s decision to name a plant after his friend William Aiton on the ground that this species could not be acclimatized in London and was thence worthless. Exactly to the opposite and for mere scientific scrutiny, he was deeply pleased to ship two specimens of abalones, well known molluscs from the South African coast today, to the secretary of the *Natural History Society* as a contribution to the cause of science in general.

A few days ago I received a letter dated May 1791 from J. Hadley Swain secretary to the Natural History Society of which I am an unworthy member? I have long had a sincere desire to contribut something but my constant attention has been in Botanical researches and the animals of this country are I believe pretty well known. The fishes here I believe are little known and would be some addition to Nat. History. I have collected many of them and made some drawing, if they can contribute to the advancement of science they will be much at their service. Francis Masson to William Forsyth, Cape of Good Hope, 15 May 1793¹¹

He himself had his collections of insects and birds, often regretting not to have enough time for the study of birds. The British Museum (Print Room) also holds Francis Masson's collection of animal drawings, twelve of which done by himself.⁷

This insatiable appetite for science was directed by the decisions of high ranking characters: aristocrats and explorers, royal head-gardener, King. He was also given material support from these men and the organizations they represented, embryos of a modern state whose main objective in science was to collect as much useful knowledge as possible and to contribute to future developments.^{37,38} In a fascinating article on this topic, David Mackay³⁹ wrote:

I have identified 126 collectors working outside Britain and Europe over the period 1770 to 1820 who sent plant specimens in one form or another to Joseph Banks or to Kew Gardens [and he added] only about twenty had regular missions.

However, this economic, human and cultural capacity to invest in science was the basis of Masson's outstanding longevity as a collector. His obstinate and stable work introduced over the years in Europe a very important number of new species. This was an important contrast with the brilliant individuals from Sweden, for example, like Sparrman and Thunberg, who had to spend part of their time and energy in finding funds or patrons. About Francis Masson's contributions, Mia C. Karsten⁵ wrote:

Masson has introduced into England a great number of Cape plants. His second stay at the Cape appears to have been particularly fruitful, as we may trace in the Hortus Kewensis, ed. ii, where under the genus Pelargonium alone, we find species introduced by him each year from 1788 to 1795 inclusive; no fewer than 47 out of the 102 species enumerated owed their introduction to Masson. Moreover, the first 20 vols. of Curtis's Botanical Magazine, which contain 786 plates, have nearly one-third devoted to figures of Cape species, mostly sent to Kew Gardens by Masson.

In 1948, a list of all the plants introduced or collected by Masson and mentioned in the 1810 second edition of Aiton's Hortus Kewensis, reached a total of 835 new species.⁵ Even if his name is not known outside close circles of botanists or historians of early Cape Town, he worked for or shared some scientific interests with almost all the best specialists of his time. The two Linnaeus came first for the theoretical and encyclopaedic knowledge of botany. James Cook, Joseph Banks, William Aiton and James Lee were first in their respective fields, as were Carl Peter Thunberg and Anders Sparrman, then Georg Scholl and Franz Boos, or MacKenzie in the New World. Masson's life was unusual because he was the first to be sent on a remunerated

mission to collect plants, yet he was tenacious enough to honour the royal society's confidence and to find enough energy to work on plant determinations as well as on plant collecting and nursery for almost thirty years. He was unusual too in the way Africa, more precisely the Cape Colony, became the main centre of his plant introductions to Europe while other new colonies attracted more attention.

However, nothing is known of his youth, or of his private or sentimental life. We only know that the world of his letters was almost exclusively manly. During the thirty years of his correspondence, no woman could reach the status of interlocutor either for his botanical searches or for anything he undertook. It may have reflected his own personality, but it also tells a lot about the Enlightenment. Scientific circles, and especially botanist-explorers, did not leave much space for women, nor did the early colonial societies.

It is known that Masson has met one of the very few British women who had developed a deep knowledge of the Linnaean classification -she learnt Latin in order to understand works of botany and helped James Lee translate one of Linnaeus's books. She and her husband stopped at the Cape on their way to India. She went collecting plants with Thunberg and Masson and it may not be indifferent again to notice that only she and Thunberg have left testimony of these excursions –both very enthusiast. The only references Masson made to Lady Anne Monson can be found in 1774 with Masson's introduction of the plant *Monsonia* which had been named 10 years earlier by Linnaeus and in the two beautiful water-colour paintings of two different species of that genus he made in the Cape.³⁴

Francis Masson had certainly conservative political opinions, but he had a questioning mind and even when he was in disarray with no instructions from Kew for months, he was able to get interested by the collections of other botanists, like the one Aubert showed him on his return from Tristan Da Cunha island in the middle of the Atlantic and which lead him to say:

We have had here a French Botanist a monsr Aubert, a refugee who has been on the Island Tristan da Cunha where he has made a small collection of Plants which are curious. They seem to partake of both continents. He favoured me with some fine specimens which I shall send you by the next opportunity. Cape of Good Hope, 25 February 1793¹⁰

The sentence: 'They seem to partake of both continents', rang like Darwinian observations. It was 43 years before Darwin would stop at the Cape at the end of his travel on the *Beagle*.

Francis Masson's work in southern Africa, as well as in other parts of the world, certainly belongs to the history and evolution of natural science.

References

- ¹ Francisco-Ortega J, Santos-Guerra A, Carine M, Jarvis CE. Francis Masson y los primeros estudios taxonómicos modernos de la flora macaronésica. [Francis Masson and the first modern taxonomic studies of the Macaronesian flora]. Centro de educación ambiental municipal. 2009;20.
- ² Smith JE. Francis Masson. In: Rees A, editor. The new cyclopaedia; or universal dictionary of arts, sciences and literature. London: 1819. vol 22 p. 727-9.
- ³ Briten J. Francis Masson. J Bot. 1884; 22 p. 114-23, p. 144-48.
- ⁴ Forbes VS, Masson's travels. S Afr Geogr J. 1945; 29 p. 16-31.
- ⁵ Karsten MC. Francis Masson, a gardener-botanist who collected at the Cape. S Afr J Bot. 1958; 24:203-20, pls. 36-7.
1959; 25 :167-88, pls. 17.
1959; 25 : 283-310, pls. 27-8
1960; 26 :9-15.
1961; 27:15-45, pls. 8-10.
- ⁶ Gunn M, Codd LE. Biographical accounts of the leading plant collectors and their activities in southern Africa from the days of the East India Company until modern times. In: Balkema AA, editor. Botanical Exploration of Southern Africa. An illustrated history of early botanical literature on the Cape flora. Cape Town; 1981. p. 246-9.
- ⁷ Rookmaaker LC. The Zoological Exploration of Southern Africa 1650-1790. Rotterdam: Balkema AA. 1989. p. 129-134.
- ⁸ Saltmarsch A. Francis Masson: Collecting for king and country. Curtis's Bot Mag. 2003; 20(4):225-44.
- ⁹ Francisco-Ortega J, Santos-Guerra A, Karine MA, Jarvis CE. Plant hunting in Macaronesia by Francis Masson: the plants sent to Linnaeus and Linnaeus filius. Bot J Linn Soc. 2008; 157(3):393-428.
- ¹⁰ State Library of New South Wales –SLNSW- [homepage on the Internet]. Papers of Sir Joseph Banks (Series 13: Correspondence, being mainly letters received by Banks from Francis Masson, 1776-1800, 1805. Sidney, Australia: SLNSW; 2010 [updated 2010 June 18; cited 2014 March 8]. Available from: http://www2.sl.nsw.gov.au/banks/series_13/13_view.cfm.
- ¹¹ Kew archives: Kew Record Books; Letters from Francis Masson to William Townsend Aiton; William Forsyth; Foreign Letters; William Forsyth Miscellaneous Letters; South African Plants Recorded as Introduced or Collected by Francis Masson.
- ¹² The Linnaean correspondence [homepage on the Internet]. Centre International d'Etudes du XVIIIème siècle (c18.net); [cited 2014 March 8]; Available from: <http://linnaeus.c18.net/Letters/index.php>.
- ¹³ Masson F. An account of three journeys from the Cape Town into the Southern parts of Africa; undertaken for the discovery of new plants, towards the improvement of the Royal Botanical Gardens at Kew. Philos Trans R Soc Lond. 1776; 66:268-317.

- ¹⁴ Masson F. An Account of the Island of St. Miguel, by Mr. Francis Masson, in a Letter to Mr. William Aiton, Botanical Gardener to His Majesty, communicated by Joseph Banks, Esq. FRS. Philos Trans R Soc Lond. 1778; 68:601-610.
- ¹⁵ Natural History Museum Archives, Dawson-Turner Banksian correspondence, DTC, vol 2, sheet 213.
- ¹⁶ Masson F. *Stapeliae novae*: or a collection of several new species of that genus, discovered in the interior parts of Africa by Francis Masson. London; 1796.
- ¹⁷ Ly-Tio-Fane M. Botanic gardens: connecting links in plant transfer between the Indo-Pacific and Caribbean regions. Harvard Pap Bot. 1996 May; 1(8):7–14.
- ¹⁸ Pulteney R. A general view of the writings of Linnaeus. London; 1781. p. 88.
- ¹⁹ Memoirs of Mr Francis Masson, the celebrated Botanist. The Scots Magazine, and Edinburgh Literary Miscellany. 1806 December: p. 892.
- ²⁰ Bradlow FR. Francis Masson's account of three journeys at the Cape of Good Hope 1772-1775. Cape Town: Table Cloth Press; 1994, p. 54.
- ²¹ Lindsay A. Seeds of blood and beauty; Scottish plant explorers. Birlinn Ltd.; 2008, p. 35.
- ²² Lee J. An Introduction to Botany: Containing an Explanation of the Theory of that Science; extracted from the Works of Dr. Linnaeus. London; 1765.
- ²³ Kew Royal Botanic Gardens [homepage on the Internet]. [cited 2014 March 8]. Available from: <http://www.kew.org/visit-kew-gardens/garden-attractions-A-Z/eastern-cape-giant-cycad.htm>
- ²⁴ Merians LE. Envisionning the worst: representations of 'Hottentots' in early modern England. University of Delaware Press: 2001. p 181.
- ²⁵ Cuvier G. *Femme de race Boschimanne*. Histoire naturelle des Mammifères. Paris; 1824.
- ²⁶ Cuvier G. Extrait d'observations faites sur le cadavre d'une femme connue à Paris et à Londres sous le nom de Vénus Hottentotte. In : Mémoires du Museum d'Histoire Naturelle. Paris; 1817.
- ²⁷ Johnson SD, Pauw A, Midgley J. Rodent pollination in the African lily *Massonia depressa* (Hyacinthaceae). Am J Bot. 2001;10(88):1768-73.
- ²⁸ Linnaeus the Younger. Supplementum Plantarum 'Systematis vegetalibium' editionis decimae tertiae, 'Generum plantarum' editionis sextae et 'Specierum plantarum' editionis secundae. Impensis Orphanotropei; 1781.
- ²⁹ Sparks J. The works of Benjamin Franklin : containing several political and historical tracts not included in any former edition and many letters official and private, not hitherto published : with note and a life of the author. Boston: Hillard Gray; 1836-1840. vol 1, p 306.
- ³⁰ London Eveening Post, 8 October 1767-10 October 1767.

³¹ Currie J. *Medical Reports on the Effects of Water, Cold and Warm, as a Remedy in Fevers and Other Diseases*. London; 1805.

³² Cape Town history [homepage on the Internet]; [cited 2014 March 8]. Available from: http://capetownhistory.co.za/?page_id=140.

³³ Worden N, Van Heyningen E, Bickford-Smith V, Cape Town: *The Making of a City: an illustrated Social History*. New Africa Books; 1 October 2012. p. 81.

³⁴ Global Plant Science (formerly JStor PlantScience) [homepage on the Internet]. Ithaka; 2000 [cited 2013 July 15]. Available from: <http://www.jstor.org/>
Water-colour drawings of Plants from South Africa, Canaries, Azores, West Indies.
147 water-colours by Masson, [documents on the Internet]. [cited 2013 July 15]. Available from: <http://www.plants.jstor.org>.

³⁵ Linnaean Society of London [homepage on the Internet]. The Smith herbarium. [documents on the Internet]. London; [cited 2014 March 8]. Available from: <http://linnean-online.org/view/collector/smith=5Fherbarium/Masson=3AFrancis=3A=3A/>.

³⁶ McCall Theal G. *History and Ethnography of Africa South of the Zambesi, 1505 – 1795*. London: Swan-Sonnenschein & Co.; 1910. Vol. 3.

³⁷ Gascoigne J. *Joseph Banks and the English Enlightenment. Useful Knowledge and Polite Culture*. Cambridge: Cambridge University Press; 1994.

³⁸ Gascoigne J. *Science in The Service of Empire. Joseph Banks, the British State and the Use of Science in the Age of Revolution*. Cambridge: Cambridge University Press; 1998.

³⁹ Mackay D. Agents of empire : the Banksian collectors and evaluation of new lands. In: *Visions of Empire. Voyages, Botany, and Representations of Nature*. Miller DP, Hanns Reill P., editors. Cambridge University Press; 1996, pp. 36-57.

