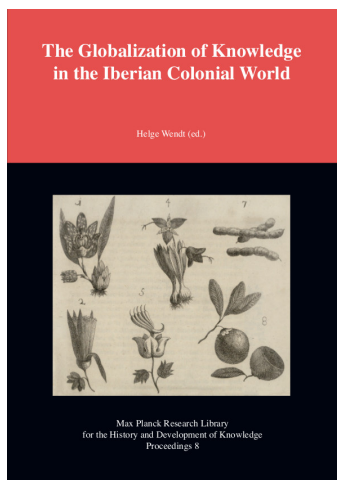


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Sheets of Paper, Tobacco Leaves: The Circulation of Knowledge About New  
World Plants Through Printed Books (Sixteenth and Seventeenth Centuries)



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## Chapter 8

### **Sheets of Paper, Tobacco Leaves: The Circulation of Knowledge About New World Plants Through Printed Books (Sixteenth and Seventeenth Centuries)**

*Mauricio Sánchez Menchero*

#### **The Green Gold**

[1624/27. Travel diary]: We sailed from Peru [...] for China and Japan [...] taking with us victuals for twelve months; and had good winds from the east [...] But then the wind came about, and settled in the west for many days [...] So that finding ourselves in the midst of the greatest wilderness of waters in the world, without victual, we gave ourselves for lost men, and prepared for death.

[But] the next day about evening, we saw [...] thick clouds, which did put us in some hope of land [...] Wherefore we bent our course thither, where we saw the appearance of land all that night; and in the dawning of the next day, we might plainly discern that it was a land [...] And after an hour and a half's sailing, we entered into a good haven, being the port of a fair city [...]

The next morning early, there came to us [an] officer [...] and [he] told us, 'he came to conduct us take us to the Strangers house... Soon after our dinner was served in; which was right good viands, both for bread and meat: better than any collegiate diet that I have known in Europe. We had also drink of three sorts, all wholesome and good [...]. Besides, there were brought in to us great store of those scarlet oranges for our sick [...] There was given us also, a box of small grey or whitish pills, which they wished our sick should take, one of the pills every night before sleep; which, they said, would hasten their recovery [...]' (Bacon 1819, 81–86)

The author of this travel diary could have been none other than Francis Bacon who, at the age of sixty-five, was on the verge of death. He was a thinker who was interested in reflecting on the role the new American treasures should play in the

West. This involved imagining the building and development of a complex world that would emerge as a New Atlantis and as resulting from the innovations (Patent Roll VIII) of an *empirical* reality whose legal order the philosopher himself would develop (García 2006, 185–186). His approach was different from the fantasy tales about the East Indies elaborated in the past that depicted people and nature in both a monstrous and marvelous manner. That is to say, if before he dealt with literary abstractions that sought to bring order to a remote world, now, through the allegory of *New Atlantis*, Bacon placed these marvels in conceptualizations that facilitated control over the seemingly novel. For this reason, the philosopher took responsibility for describing a Christian population that spoke in a Latin language, like Spanish, which facilitated communication and movement of both their natural wealth as well as the knowledge produced from it. In this way, to place *New Atlantis* in an allegorical form:

in the interstice between America and the Orient, Bacon's text focuses on continuing European assimilative problems (both conceptual and practical) with regard to geographically remote regions. (Jowitt 2002, 132–133)

Due to his scientific and philosophical interests, Bacon developed a predominantly descriptive structure in reference to biology and medicine. An example is his *Sylva sylvarum*, or, *A Natural History: In Ten Centuries*, a work in which Bacon describes different experiments with minerals and plants. Of course, he could not leave out a plant like the American tobacco, which he briefly described, in addition to talking about its cultivation and medicinal uses. We can place this exchange of natural goods and agricultural knowledge in the early part of what Paul Crutzen classified as the Anthropocene. Before what would become the Industrial Revolution, Europe was shaped by the circulation of American plants which modified not only the type of agricultural crops included in the climate, but also the diets of foods, medicine and natural stimulants. Naturally, Bacon relied on the descriptions of plants originating from the East and West Indies that appeared in books published in Latin and English, sometimes accompanied with engravings.

However, in spite of having come across an American plant, or its description in books, not all naturalists or physicians in Europe were open to its therapeutic uses. Ever since the humanist Galenic tradition, there existed, in general, a skepticism toward *materia medica* from the New World, as was the case of Francisco Valles. On the contrary, some scholars in the circumscribed Paracelsian thinking showed a different attitude, thanks to the fact that they were more open to the collection of materials and experimentation, as was the case of Bacon (Gaukroger

2001, 175–176). Still, a humanistic author, like the doctor from Seville, Nicolás Monardes, was open to Paracelsianism and the use of American plants.

In this way, Monardes was responsible not only for the description of the plants that he grew in his garden in Seville, but also those he studied in his laboratory and experimented with in a therapeutic manner on his patients. As a result of these experiences, Monardes published a book in 1565, later reprinted in 1569, in which he included a list of the botanical products from the New World, without mentioning tobacco. In 1571, the physician from Seville would write and publish, for the first time, his own text on tobacco while also editing two French works on the same topic. They were *La maison rustique* written by the physician Jean Liébault in 1570 and the work by the Paracelsian Jacques Gohory *Instruction sur l'herbe Petum* in 1572. Monardes edited his work on tobacco starting with a word to the king in his dedication: the omission of said plant in his first book was due to the fact that it had not reached his hands like other plants had, such as the sassafras tree. However, there is no doubt that tobacco had already been introduced in Spain.

Focused on the culture of tobacco, Monardes' text provided an account in Spanish of its cultivation and medicinal uses surpassing in popularity the works of Liébault and Gohory. Here we must remember that Monardes' system of thought had an advantage over that of the French authors in terms of the time and experimentation invested in the natural resources from the East Indies, such as opium and other drugs mentioned by Dioscórides and Garcia da Orta. Monardes' reading of these was in a modern fashion, that is, not merely as an annotator or commentator of *Auctoritas*, but as a reader of science who knew how to cross-reference not only between one book and another, but also between plants and minerals (Eisenstein 1994, 52). In this way, he could compare, for example, tobacco and opium as stimulants which were needed in order to work without feeling hungry or thirsty and to walk long distances.

They use [...] such things [as tobacco] to remove fatigue [...] not only [...] In our Western Indies it is used, and it is a very common thing in the Eastern Indies. And also in India of Portugal, for this effect opium is sold in the shops, even as they sell *Conserva*, which the Indians use to relax from work, and to get high, and not feel bad from anybody ailment, or spirit that may appear: and there between them they call it *Aphion*. The Turks also use *Aphion* for this effect [...] (Monardes 1574, 49)

This pharmacognosy was the result of a matrix that Monardes used to organize the new discoveries generated by the American green gold. In addition, Monardes' work, translated into Latin in 1574 by Carolus Clusius (Charles de

L'Écluse), would be introduced to the circle of intellectuals and academics in medical institutions beyond the Spanish border. It would also reach a wider audience, for example, through the printed version in English, published in 1577, making his knowledge become a point of reference and consultation. In fact his work will be cited repeatedly and, therefore, translated into many languages.

Through his work, Monardes helped to disseminate knowledge about tobacco and added to the first catalog of diseases for which tobacco acted as a panacea. Monardes converted tobacco into a household remedy in Western Europe, and his results were accepted by the majority of physicians in Europe for more than two centuries.

In the final analysis, Monardes definitely helped not only in the mere description of the plant, but in the explanation of how it was used for therapeutic purposes in order to understand how it cured diseases and how it prevented them through hygienic cleansing. In reference to these properties, Monardes pointed out how tobacco:

Has virtue to heal and to dissolve, with some binding and comforting. It welds the fresh wounds, and heals them, as they say, by the first intention: *it cleans dirty wounds (sores)* and reduces them to perfect health [...] In old wounds, our Tabaco worked marvelous effects; it does heal them *and cleans them*, removing everything superfluous and rotten, making them perfectly healthy. (Monardes 1574, 42)

In his discourse, Monardes demonstrated the therapeutic properties of tobacco, which he valued much more than its uses as a decorative plant. This demonstrates that when it was first introduced in Europe, it was not perceived as a curative plant. The greatest curative richness, as Anthony Grafton points out, was eventually going to come from plants, not minerals:

[...] Monardes, the Spanish physician [...] judged the discovery of America far more valuable for its plants than for its mineral wealth because health was ultimately more precious than riches [...] (Grafton 1995, 162)

For Monardes, tobacco was just a sample of this wealth. Later, after characterizing the plant as hot and dry in the second degree, the doctor from Seville gave a long list of therapeutic benefits from various preparations: internal congestion, stomach ache, constipation, kidney stones, flatulence, diseases during pregnancy, halitosis, rheumatism, tumors (swellings), abscesses, cuts, ozena (rhinitis), de-worming, antidote.

Before proceeding to an analysis of the circulation of his work, it is worth bearing in mind that Monardes' interest for the American *materia medica* was not

altruistic nor exclusively scientific, but that it was related to the configuration of a commercial network of importation to distribute the American products from Spain to the rest of the European continent (Barona and Gómez Font 1998, 20).

### **Appropriation and Translation**

Certainly one way to knowing how a man of science can develop a system of thought in a particular historical context is from language. In this regard, Quine noted,

Ideas are as they are, but words are outside where we can see them and hear them. And scientific theories—as speculative and abstract as they may be—are in words [...] there are no theories apart from words. (Quine 1973, 35)

This is true even more so in areas such as the biological and medical sciences where great care exists around a precise description of the different living beings and of the phenomena that appear in the diseases and their cure.

The origin of that effort is often placed in the construction [...] of a natural history based on description through personal observations of plants and animals in the different areas of the Old World and the immense territories that the Europeans were discovering. (López Piñero and Pardo-Tomás 1996, 22–23)

In this regard, it is no coincidence that Elizabeth Eisenstein has highlighted the role that the printers played not only in the dissemination, but also in the generation of knowledge, since, as she notes, a good part of the work that was an innovation in the fields of scholarship and science did not develop within the academic centres. The typography facilitated combined forms of action to emerge—both social and intellectual—which determined that the relations between the men of knowledge and the systems of ideas change (Eisenstein 1994, 54).

However, from our point of view, it is not a question of the predominance of publishers to the detriment of laboratories, botanical gardens or libraries. Rather, these spaces that generated knowledge accounted for the integration of a means of communication, like the typographical workshops formed by different agents, from printers and typographers, to traders and translators. The latter, for example, played a very important role in the dissemination of works that dealt with the American *materia medica*. Such was the case with John Frampton, who translated Monardes' work into English. In this regard, it is important to analyze this translation—according to Isabelle Pantin (2010)—under a triple feature of the translations in the medical area.

One element to be highlighted is that in the process of translation a couple of factors were at play, such as “the ideological motivations and commercial interests. While the latter remained relatively constant, the first of these were more mixed: obtaining prestige, the willingness to spread knowledge” (Pantin 2010, 173). Among other motivations, the propagation of ideas or the encouragement of the English vocation to explore, colonize and trade prevailed, as did, for instance, the company of the writer and translator Richard Hakluyt.

In this way, it should be remembered that Frampton was a merchant of the Bristol-Seville route who was not exempt from the economic difficulties that the Anglo-Hispanic trade brought during those times. In 1561, the Inquisition accused Frampton of possessing a Protestant book. Soon, he was imprisoned and tortured, and his ship and possessions were seized. Finally, the British man escaped and remained in Cádiz where he learned the Spanish language and formed a personal library. It is not known when he was able to return to British lands, but these experiences allowed Frampton to become the translator of at least six works including, in order of elaboration, the work of Monardes to the *Travels of Marco Polo*, the *Discourse* of Bernardino de Escalante or the *Art de Navigation* by Pedro de Medina. In essence, Frampton’s half dozen translations provided English readers a kind of schoolbook for marines and merchants with Spanish knowledge concerning geography, navigation and medical material from America (Beecher 2006, 103–122).

A second point to emphasize is that the translations to suit the needs of a professional group or institution, like the medical, generated “a special effort [to] promote the translations: on the one hand, medical works into Latin, as a symbol of their professional competence, and on the other, the vernacular languages, in order to facilitate the dissemination of useful knowledge about health” (Pantin 2010, 172). Frampton’s English translation was aimed at a broad audience, as he himself stated in the prologue to the work by the doctor from Seville:

And of the medicines mentioned above in the same work by Dr. Monardes, now merchants and others are taking them from the West Indies to Spain, and from Spain to here, England, by means of daily traffic, and due to the excellence of these herbs, trees, oils, plants, stones, etc. they have been known to be marvelous remedies for all diseases and injuries that can happen to men, women or children, who have left and largely abandoned the old order and form of medicine [...] (Monardes 1577, 3v.)

A third and last element to emphasize is that, in most cases, the works involved were translated “by doctors and [that] were destined for other doctors [...] in which special attention was made to the completeness and clarity of their content”

(Pantin 2010, 170). Nevertheless, there were also translations of medical books done by non-specialists. This was the case with Frampton, who, after leaving his work as a merchant, stated in the foreword:

[...] and now, without the pressure of the past endeavors of my old profession, I spend my time for the benefit of my country and I avoid idleness by translating three books by Dr. Monardes of Seville, the wise doctor, from Spanish to English [...] (Monardes 1577, 3)

### **Movement and Prohibition**

The seeds and leaves of the tobacco plant first arrived in England like a bolt of lightning, as did its recreational consumption—smoking it in pipes. Only afterward were the voices of printed books and pamphlets with a medicinal and moral bent heard. In this regard, it is likely that John Hawkins was responsible for transporting plant specimens from Florida to England in 1565, that is, a decade before the publication of Monardes in English. Although there is no data to confirm this hypothesis, it is very likely that the species *Nicotiana Rustica* was introduced, if not by Captain Hawkins, then by someone from his crew. For their part, Mathieu (Matthias) de l’Obel and Pierre (Petrus) Pena (1570) linked tobacco cultivation in England with that of Portugal, that is, through Jean Nicot and the importation of the seeds of *N. Rustica from Florida*.

Another explanation of tobacco in England was put forth by Thomas Harriot in his *Brief and True Report of the New Found Land of Virginia* (1588). This scientist came to Virginia during the second exploratory trip (1585), where Walter Raleigh left him under the command of Ralph Lane to monitor and study nature. In order to identify the plants, like tobacco, Harriot (1588, 48) did not hesitate to take Monardes’ book with him. So, if Harriot explained how the settlers, both men and women, had acquired the habit of smoking pipes in the American colonies, it is very possible to think that upon their return they would have carried a cargo of seeds and tobacco leaves of the species *N. Rustica* with them. If in the English countryside the planting had prospered, then this was due to the fact that the settlers learned how to grow it from the Indians. In the cultivation of the *N. Tabacum* in England, it is generally agreed that it was introduced by Francis Drake, who would have transported it in 1586 after his expedition through the West Indies. Hakluyt tells us that as a result of Drake’s attacks against Dominicans he discovered tobacco in its species *N. Tabacum* (Hakluyt 1965 [1859], 746–747). In any case, it is not by accident that the two species *N. Rustica* and *N. Tabacum* coincided with the return of Ralph Lane and the settlers to England.

Here it should be kept in mind that the cultural history of the circulation of tobacco helps us to explain whether its appropriations were therapeutic, recre-



ational or commercial, for example, and how they were generated in the British world of the sixteenth and seventeenth centuries. That is, we can understand the discourse, the practices and the representations in relation to tobacco with a quick glance at its uses in England; some were positive, linked to curative aspects and recreation, and others were negative and critical, regarded as a source of vice, and inappropriate production and trade. Below are some brief examples written between the last years of Elizabeth's reign and the throne of James I.

In 1595, the pamphlet *Tobacco* by Antony Chute was published, just between the two first editions of Monardes' in English in 1577 and 1580 and the third edition in 1596. We know little about its author, only that he was a poet who liked to smoke tobacco in a pipe and that he was part of what was supposedly a secret society. For that reason, his discourse could not be one of a specialist, but even so he quoted authors like Jean Liébault and Charles Estienne, but above all Monardes, who he admired for his location in Seville and his proximity to people who were informed about the American colonies. In this way, Chute was able to build his discourse and mention the therapeutic uses of tobacco perhaps to ultimately legitimize its consumption. For example, Chute mentioned Paracelsus and the distillation processes to obtain tobacco in a solution. He said "drinking" tobacco in the morning was not desirable and also stated that the use of tobacco in a pipe, whether it was made of silver or clay, had medicinal benefits.



Figure 8.1: Antony Chute, *Tabaco*. London, Adam-Islip, 1595, 15.

At the same time, Chute's work led to another novelty: The graphic image of an indigenous man consuming tobacco gave way to that of a European smoking a pipe. Here we must remember how Monardes did not mention the consumption of tobacco by the white man, and instead by Indians and blacks in order to deter its use for pleasure. In addition, Monardes mentioned the consumption of tobacco with a cigar, but not a pipe, which was the more widespread use in the British Isles. Chute chose as his emblem a pipe rather than a knightly sword. He also took this opportunity to criticize pharmacists who sold the product at exorbitant prices. The likely reason why he formed a secret society, apparently to whom his pamphlet was directed, that is, to Humphreys King, was to counteract the greed of the apothecaries.

However, in 1604, King James I headed the English propaganda against the social use of tobacco. Of all the kings, he was the first and only one to write against tobacco. As we have already seen, the use of tobacco had been established as a social custom. Faced with this situation, the king published *A Counterblaste to Tobacco*. In the preface, he spoke of his patriarchal interest in taking care of the social body of the people. Therefore, he spoke out against the abuse of tobacco and urged people not to imitate the vice of the savage Indians. He made fun of the medical uses of the distilled tobacco. He said if perhaps it alleviated headaches or stomach aches, it also caused damage to the brain or harsh stomach ailments. The monarch also criticized the sinful habit, comparing it to drunkenness, which rendered men incapable of serving the commonwealth. And if tobacco taxes were very low at the time of his enthronement, James I did not hesitate to lower imports and increase the tax.

But in response to the declaration by King James I and its detractors, there were voices that defended tobacco for its medicinal use. This was the case with Dr. Edmund Gardinier, who published *The Trial of Tobacco* in 1610, in which he explained the results of his experiments with tobacco, and why he had learned to value and to defend it. In his argument, Gardinier went on to quote authors like Liébault and Monardes, although he did not cease to criticize the latter for referring to tobacco as a product of the devil. In his medical prescriptions, he considered tobacco to be a primary ingredient, in spite of its disagreeable taste. In addition, for very seriously ill patients he did not hesitate in prescribing gargling with tobacco and other preparations containing nicotine. He also recommended a mixture of tobacco for many diseases and tobacco smoke in the ears as a remedy for deafness. Gardinier was against chewing tobacco and opposed the use of tobacco only for pleasure because he warned that those who abused it would die.

Scottish professor William Barclay also defended tobacco in his work *Nepenthes, or the Vertues of tobacco*, published in 1614. In its pages, he criticized, with good humor, the simple consumers or "tobacconists" and, on the other hand,

defended the therapeutic value of tobacco. He made no contribution to pharmacognosy. On the contrary, he only confirmed, without criticism, the discourse of all those who saw tobacco as a panacea. And although he would have liked to give recipes on how to prepare the tobacco remedies, he indicated that its infusion and decoction could be harmful to those who had no experience. For this reason, he recommended that the medical preparations be left in the hands of doctors. In addition, the author, who was educated by Justus Lipsius in neostoic philosophy, warned his readers that tobacco was not for everyone because each person's temperament was different according with a Galenic vision. At the end of his book, Barclay would leave some poems that were similar to those by Edmund Spenser in *The Faire Queen* (1590) or by Sir John Beaumont in *The Metamorphosis of Tobacco* (1971 [1602]) that praised tobacco.

But in general, the rejection of the use of tobacco continued until the mid-seventeenth century, even for medicinal use. This refutation was made particularly by King James I and the greater part of the men of State and Church, as well as men of letters and scientists like Richard Brathwait, Joshua Sylvester or Thomas Thompson, among many others. However, as time passed, the recreational use of tobacco gained acceptance in the British Isles. In the main cities, the number of tobacco and pipe shops increased, as did cultivation of the plant, which became the main crop of several agricultural regions. In addition, pipe manufacturers obtained Royal Charter. James I himself, who had opposed the plant, understood that it could facilitate royal financing through tolerating and controlling its production and consumption. At the same time, the cultivation of tobacco became the mainstay of the newly created colony in Virginia for which the producers demanded protection. On the other hand, the king's income from taxes on tobacco was threatened by the success of the product in British territory. Therefore, it was not an altruistic proclamation by the king that prohibited the constant growth in England.

At the same time, the College of Physicians, in response to a letter from the king asking for their opinion on the quality of the tobacco grown in England, pointed out that the tobacco, which was produced in the south was better due to its maturity. Therefore, the judges were instructed to limit the cultivation and to request that the growers move outside of London. The proclamation of December 30, 1619, was the king's next step: "It is better to allow the importation of tobacco than to cultivate it in England." However, this royal proclamation would be ignored by the tobacco growers, who continued to defy the government until the death of James I and until the last decade of the seventeenth century. Among those, as we saw at the beginning, was Francis Bacon, who advised the use of some drugs, like opium, coffee, and of course, tobacco, as a way of preserving youth.

## Conclusions

With what we have seen, we can confirm, once again, and in accordance with James A. Secord (2004, 654–672), the richness that comes from the study of the transmission of scientific knowledge through the analysis of books and their translations, as well as their reprinting or comments in pamphlets and images. This analysis of the circulation of knowledge under a comparative context in geographic form and discipline can be appreciated in the case of tobacco and its various appropriations and uses, particularly with doctors like Nicolás Monardes who reached the British Isles from his laboratory and garden in Seville, as we have seen. Since then, our analysis has been more concerned with the follow up of Monardes' work relating to tobacco as a communication process and its various appropriations in printed materials, such as educational or moralistic texts in the England of James I. All of which, in addition to avoiding parochialism, inspires wider reading to explain and understand the interactions, translations and transformations of tobacco and its written references.

The cultural history of tobacco and its discourses, practices and representations in printed material demands a much wider study to account for the cognitive complexity that this implies. Some lines of work that serve as an example are still pending. In reference to the images, it would be important to analyze them under the pictographic eyes of W. J. T. Mitchell (1994) in order to convert engravings, posters and still life into verbal documentation tools for the understanding of the daily use of tobacco by nobles and charlatans, drunkards and women, religious people and blacks. An analysis of the engravings of botanical descriptions of tobacco in various printings is also illustrative, for example, a comparison of the size of the works by Monardes, the English edition (19 cm 4 to), and the tiny Italian (14 cm) publication.

What also remains to be done, from the methodology of the book's history, is to explain Monardes both as a scientist and a merchant, for example, or Carolus Clusius, translator and literary agent of the Flemish printer Christophe Plantin. It should be remembered that "Clusius' translation of Monardes' *Historia Medicinal* began a process by which a large number of American species, previously unknown by European naturalists, was assimilated into European medicine." In the same way, it is necessary to study the readers, through their annotations in the margins of medical books or through the study of the bibliographies contained in private libraries. These are several fields that, after all, point to the challenge of explaining how and why men and women of the sixteenth and seventeenth centuries appropriated a plant like tobacco.

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