

Ipecacuanha. Sjoerd Wicherink

The Netherlands, for short: Holland, and Latin America. Few of you will see a direct, let alone an intensive connection between the two regions. A few Caribbean islands and a small part of South-America, once exchanged for Manhattan. But in the seventeenth century the situation was different! The Dutch West-India Company obtained the monopoly for the trade with (among other regions) South-America, of which the most important substances were sugar and salt. As in those days the Dutch Republic was still at war with Spain, and therefore with Portugal as well, being annexed by Spain, it seemed to the Dutch that an attack on the former Portuguese possessions could yield a larger influence on the sugar-trade.

The West-India Company sent a fleet to Brazil, but the conquest of the sugar-plantations was not as simple as it seemed. They succeeded partially, but the inhabitants were reluctant to cooperate with the Dutch, and Spain tried repeatedly to recapture the territories. It was only then that the West-India Company had good insight to appoint a Governor-general, instead of the "Political Counsel", to administer the colony. And a good choice they made: John Maurice van Nassau, a second-cousin of the Dutch Stadtholder, and a commander-in-chief with an excellent record of service in Europe.

He arrived in Brazil in 1637 with a large train, not only military, but scientists and artists as well. And of course a court physician, but this man died within a few weeks. At the Prince's request the "Heren XIX" sent a successor: Willem Piso, an able and famous doctor from Amsterdam.

The family Pies originated from the region between Nimwegen in the Netherlands and Cleve in Germany. His father matriculated in Leyden University in 1607, but never finished his medical studies probably, for later on he is only mentioned as a musician and organ-player. His son Willem (1611-1678) did it better. Starting his studies at the age of 12 in Leyden, he promoted to Med. Doctor in Caen in Normandy at the age of 22. By that time the name Pies was latinized of course to Piso (not a direct translation of course, but "inspired" by a roman Senator from Cicero's times), and he became famous later with that name.

Practising as a physician in Amsterdam, he had many other interests, and clearly belonged to the "Upper Circle" of the city.

The West-India Company sent him to Brazil where he was not only the personal physician of the Governor, but also a friend, and a true scientific genius. Nearly everything in the country drew his attention, and together with Marckgraf he studied and drew all nature of the country. The result of these investigations was the *Historia Naturalis Brasiliae* (1648), of which four books were written by Piso: *De Medicina Brasiliensi*.

Chapter 53 of the 4th book deals with Ipecacuanha, and describes two varieties, according to the author never described before; one sort with a white root, and one with a brown root. And Piso praises both: emetic, purgative and a valuable antidote. Applicable as an extract or in powdered form; after extraction of the root with water, the remnants are much less emetic, but more astringent. And he glorifies the plant as being the best cure for diarrhoea and dysentery, with or without blood in the stools.

Piso's books about tropical diseases and about local medicines were even reprinted 150 years later; he was one of the pioneers in tropical medicine.

But the discovery and description of Ipecacuanha in Brazil did not give rise to a quick and favourable reception of the drug in Europe.

For this we must go to The Hague in Holland and Paris in France, at the end of the seventeenth century.

Johann Schweitzer, born in Saxony, obtained his Med. Doctor degree at the Harderwijk Academy (just as Von Linné later) and was a physician in The Hague. And of course with the latinized name *Helvetius*. His son Adriaan Helvetius, born in The Hague and Med. Doctor after his studies at Leyden, was sent by his father to Paris in order to market some of daddy's nostrums. And he did it, but we would consider his methods as those of a real Quack. On a second trip to the French capital he got in the possession of a large amount of ipecacuanha-root, at that time a fairly unknown medicine. Possibly encouraged by Piso's descriptions, Adriaan discovered the effectiveness of the plant in treating dysentery. He performed a couple of tests at the Hotel-Dieu, and praised his medicine in the quack-like way he knew so well. But his biggest success was of course the cure he gave to the Dauphin, the son of Louis XIV, who suffered from dysentery. Louis's physician Daquin and his confessor, Pere LaChaise, convinced the king to buy the patent-medicine from Helvetius for a mere 1000 Louis d'or. In those days "dysentery" was considered to be a singular disease: the flux. Helvetius was lucky indeed, as ipecacuanha is a perfect medicine for amoebic dysentery and not for the bacterial form. Anyhow, Adriaan had made in Paris, he stayed there, got a large practice, especially from the "better circles", and died in 1727, a rich man. His son became personal physician of the Queen of France, and his grandson was a famous philisopher.

In Holland, it was Fredrik Deckers, the predecessor of the great Boerhaave in Leyden, who recommended ipecacuanha for (among others) dysentery. However, he also complained about the problems in obtaining the roots, and therefore the high prices.

Possibly for this reason, the dosage of ipecacuanha was gradually diminished during the next century. Smaller doses were used, only sometimes much more frequent. With those smaller doses, the emetic properties of the root became less severe, while the anti-dysenteric properties remained. Smaller doses also extended the applications of the drug: anti-spasmodic and expectorant.

This was the reason why Dr. Dover mixed opium and ipecacuanha-powder making the famous Pulvis Doveri, not to add an emetic to the opium to prevent misuse. And well into the last century (sometimes even up into this one) Syrup or Tincture of Ipecacuanha was used in cough mixtures.

Pelletier in France isolated the active principle from ipacacuanha in 1817; emetine, mixed with cephaeline. Separation of the two was only successful an few decades later, in 1893. In the XVIIIth century it seemed impossible to cultivate ipecacuanha on plantations; every root was harvested in the wild, and therefore became less common, less easy to find and more expensive. Rare and expensive: it can be clear that it was very tempting not to sent other plants to Europe and sell them under the name ipecacuanha. A whole list of plants can be made, all of them sold as ipecacuanha, for all of them were emetic. Different plants, same name; it took botany quite some time so identify the true ipacacuanha clearly; even Von Linné mixed in the discussions.

Uragoga, Psychotria, Cephaelis, Callicocca, to mention a few names given to any emetic plant, thought to be ipacacuanha.

Only in de beginning of the XIXth century was the portugese scientist Gomez capable to identify the *Cephaelis ipecacuanha* as the one and only true Ipecacuanha.

This root is the one most pharmacopoeias demand, the so-called Rio-ipeca. From the western part of South-America comes the Cartagena- or Nicaragua-ipeca, the *Cephaelis acuminata*, considered equally good, with only a different ratio of emetine:cephaeline.



Other falsifications could be the American ipeca, the bastard-ipeca, the Guyana-ipeca (= *Boerhavia decumbens*, a dutch influence in the name at least), the Venezuela-ipeca, the “Ipeca des Allemands”.

Ipecacuanha was by this time well known, and can be found in nearly all pharmacopoeias in Europe and the United States, but it remained a problem to cultivate the plant. In Brazil it was no success, harvesting in the wild was their best option. And therefore the supply and the quality were questionably, to say the least.

British scientists have done much research into the cultivation of Ipeca in their colonies.

Starting with a part of the real Rio-ipeca, they succeeded, and at the end of the XIXth century the first Ipeca from India and Malaysia could be brought on the market.

Surprisingly enough, it was only in 1921 that the Dutch professor Van der Wielen insisted on ipeca-cultivation in the Dutch East Indies, nowadays Indonesia. Those propositions were overtaken by chemistry and history: better anti-amoebics from the laboratory, and no colonies any more for the Netherlands.

In short: Dutch influences in the discovery and the implementation of the drug in Europe are clear, but further developments were instigated by other countries.