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**Here it is. A Nahuatl translation of European cosmology : context and contents of the Izcatqui manuscript in the Royal Tropical Institute, Amsterdam**

Heijnen, I.

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## Chapter Six

### The Cure and Nature: Zodiac Man, *De Materia Medica* and indigenous ecology

World cultural history is infused with an astonishing level of knowledge of local ecology, which is reflected in the large variety of medical therapies and agricultural products that different cultures have created and put to use. This chapter examines the folios of Izcatqui that contain information on both medicine and agriculture. The aim here is to provide a full range of sources that may have been consulted in the composition of those folios of Izcatqui. By the time ms 3523-2 took on its current form, a variety of Old World theories on the physiology of the human body – including theories about the causes of illness and the means through which to cure them – had found their way to the New World. These were then incorporated into theories developed locally. It is pertinent to ask: where does Izcatqui fit into this intercultural framework? In addition, we must consider how the *tlacuiloque* who wrote Izcatqui translated the references to agriculture they found in both Old and New World sources. And we must ask whether or not these sources were altered in any way so as to be fitted to a local Mesoamerican context. Finally, it is important to determine to what extent the information provided by the fragments about medicine and agriculture helps us to draw conclusions about the use of the manuscript. Could Izcatqui have been used as a practical guide, much as the *reportorio* would have been?

#### 6.1 Practices of curing in *Izcatqui*

In Izcatqui, a total of 11 folios (58r-65r; 91r-96r) contain fragments that explain and interpret the medical discourse of the Spanish elite who traveled to the New World. To a great extent, medicine in sixteenth century Spain (as well as in the main part of what is now Europe) was rooted in ancient Greek philosophy. This philosophy had been maintained during the medieval period and did not change drastically until the seventeenth century with the development of the natural sciences (Siraisi, 1990: ix-x). The first of these explanations and interpretations is given as follows:

[f.58r] ☉ <i>nicā tiquitaz</i>	here you will see
<i>in totechnematia</i>	you make us know it
<i>yn yquenicā titic</i>	how it is inside us <sup>196</sup>
<i>ca ytechca chicome planeta</i>	it was with the seven planets
<i>yhuan matlactli omome Machiyotl</i>	and the twelve signs

The main theory being advanced, then, was centered around the belief that illnesses and cures were inevitably related to the twelve Zodiac signs and to the Sun, Moon, and the planets Mercury, Mars, Jupiter, Venus, and Saturn.

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<sup>196</sup> Problematic translation where *titic* could refer to ‘inside us’ (personal communication Justyna Olko, 2019).

### 6.1.1 Zodiac Man

Folio 59v follows up on this introduction with a wonderful drawing of what is unquestionably a male human figure (complete with beard and chest hair) surrounded by different elements in image and iconography (see Figure 52).

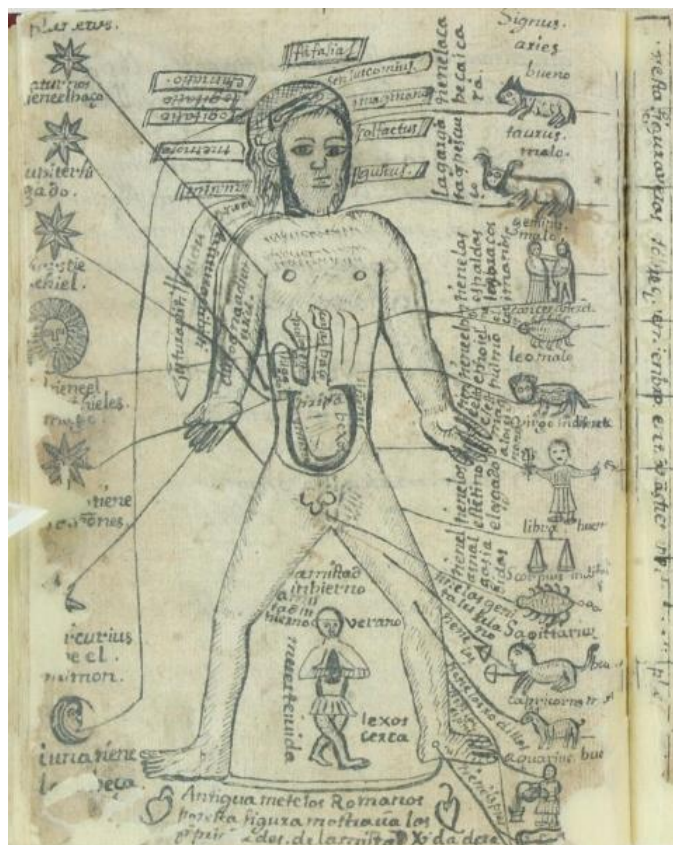


Figure 52. Zodiac Man, ms 3523-2, folio 58v

Nine text boxes appear around the principle figure's head, which catalogue the senses related to our heads. Clockwise they are: *fāfasia* [fantasia], *sensus comius*, *imaginario*, *solfactus*, *gustus*, *auditus*, *memoria*, *logitatio*, *estimation*. These senses are further explained in text on folio 60v:

*℄ Izcatqui yn izquitlamantli  
yn itechca yn totzonteco  
Tlacaquilistli toCuexcochtla[n] catqui*

[t]lalnamiquilistli tocuexcochteuh  
ytech catqui  
neyolnonotzaliztli achito canahuacā  
catq[ui] nematilistli  
tocanahuacā catqui  
nequatlatzallistli ahaquetzaliztli  
toquanepantla catqui  
Tocennematia tixquach omcatqui  
Toneyximachilia huel ōca tixcotoyacac  
yacnotixquac onca catqui  
Totlanecuilis toyacac oncatqui

here are all things  
that go with our head  
the ability to hear, the back of our head  
[neck] is  
thought, our neck  
is with  
a bit of imagination, the temple  
is with knowledge  
our temple is  
nodding the head  
the middle of our head is  
our knowledge, at the front there is  
our memory, there our eye, our nostril  
at the front there is  
our sense of smell, is there in our nose

In the drawing, the artist incorporated some information about human anatomy by naming some organs and drawing them in the abdomen: *higado* (liver), *pulmón* (lung), *estomago* (stomach), *cora[zon]*<sup>197</sup> (heart), *baco* (spleen), *riñones* (to the left and right: kidneys). Two other organs that are represented in the abdomen are the *bexos* (vejiga, bladder) and the *tixipa* (or *tripa*, intestines).

In between the feet of the man stands another figure. He seems to have been dressed as a knight, in tights and a short skirt. He holds an object in the shape of a cone in his hands. Surrounding this figure's head it says *amistad invierno* [invierno] (twice: friendship, winter) and *verano* (summer). To the right of the figure it reads *muerteiuida* [muerte y vida] (life and death). To its left we can read *lexos cerca* [lejos, cerca], close and nearby. On the bottom of the folio, below both figures it says: *Antiguame[n]te los Romanos por esta figura mostrauā las propiedades. de la amistad xrdadera.*

The main character is flanked by several easily recognizable elements. Even though the left margin of folio 59v is partly damaged, its drawings and text can be reconstructed to a large extent. To the male figure's left seven *planetas* have been drawn, as also attested to in the text written above their illustrations. From top to bottom appear Saturn, Jupiter, Mars, Sun, Venus, Mercury, and the Moon. To the main figure's right the twelve zodiac signs are depicted, indicated by the word *signos*. The signs are arranged from top to bottom and start with Aries at the top and end with Pisces at the bottom. Both celestial bodies and Zodiac signs are connected to the figure's body and the accompanying text explains to which part of the body the connection obtains. For the planets, that means that Saturn is linked to the spleen; Jupiter to the liver; Mars to the gall; Sun to the stomach; Venus to the kidneys; Mercury to the lungs; and the Moon to the head. The Zodiac signs are linked as follows, from top to bottom: Aries in linked to the head, Taurus to the throat, Gemini to the back and arms, Cancer to the heart, Leo to the chest and lungs, Virgo to the stomach and kidneys, Libra to the intestines and liver, Scorpio to the bottom, and Sagittarius to the genitals. The *tlacuilo* forgot to write the body part to which Capricorn is connected, although a line has been drawn from Capricorn towards the upper leg. Aquarius is linked to the knees and Pisces to the feet. In addition, all Zodiac signs are designated as either *bueno* (good), *malo* (bad) or *indiferente* (indifferent).

On the consecutive folio 59r, efforts have been made to include a sentence in Spanish framed as if belonging to folio 59v and its image. It is damaged to a large extent, but we do have an example of a similar drawing in the reportorio by Sancho de Salaya (1542). Therefore, we can infer that the text originally said: *Por esta figura veras sobre que miembros y entrañas tienen poder los siete planetas, los doze signos, debaxo de la qual esta la figura de la verdadera amistad.*

Similar illustrations of Zodiac Man appear in abundance in medieval manuscripts from Europe, and they similarly portray the twelve Zodiac signs in relation to different body parts and organs, starting with Aries at the head and ending with Pisces at the feet (see Figure 53).

<sup>197</sup> In the abdomen of the male figure, we read 'cora.' I assume this is an abbreviation of 'corazon' or 'heart' in Spanish.

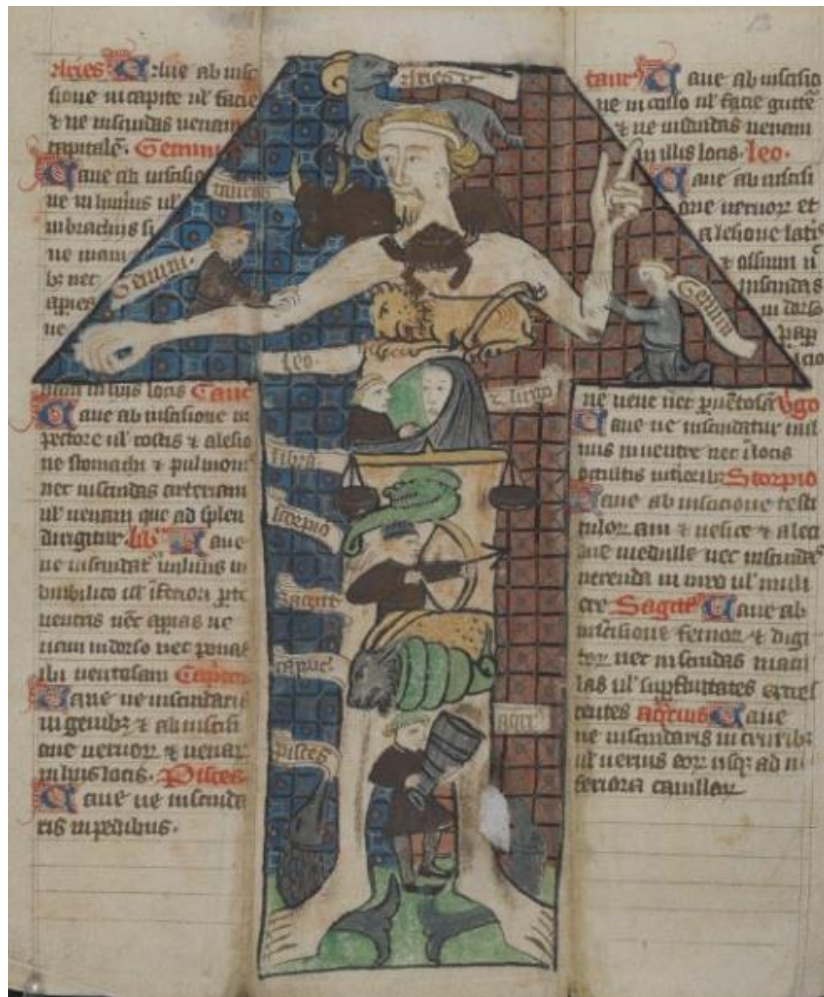


Figure 53. Zodiac Man diagram, from a folding almanac, England, 1st half 15th century, Sloane MS 2250, f. 12r. Available online, British Library.

The claim is that after the sun has set in any one of the constellations, that particular Zodiac sign will rule over its related body part and consequently its health. Thus, the main planets and the sun and moon were taken to govern the internal balance between the “primary qualities of heat, cold, moistness and dryness [...] and the power of the planets was strengthened or weakened according to their place in the different Zodiac signs” (Whitfield, 2001: 116).

In order to understand the link between the celestial bodies and health and cures for diverse illnesses, we must return to medieval Hippocratic physiology. According to medieval theory, there are four humors: blood, phlegm, and yellow and black bile (each of them is assigned to be Cold or Hot, combined with either Dry or Moist). These four humors are present in every individual and determine one’s physical appearance and health. An imbalance of these humours – due to an excess of one of the humors or a lack of another – was to be remedied by extracting some of that particular humor; for instance, by bloodletting. In accordance with European astrology, stars and the relative positions of planets were of influence to the humor ratio (Cañizares Esguerra, 1999). Certain combinations of planets and Zodiac signs were considered to be dangerous and it was thought that it could be fatal to practice phlebotomy in particular periods. In this medical context, illustrations of Zodiac Man functioned as a mnemonic device, and were often consulted along with drawings of the so-called Vein Man to determine



whether or not bloodletting under diverse celestial circumstances would have a positive or negative outcome (see Whitfield, 2001)

The explanatory text for Zodiac Man starts on folio 59r and is located opposite to the drawing itself. This text is divided into twelve lines and each line explains which zodiac sign rules in which month and whether or not this rule is something to be considered good or bad. For each of the zodiac signs the text on folio 59r reads as follows:

[f. 59r] *quitosnequi yn imarço oquichchihcatl am qli.C*  
it means [lit.: it wants to say:], March, the ram, is not good

*quitosnequi yn iabril q.q.hue amo quali C*  
it means, April, the bull, is not good

*qtusnequi yn imetzli mayo cocohuame qli. C*  
it means, the month May, twins. [is] good

*qtosneq. yn imetzli Junio tecuictzitli amo qli C*  
it means, the month June, crab, is not good

*qtosnequi metztli Julio tequani quali*  
it means, the month July, Lion/Tigre [lit.: eater of living beings], good

*qtosneq. metztli: agosto ychpochtli amo q.li*  
it means, the month August, young maiden, not good

*qtosneq. metztli: Septiembre pexo quali*  
it means, the month September scale, good

*q.tosneq. metztli: octubre: colotl amo q'.li*  
it means, the month October, scorpion, not good

*q.tosneq. metztli: vienbre tlacamaçatl q.li*  
it means, the month November man-deer, good

*qtosneq. metztli: de diciembre.tetzon amoqli*  
it means, the month December, 'bearded (animal)' [i.e. goat capricorn]<sup>198</sup>, not good

*[q.]tosneq. metztli: enero atetecac qli\_C*  
it means, the month January, water pourer, good

*[q]tosnequi metztli febrero mixtin a[mo qualli]*  
it means, the month February, fish, [not good]

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<sup>198</sup> Here, the *tlacuilo* decided to write a 'tetzon' which could be 'te(ntl) = lip' and 'tzon(tli) = hair,' forming the expression 'bearded (animal)' for goat. December is the month in which the Zodiac sign Capricorn appears. It is more common to find 'quaquauhtzontli' for 'animal with horns' (Karttunen, 1983: 57), but Molina lists tentzone = barvada persona and quaquauhtentzone for 'cabra'(goat), apparently as 'horned, bearded animal', so tentzon is simply a shortened form for cabra (goat).

The explanation of the drawing is continued on folio 60 and starts with an explanation of the influence each planet has over a certain body part or organ:

[f. 60v] ☿ <i>Yzcatqui planetas:</i>	here it is, the planets
☾ <i>luna tocpac ca yn techtotzōtecon</i>	the moon is above us, by our head
☿ <i>Centetl huei çitlali ytoca mercurius</i> <i>tochichicauh ytechcā pulmo</i>	the first great star named Mercury bile, it is with the lung
♀ <i>Occentetl huey çitlalin ytoca venus</i> <i>ytechca tocuilaxillo hyo</i>	another great star named Venus it is with the back,
☼ <i>Sol tonatiuh toyollo ytechca</i> <i>yhuan tochichicauh</i> <i>no yh[uan] totlatlalil</i>	Sun, tonatiuh, is with our heart and the bile also with the stomach
♂ <i>Mars centetl huei çitlali ytoca Mars</i> <i>tochichicauh ytechca</i>	Mars, the one great star named Mars is with our bile
♃ <i>[O]ccentetl huey çitlalin yntoca Jupiter</i> <i>yntechca teltapach</i>	another great star, named Jupiter is with the liver
♄ <i>[O]ccentetl huey çitlalin ytoca Saturnus</i> <i>ytechca telxochiuh ytoca bazo</i>	another great star, named Saturn is with the fat of the liver, named the Spleen

The *tlacuilo* decided to translate the planets as “great stars.” The Sun is not just referenced by its Spanish word (*sol*), but also in Nahuatl (*tonatiuh*). The same method of representation lacks for the Moon; here we read only *luna* and not the Nahuatl word *metztli*. The Zodiac signs in relation to the male figure have been explained briefly on folio 59r, and this is repeated on folio 60r-61v, supplemented with additional information about the body parts to which they are connected:

[f. 60v]	
☿ <i>yzcatqui: matlactlomoma machiyotl: Signus</i> <i>yn ipan motlalia:tonatiuh yn çeçe xihuitl</i> <i>yn cece xiuhtica:</i>	Here it is: the 12 signs, <i>signus</i> here settles the sun, each year during the year
[f. 60r]	
♈ <i>Oquichichcatl: ytechca tozontecō:</i> <i>yhuan toxayac ca quali Amocolis</i> - <i>Quaquahue ytechca tococo</i> <i>toq[ue]chquauhyo Amo yectli cocolisço</i> - <i>Cocohuame yn itoca geminis:</i> <i>ytechca ynōcā tocuilapan</i> <i>yhuan tacol yhuan toma</i> <i>amo quali cocolisço</i> ♊ <i>Tecuiçitli telchiquiuh titech</i> <i>yhuan ytech tochichicauh xeliuhqui</i> - <i>Ocelotl ytechca totlatlalil</i> <i>yhuan tocuilaxilloyo</i> <i>amo qualli cocolisço</i> - <i>Virgo tetzacatl</i> <sup>199</sup> <i>yntechca yteltapach</i>	the ram is with our head and our face, it is good, [there is] no illness the bull is with our throat it is not good, it is full of illness twins, called Gemini it is with our back, there and our shoulder, and our hand, it is not good, it is full of illness the crab is with our chest and it is with our bile, split up Ocelot [lion] is with our stomach and our back it is not good, it is full of illness virgo, sterile [woman] is with the liver

<sup>199</sup> “esteril, que no tiene hijos” (Alonso de Molina, 1992 [1555]: 110)



<i>yhuan ytlaca ça xeliuhqui</i>	and the person is just divided
- <i>Tlatamachihualoni tometzquauhyo ytechca</i>	scale is with the strong leg
<i>[Amo crossed out] qualli</i>	it is good
<i>Amo cocolisço</i>	there is no sickness
- <i>Scorpius collotl ytechca ytotlacatca</i>	scorpio, scorpion is with [our body]
<i>yotlacaxinacho<sup>200</sup> xeliuhqui</i>	our [lineage divided]
- <i>Tlacamaçatl toquexil titech catqui</i>	man-deer is with our groin
<i>qualli Amo cocolisço</i>	it is good, there is no sickness
[f. 61v]	
- <i>Quaquauhtentzone ytechca totlāqua</i>	goat [bearded animal] is with our knee
<i>Amo qualli cocolisço</i>	it is not good, it is among illness
- <i>Ce Acuic anoço atetecac</i>	one tiny shrimp or water pourer
<i>totlanitzco cā q[ua]lli amo cocolisço</i>	our shin, it is good, there is no sickness
<i>Mimichtin Centoxocpal nepantla catqui</i>	fish, the sole of the foot, in the middle they are
<i>Auh ca ytechca toxipil xocoyouh xeliuhqui</i>	and it is with our feet, [fruit is divided]

### 6.1.1.1 Cultural translation of Zodiac Man in Vaticanus A

In their study on codex Vaticanus B, Anders and Jansen discuss the illustrations of Zodiac Man from ms 3523-2 on folio 59v, as well as a human figure surrounded by the 20 day signs in Vaticanus A (Figure (discussed in more detail in their work on Vaticanus A) (1993: 93-106; 1996: 245-7). Their claim is that the Zodiac Man from ms 3523-2 and the illustration from codex Vaticanus A, which portrays a man that spreads his arms and legs, are both depicted only in style in a fashion similar to the medieval Zodiac Man. The figure from Vaticanus A is surrounded by the symbols for the twenty day signs of the Mesoamerican 260-day calendar and each of them is related to a different part of the body. The twenty day signs are spread in almost perfect symmetry, covering single body parts on the left and right side. This symmetry lacks for the Zodiac Man in ms 3523-2 and some of the zodiac signs are related to multiple body parts or organs in this figure instead of just one at a time. The associated signs do not correspond for both figures either, because the Zodiac signs obviously differ from those of the day signs. Consequently, Anders and Jansen argue that the association of both Zodiac sign Leo and day sign Jaguar with the intestines is merely a coincidence, and that the depictions only share the common idea of a centralized human figure surrounded by signs. The figure in Vaticanus A is not related to any astral influences, in contrast to the European Zodiac Man.

There does exist a Mesoamerican tradition in which the twenty day signs are related to the skin of a deer (as a symbol of nature) and their locations symbolize specific characteristic traits passed on to a child born on a specific day (Anders & Jansen, 1993: 96-7).

Both European and Mesoamerican cultures have a familiarity to relate symbols of time to parts of a physical body of either human or animal nature. This similarity is likely one of the reasons for the presence of a human figure surrounded by the twenty day signs in the early colonial Vaticanus A. It combines the tradition of the deer skin and the twenty days signs with the European tradition of the human figure related to astral bodies (Anders & Jansen, 1996: 245). According to the original colonial explanatory text below, the representation was used as a guide in the selection of a proper method to cure an illness. This method then, had to take into the account specific characteristics of the day sign that was related to the part of the body in pain. Although a link to astral influences is missing in the illustration from the early colonial codex, it is apparent that the genre of the Spanish *reportorio* was known in Mexico by at least the mid-sixteenth century. And it is also apparent that it was discussed and

<sup>200</sup> Literally “the seed of our body.”

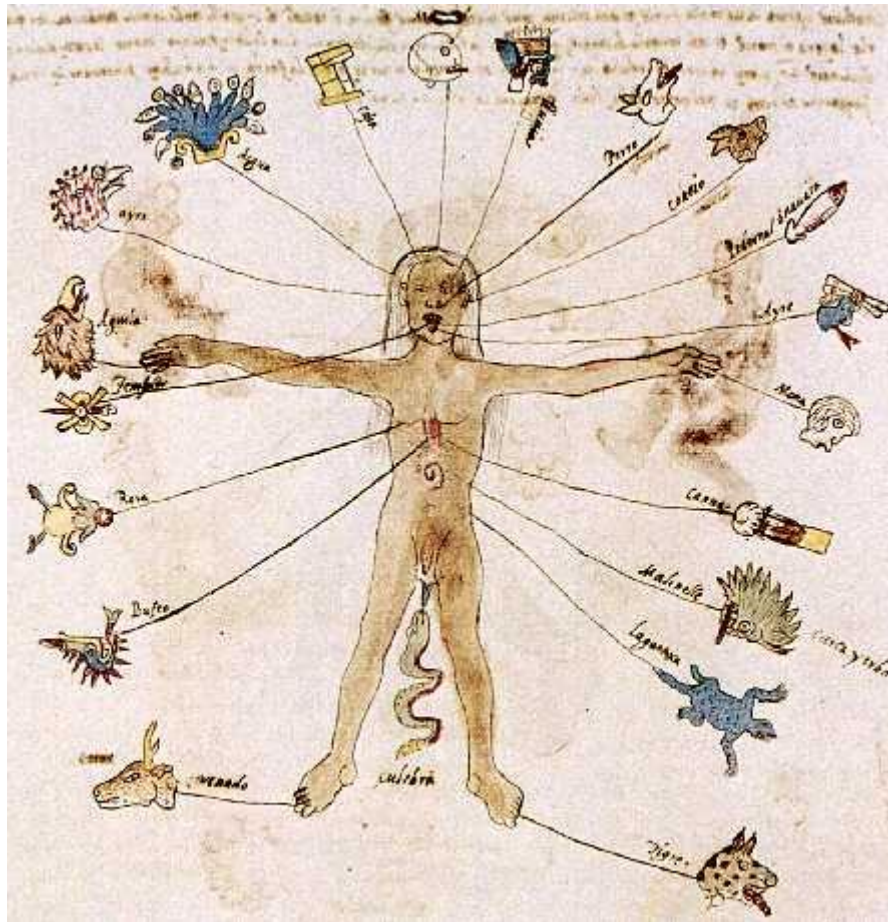


Figure 54. Image of a human figure surrounded by twenty day signs. Codex Vaticanus A, f. 54r.

that some aspects of it were incorporated into known practices, such as is expressed in Vaticanus A.

### 6.1.2 Vein Men

It is unclear how to properly translate a word that is used in Izcatqui frequently: *tlalhuatl*. According to Karttunen, this should be translated as “tendon” or the tissue that connects muscles to its adjacent bone (1983: 274). The word for “blood vessel” *tlalhuayō*, would seem to be more appropriate in the context of Vein Men (*ibid.*: 274). This Nahuatl word however appears only once (1983: 274). The online dictionary of Nahuatl (GDN) recognizes neither *tlalhuayō* nor *tlalhuatl* as “blood vessel”, just as “nerve.” One explanation for this is that the meaning of this word has changed over the years to incorporate the word “blood vessel.” Nonetheless, even though a different word was selected, the authors were perfectly aware of the exact anatomical item they were dealing with. To see that this is the case, consider the following fragment:

[f. 61r]

*Izcatqui yn izquitlamatli*  
*ytotlalhuayo ynicmiximatiz*  
*yn ipā pa ycani nezohuazque*

Here are all the things  
 of our blood vessel, that we thus may  
 know  
 where to bleed oneself

[f. 61r: image of Vein Man]

*Imtlalhuatl tixqua nepantla ycac*  
*ycac yehuatl yn iquac techcocohua totzonteco*  
¶ *Auh yn tocanahuaca yhuan yn ocan*  
*tixcalco mani ytlalhuatl*  
*ca yehuatl ynic* [f.62v] *titlachiya ca yehuatl*

the nerve in the front, in the middle  
it stands when the head sickens us  
and the temple, with  
our eyelid, flat is the nerve  
it is in order to see it

¶ *In tlalhuatl ometotexipal*  
*titech nenecoc mamani*  
*yn tocā Reoma*

the nerve of our two lips  
which can be found on both sides  
that is named *Reoma* (rheumatism?)

¶ *Inic centlalhuatl totechal*  
*yn techicac yehuatl yn iq[ua]c*  
*mococohua ytixtelolo yhuan*  
*yquac pozahua yn toxayac*  
*yhuan [i]n iq[ua]c mococohua yn tocamachal*

the first nerve  
is with us when  
the eye is sick and  
then our face is swollen  
when our mandible is sick

¶ *Intlalhuatl ytoca circular*  
*yehuatl yn iquac techcocohua tochichcauh*  
*ynhuan tomatzōtzōpas<sup>201</sup> yhuan teltapach*

the nerve named circular  
when our bile sickens us  
needle and liver

¶ *ye ytlalhuatl totlaquaticpac*  
*ycac yehuatl yn itechcocohua tocuilaxilloyo*  
*topitzahuaca*

[already] the nerve that is on top of  
the sacrum, sickens us  
our belt

¶ *In tlalhuatl oncan toquexilco ycac*  
*yehuatl ytechcocohua yn totlanitzco*

the nerve which is in our groin  
hurts our leg

¶ *In tlalhuatl onca tohuey ycxipil titech*  
*yehuatl ynepātla ycac yehuatl yn iq[ua]c*  
*techcocohua toquexilco yhuan tociacac*

the nerve there in our big toe of our foot  
in the middle  
hurts our groin and our armpit

[¶] *In tlalhuatl oncā toyacaticpac ycac yehuatl*  
*ynic cencā tichoca*

the nerve over our nose  
makes us sniff/cry

[¶] *Ome tlalhuatl oncā tonenepil titech ycac*  
*yn itzintlan tonenepil yn toca agitides*  
*yehuatl yn techcocohua y[n] tocuilapā*

two nerves that are in our tongue  
under our tongue are named *agitides*  
our spine, back is hurting us

[etc.]

[f. 63v]

¶ *Ce tlalhuatl oncā tomapilhuey nepātla*  
*yhuan tocxipil nepantla ycac yehuatl*

one nerve in the middle of our great finger  
and in the middle of the big toe of our foot

<sup>201</sup> *tzotzopaztli*: “needle, thin knife.”

<i>yn iquac otztli otztiya nima mitzminas</i>	when a pregnant lady becomes pregnant will bleed herself
<i>anoço mixihui yhuan ytotlacatca</i>	or/perhaps to give birth and our womb
[f.63r second image of Vein Man]	
<i>Auh yn occetlaluatl</i>	and another nerve
<i>tocuitlapan onoc yehuatl</i>	is in our back
<i>yn iquac techcocohua yn telchiquiuh</i>	then our chest is hurting us
<i>In tlalhuatl totzintamalpan onoc</i>	the nerve which is in our buttocks
<i>quinamiqui<sup>202</sup> tometzquauhyo</i>	stretches to our thigh
<i>In tlalhuatl tohuey mapil titech onoc</i>	the nerve that is extended in our large finger of our hand
<i>yhuan yn itech toçihua ytzi yehuatl</i>	and our woman, it [is] cold
<i>yn iquac mococohua yn totzōteco</i>	and thus hurts our head
<i>yhuan yn tixtelolo</i>	and the eyes as well
<i>Ome tlalhuatl tacayo ytechpā mani</i>	two nerves in the bladder
<i>yntoca Venus Scia ticcas yehuatl</i>	named Venusia <sup>203</sup> we will be it
<i>ynacā mometzcaxania çihuatl</i>	it hurts the flesh or skin of the leg of the
Woman	
<i>In iquac huelo aquimatque</i>	when it unravels what we know
<i>yn huelo aquitaque yn ixquich ymachiyotl</i>	when it unravels what we see, all the signs
<i>yn izquitlamatli omito yn ocā huelnezohuas</i>	all things said, from there they bleed
<i>yhuan y[n]ca tlalhuatl [f.64r] ypan quizas yn estli</i>	blood will emerge from the nerve
<i>Auh nican huel namech melahuilis</i>	and here it will be declared
<i>ca yn ixq[ui]ch yn tlalhuatl</i>	that from all nerves
<i>yn ip[an] nesq[ui]xtillo yq[ua]c</i>	they extract
<i>yno tlaq[ui]loc</i>	they cover with chalc
<i>Auh nahui tomatzotzopas tlalhuayo ymoçohuas</i>	and four blood vessels of our wrist will extend
<i>yn iq[ua]c Ayamo tlaquallo</i>	then no one eats
<i>yh[ua]n monequi Aquimatisque</i>	and it is necessary that [we] <sup>204</sup> will know it
<i>yn iq[ua]c Aquezq[ui]xtisque yn icxitl</i>	when the foot
<i>Anoço maytl Anoço tlamistli</i>	or the hand, or [...]
<i>Anoço yn canin monequi Auh yhuan</i>	or where it is necessary, and
<i>monequi ce apaztli</i>	one bowl is necessary
<i>Aquitemitisque ynatotomili</i>	the warm water will swell
<i>ynic amo tecocos</i>	thus it will not hurt

For the images of Vein Men in ms 3523-2, there seems to have been limited care for the aesthetic appeal to the reader. Details of the human figure are not of importance and neither are its intrinsic proportions. *Reportorios* often contained illustrations of such a man in order to show the location of veins together

<sup>202</sup> Lit: “it meets our thigh.”

<sup>203</sup> The shape of the bladder as seen on an ultrasound is described as having a butterfly shape. The Venusia is a genus of moth, and possibly therefore the bladder is named Venusia.

<sup>204</sup> Lit: “who.”

with a list of ailments that could be relieved by drawing blood from particular locations. These drawings, together with an explanatory texts, “reminded the phlebotomist which vein was related to the alleviation of pain and disease in each corporal region” (DelBrugge, 1999: 11; Whitfield, 2001). The first illustration of Vein Man in ms 3235-2 (f. 61r) shows him in a frontal position and the lines that indicate the veins are in accordance with the figure of the *reportorio*. The second figure in the Andrés de Li version is standing with its back to the reader in order to indicate the veins at the back side of the human body. Although the second figure in ms 3523-2 (f. 63r) shares the same lines as the figure shown from the back side in the *reportorio*, this figure is facing us from the front. Again, it is not certain whether this was done on purpose, whether the exact meaning of the illustration was not well understood, or whether the image just happened to be copied incorrectly.

## 6.2 Medical treatments in Izcatqui contextualized through colonial sources

Folios 91 through 93 describe twelve ways to cure pains or illnesses with at least two types of medicinal plants. The fragments and their translations read as follows:

[f. 91r] <i>℥ Nican pehua centlamātli</i>	here it begins
[f. 92v] <i>℥ Nican motenehuan</i> <i>in isqui[ch]tlama[n]tli</i> <i>in itoca patli</i> <i>carto bendito, artemesa,</i> <i>rota Arbabo ena in occequi xihuitl</i> <i>yn itlatollo ca mochi quinanamiquis</i> <i>yn aquin tley quicocohua</i>	here are mentioned all things named medicine cardo bendito, artemisia <i>ruda, hierbabuena</i> <sup>205</sup> and some other grass all of its history will help who are sick
[Initial] <i>Inic centlamatli ynic pati</i> <i>yn aquin ytzontecon mococohua</i> <i>ça xoxouhqui yn cōnis</i> <i>yion tlamanistin carto bendito Artemesa</i> <i>Anoço yacacpa moltasas</i> <sup>206</sup>	the first cure [for those] whose head is sick just drink something green [...] Cardo Bendito, Artemisia or the nose will throw up
[Initial] <i>Inic ontlamatli ycpati</i> <i>yn aquin yn ytozqui mococohua</i> <i>ça xoxouhqui:</i> <i>Anoço yn tlāco mococohua</i> <i>Anoço tlanquallo</i> <i>ehuatl contecaz</i> <i>y carto bentito:</i> <i>caquichicahuas yhuan ycpachihuis</i> <i>yn totlan quequetol</i>	the second cure [for] the one whose throat is sick just green perhaps [when] teeth are sick perhaps the biting it will stretch itself there the Cardo Bendito it will strengthen and it will calm the pain of the teeth
[Initial] <i>Iniquetel ycpati</i>	the third cure

<sup>205</sup> The scientific name for *ruda* or common rue in English (also known as Herb of Grace) is *Ruta graveolens* (Petit-Paly et.al., 1989: 488). The plant is an evergreen and carries small, yellow flowers. It is native to Central and Southern Europe and was introduced to the Americas for medicinal reasons (ibid.). *Hierbabuena* is spearmint or *Mentha spicata* (Taddei-Bringa et.al.). Both *ruda* and *hierbabuena* are known in Mexico to have medicinal characteristics.

<sup>206</sup> This seems to be *tlāça*, “to throw up” (see Molina *tlāça* “echarse por estos suelos, o de alto a baxo despeñándose).

*yn aquin yn inacazqualo  
yn aoc motlacaqui ynacaz con  
contequilisque yn yyaya  
yhua conis*

[Initial] *Inic nauhtletl [sic] ycpati  
yn aqui yn icueyxcochtla mococohua  
anoço cuexcoch [f. 92r] tlayocoya  
yiacacpa oyas omotlaxilis  
no yehuatl ycuexcochhuaqui*

[Initial] *Inic macuilamatli ycpati yquenin  
yxtelolo mococohua  
yntla [a]noço yxitla cahuis nequi  
yxcohomotequilis<sup>207</sup> anoço  
homotocas ynixqc yn aço  
yx na[ci?]pa chihuilstli*

[Initial] *Inic chiquacentlamatli ycpati  
yn aq[ui]n nitechica  
cohuamiyahuatl  
ytechcotecazque*

[Initial] *Inic chicontlamatli ycpati  
yn aquin [...] chiquiuh mococohua conis  
Aaço yqu[...]ch  
mococohua yquech tlaco[n]  
tecatz [...]  
yn aço tzonpilhui yyacacpa  
omotlaxil[...][...] quipollohua  
ynalahuac Anoço  
yy[...] ça quitlayeltiya yn tlaqualli  
Anoço toyollo mococohua  
Anoço teltapach oytlacauh  
Anoço yytlacauh yn eztl  
ytoma yeccapa ytopochcopa[n]  
ca yc yolis yn eztl quiyolitia  
it gives life  
Anoço tletl ytech motlalia ytoyollo*

[Initial] *Inic chicuetlamatli ycpati yn aqui  
yn aqui ytech mochihua xochizihuiztli*

*Anoço tlayeli [f.93v] mopahuazis yn atl  
ynima nicmopatlaz ypanitli  
yhua bino  
Anoço yehuatl nica bino  
no yc ycuizis camiyeyecoz*

[for those] who's ears are hurting  
and can no longer hear with his ear  
scratch it repeatedly  
and it will come back [the hearing]

the fourth cure  
[for those] whose back of the neck is hurting  
perhaps [has] angina  
place [medicine] in the nose  
the back of the neck will be smaller [read: cure]

the fifth cure  
[for those with] a sick eye  
if the white of the eye wants to leave the face  
scratch the face, perhaps  
then it will disappear  
eye

the sixth cure  
[translation of this cure remains unclear]

the seventh cure  
[for those who][...] is sick  
[...]  
the middle of its neck/throat is sick  
[it is filthy]  
perhaps to have a flu, through its nose  
threw up [...]  
phlegm or  
[...] to suffer from nausea, [of] the food  
perhaps our heart is sick  
perhaps the liver is filled  
perhaps [it is in] pain, the blood  
our hand, in a good place, to our left hand  
it will live a good life, the blood,

perhaps fire, it will provide our heart

the eighth cure  
[for those[ with 'spine of the flower'  
[hemorrhoids]  
boil it in water is bad  
I will cure it with medicine  
and wine  
here the wine  
take it, try it

<sup>207</sup> *Ixco*: "face."



[Initial] *Inic chinauhtlamatli ycpati*  
*yn aq[ui]n nitexihui Anoço tamaço cocoliztli*  
*Anoço ytiyahuh Anoço ytipozahua ycuil*  
*apāpa omotecaz ypatli*  
*nauhtlamanixti Aço ytla alahuac*  
*ychuezis yhuan monequi Achito coniz*  
*yçihuapātli ypan [...]nis ynpiltōtli yniyaxix*

the ninth cure  
 perhaps the illness of the frog  
 will go away, perhaps it will swell the arm  
 put the medicine on there [the arm]  
 four things in front and only inside  
 will slide and a small amount will come  
 of the medicine of the woman [with] the urine of the  
 children<sup>208</sup>

[Initial] *Inic matlactlamatli ycpati*  
*yn aquin omotec ynica yncochilo*  
*Anoço yztli [...]omotequilis*  
*Auh ytla camohuelliti:*  
*[...] ypā motecazqui Anoço nacahayo<sup>209</sup>*

the tenth cure  
 for who laid itself down here, the knife  
 or obsidian knife [?], it will cut  
 it is very strong/powerful  
 [...] those who laid themselves down,  
 with flabby skin  
 they need to cover [their skin] with some herb  
 of the Cardo Bendito

*[...]an çan achito monequiz yn ixihuh?]*  
*yo yn cardo bandito*

[Initial] *Inic matlactlamatli once ycpati*  
*yn aquí yyomotla quicocohua yehua[tl] motenehua*  
*yçihua quahuaqliztli*  
*mototomis<sup>210</sup> yn atl yc mopatlas<sup>211</sup> ypantli<sup>212</sup> coniz*  
*Anoço hocācotecazque*

The eleventh cure  
 [for those] who hurt their flank, he needs  
 to become skinny fast  
 [drink water]

[f. 93r] *Inic matlactlamatli omome ycpatli ynaqui*  
*ynaqui Adonahui oc totoqui<sup>213</sup> yc oniz*

The twelfth cure  
 [for those] who have a fever/is in pain, they will  
 drink  
 perhaps it will purge  
 then it  
 they will dress themselves now, it already begins  
 trembling with cold, they will drink it

*Anoço yc motlanoquilis*  
*yniq[ua]c oconnic*  
*motlaquētis hueliquac yyepenhua*  
*yyahuihuiyoca ynconizq[ue]*

[Initial] *Inic matlactlamatli omey ycpatli*  
*ynaqui oquiqua Anoço oconic*  
*micohuani pātli*  
*Anoço tocatl anoço colotl*  
*Anoço petlaçolcohuatl*  
*Anoço petlaçolcohuatl*  
*Anoço tequacolhuatl oquiq[...] coniz*  
  
*ypatli ynauhtlamanixtin ypatli*

The thirteenth cure  
 [for those] who ate or drank it  
 something deadly, poison  
 perhaps [of the] spider, or [of] scorpion  
 perhaps [of the] centipede  
 perhaps [of the] centipede  
 perhaps [from] the wizard [...] he will  
 drink  
 the medicine, four things [times], the medicine

<sup>208</sup> Read as such: spread a small amount of the medicine of the woman, mixed with the urine of children, and spread it four times over the infected arm.

<sup>209</sup> *nacahayo*: “flácido” in Spanish or “flabby” in English.

<sup>210</sup> *totomio*: “hair”

<sup>211</sup> *patla*: “change”

<sup>212</sup> *pantli*: “banner, flag.” The words ‘hair,’ ‘change,’ and ‘banner’ in combination with medicine and drinking water does not make sense.

<sup>213</sup> Unclear if it should be read as *totonqui* “warm, fever” or as a derivation of *totoquiliztli* “pain.”

A medical treatise – such as the fragments above – would not traditionally be part of a *reportorio*. As Izcatqui's very existence centers around pre-existing texts, it is not a far stretch to hypothesize that this fragment also derives from an already circulating text – either in Spanish or Nahuatl – that was reworked to fit the purpose of writing ms 3523-2. The easiest way to try and search for (a) possible source(s) is to find references to the plants mentioned as cures in Izcatqui. By doing so, one may be able to contextualize this medical treatise within a literary discourse in the first century of a colonial (Central) Mexico. By following this methodology it becomes apparent that two types of plants are referred to in colonial writing: *ruda* and *hierbabuena*. In addition to the medicinal features of the plants *ruda* and *hierbabuena*, *cardo bendito* (also known as *Cardo Santo*) and the family of the *Artemisia* were well known plant species and have been documented for their medicinal purposes as well.

### 6.2.1 Cardo Bendito (Cardo Santo) and colonial literature

Dictionaries define *cardo* as “thistle” in Spanish. However, it is rather difficult to find the correct species to go with the name *Cardo Santo*, as different sources are not in accordance with one another and refer to a multitude of not only species but genera as well. Therefore, in the following I will list possible *Cardo Santos* plants that are known to Mexico. The online *Biblioteca Digital de la Medicina Tradicional Mexicana* of the UNAM (Universidad Nacional Autónoma de México, Mexico City) is a collection of a large range of plants and their medicinal use throughout Mexico by indigenous peoples. The digital library not only describes where these plants are currently in use, but also lists their historical references. The library lists *Cardo Santo* three times and for all three instances it refers to the genus *Cirsium*, which is a member of the Compositae family, more commonly known as thistles. There are over 200 species, of which the library mentions *Cirsium mexicanum* DC, *Cirsium subcoriaceum*, and *Cirsium anartiolepis* petrak. The genus *Cirsium* is described as “cosmopolitan” because it is found throughout Eurasia, Africa, and North America. Its species *mexicanum* is native to Mexico and Central America (Invasive Species Compendium online <http://www.cabi.org/iscbeta/datasheet/119800>, consulted April 3<sup>rd</sup> 2014), but the other two species are found in parts of Mexico as well. The most striking difference between the three species discussed by UNAM is the colors of the flowers, which are purple, yellow, and red respectively.



Figure 55. *Cirsium* Sp. in the State of Tlaxcala, Mexico. Photo courtesy of Ludo Snijders.



Figure 56. Detail of flower of *Cirsium* Sp. Photo courtesy of Raul Macuil Martínez.

The vast indigenous knowledge of the medicinal power of native plants and the interest in them for those arriving from the Old World is reflected in a number of colonial writings. Vegetation is a recurrent theme on murals, demonstrated by the colorful painted walls in Teotihuacan, for instance. Although

originally created in the context of Mesoamerica's rich pictorial expression throughout history, these murals flawlessly took their place in another religious context – that of the Catholic monastery. And just as in Teotihuacan, painted plants did not just play a mere decorative role, but expressed a very tangible function: to combine and harmonize the world of both the mendicant and the indigenous peoples. The monastery of San Francisco in Tepeapulco was the first one established by Franciscans in the Mexican state of Hidalgo (Ballesteros, 2000: 17). It was here that the most famous Franciscan missionary, Bernardino de Sahagún, began his collaboration with a dozen elderly men and four others who he had taught Latin to collaborate and write parts of the 12 books of his *Historia General de las Cosas de Nueva España* (Ricard, 1974: 41; Léon-Portilla, 2002: 144, 146-148).



Figure 57. Cardo Santo as depicted on a mural in the convent of San Francisco Tepeapulco, Hidalgo Mexico. Photo courtesy of Raul Macuil Martínez.

There are several authors who mention the *cardo* (or Cardo Santo) and artemisia plants in their documentation of the early years of the Spanish presence in current Mexico. We find references in the *Historia General de las Cosas de Nueva España* in the work by Fray Bernardino de Sahagún; in the *Libellus de Medicinalibus Indorum Herbis* by Martín de la Cruz; in the *Quatro Libros* and *Obras Completas* by Francisco Hernández, and in *Tesoro de Medicinas para Diversas Enfermedades* by Gregorio López. All but de la Cruz, were born in Spain and travelled to the New World, where a royal incentive, no doubt mixed with a dose of pure curiosity into the yet to be explored continent, resulted in a veritable corpus of encyclopedic accounts of Mexico's natural resources.

According to the work by Sahagún, the Castilian cardo is a *huitzquilitl*, which translates as a thorny plant. The illustrations in the *Historia General* point to exactly that spiny character (see Figure 58). These are said to have a beneficial effect on the digestive system and purify the intestines (Book 11: folio 136 and 137).



Figure 58. Huitzquilitl, quaujtzquilitl, chichicaquiltil and tonalchichicaquiltil. From Bernardino de Sahagún, *Historia General* (Florentine Codex) Book 11, folio 136.

The following colonial book that refers to a cardo species is the *Libellus de Medicinalibus Indorum Herbis*, a beautifully illustrated catalogue by Martín de la Cruz. The text is a Latin translation by Nahuatl nobleman, Juan Badiano, of an original Nahuatl text which is no longer available (De la Cruz, 2000: iii). In the introduction to the 1939 English translation of William Gates, Bruce Byland writes that the original text was authored by Nahuatl physician Martín de la Cruz at the Colegio de Santa Cruz at the convent of Tlatelolco (*ibid.*). As such, the *Libellus* is also known as the Codex de la Cruz-Badiano, honoring its author and translator. The Latin version reached Spain in 1552 and became part of the library collection (later to be incorporated in the Vatican Library) of Cardinal Francesco Barberini. In 1990, the book was returned to Mexico by Pope John Paul II and is now stored in Mexico City (De la Cruz, 2000: iii). The catalogue is divided into thirteen short chapters. The first twelve are a guide to a physician in his or her selection of plants. More specifically, the text explains how to combine plants in order to cure a range of conditions, whether these relate to the sight, internal pains, or a new mother's milk production. The thirteenth chapter describes the physical characteristics of a patient who is losing the battle of fighting off an illness and so is about to die.

On four occasions, *huitzquilil* (f. 9v; 41r; f. 50v) or another member of the thistle family *quauhtla huitzquilil* (f. 32r) is part of a recipe, to be used either as a rubbing or to be taken as a digestive. Three of these recipes are illustrated, two of which are named *huitzquilil* (see Figure 59) and one *quauhtla huitzquilil* (see Figure 60). Although different in name, they are a *huitzquilil* with just one flower instead of multiple one. According to the “Analytical Index of Plants,” – which was used to identify possible botanical origins for most of the plants by Mexican scholars in the 1960s – *huitzquilil* (“thorny edible; thistle”) is a cardo species or *Cynara scolymus* L. *Quauhtla huitzquilil* (“thorny edible growing in the woods”).

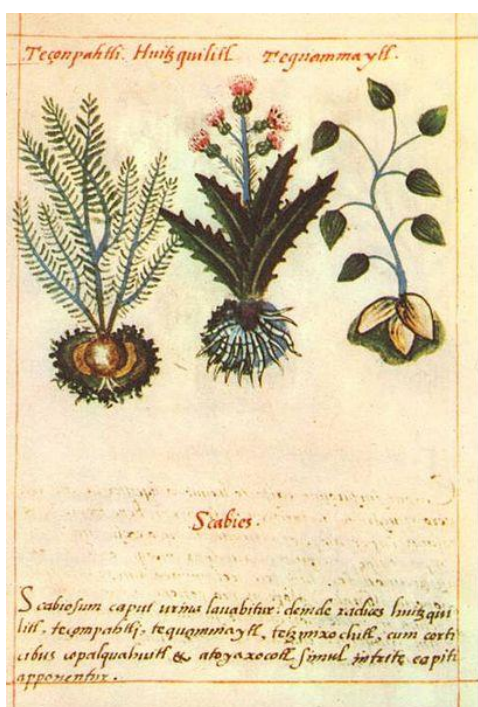


Figure 59. Huitzquilil in *Libellus de Medicinalibus Indorum Herbis* f. 9v

Figure 60. Quauhtla huitzquilil in *Libellus de Medicinalibus Indorum Herbis*, f. 32r.



According to De la Cruz, the cardo is used to cure scurf of the head; an abdominal chill; “black blood” and inflammations (recipes in his work on folios 10, 55, 73 and 90).

A third and fourth source with which the tlacuiloque of Izcatqui could have been familiar with were the *Quatro Libros* and *Obras Completas* by Francisco Hernández (ca. 1515-1587). Being the royal doctor at the time, Hernández was ordered by King Philip II to travel to the New World in the 1570s to become chief medical officer. Once there, he was to document as much as possible about medicinal plants, give a portrait of the areas’ natural history, and collect ethnographic data from the Valley of Mexico (Hernández, 2000: xi). He is described as being “one of the greatest physicians, historians, and naturalists in Spanish history” (Weiner, 2000: 3). Hernández is also known for his extensive translation of the *Natural History* by Pliny, and his writings on Galen and Aristotle. Hernández stayed in Mexico for seven years and returned to Spain in 1577. On his return, he brought with him an extensive manuscript describing the natural history of (a part of) the New World. One copy, his corrected draft, is stored in Madrid; another complete copy was presented to his royal principal and got destroyed in a fire in the seventeenth century. Fortunately, copies, translations, and prints of parts of the manuscript were made prior to the fire, so Hernández’ work has not been lost completely.

Hernández’ work demonstrates his special interest in plants and their medicinal purposes. More than 3,000 plants are recorded in his writing, many of them accompanied by paintings made by indigenous artists (Weiner, 2000: 4). References to the work by Hernández for the present study derive from two publications: *Obras Completas* and *Cuatro Libros*. The first publication clearly mentions the use of a plant named *cardo*. The fragment below is from second volume, book five, chapter CXLII, page 267 of the *Obras Completas* 1959 publication:

“Del CHICÁLLOTL o cardo

El *chicallotl*, que otros laman *chichicallotl*, es un espino con raíz ramificada, de donde echa tallos blanquecinos y espinosos, hojas como de cardo santo, largas, angostas, sinuosas, espinosas y de color ceniciento; flores redondas amarillo rojizas y a veces blancas, parecidas a las de adormidera; fruto oblongo, estriado. áspero y lleno de semilla negra y pequeña. que molida y tomada en dosis de dos dracmas evacua todos los humores, pero principalmente los pituitosos y los que dañan las articulaciones. Tiene sabor y olor parecidos a los del síser. Su leche mezclada con leche de mujer que haya dado a luz una niña y aplicada a los ojos, cura las inflamaciones de los mismos; es efic'az contra los accesos de las fiebres y cura las úlceras de las partes sexuales; la flor epicada cura la sarna. El sabor de esta hierba es amargo y su temperamento caliente y seco. Dicen algunos que el jugo destilado de ella y de los renuevos del *mizquitl* disuelve las nubes de los ojos, consume la carne superflua. calma el dolor de la jaqueca y auxilia notablemente en otras enfermedades semejantes. Nace en el campo mexicano. tanto en lugares montuosos como en los campestres.”

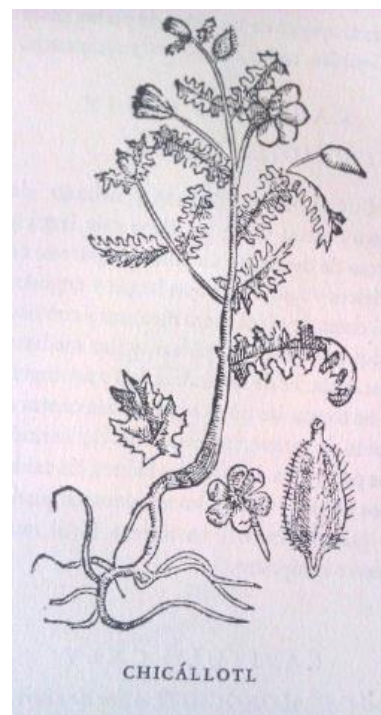


Figure 61. Chicallotl or cardo as depicted in the *Obras Completas*

The drawing from the *Obras Completas* however, does not illustrate a *Cirsium* genus but rather to a *Argemone mexicana* L.

The final colonial author that mentions *cardo santo* is the *Tesoro de medicinas para diversas Enfermedades* by Gregorio López (1542-1596). At the age of twenty, López left for New Spain. Here he became known a mysterious wandering man, devoting his life to honor God and gifted with a spirituality that enabled him to “penetrate hearts, and [being in] the company of angels” (Bilinkoff, 2003: 115). His wandering spirit led him through different (indigenous) villages. Several times he fell ill under his extreme fasting and malnutrition, but according to his biographer friend and priest Francisco de Losa, he never lost track of his spiritual quest, and took time to counsel others on the faith as well. It is probably during his stay in Zacatecas (province of la Huasteca) while hospitalized during illness, that he composed his *Tesoro*. He penned down his information from indigenous knowledge gathered during previous journeys and finished it in 1589. His health failed him during the years to come and he eventually died during the summer of 1596 (Bilinkoff, 2003: 115). As said, López finished his *Tesoro de Medicinas para diversas Enfermedades* in 1589 (see Figure 61).

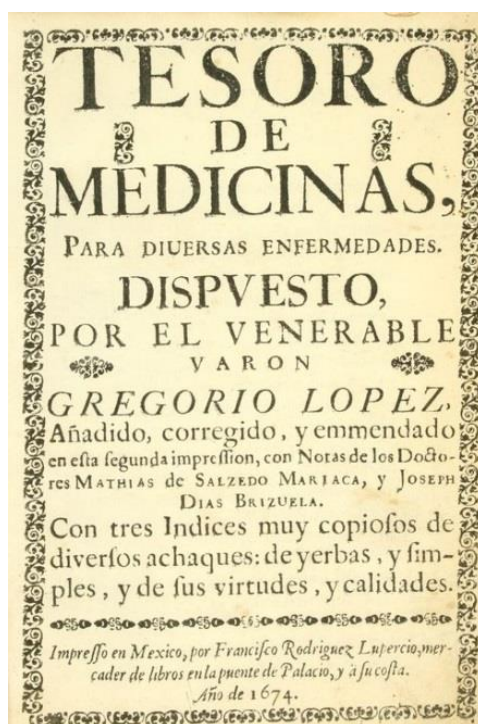


Figure 61. Cover of *Tesoro de Medicinas* by Gregorio López. Mexican edition 1674.

His work circulated as a copied and handwritten manuscript up until the moment it was first printed in 1672 in Spain. The book was such a success that it was printed a second time two years later in Mexico and yet again in 1708 and 1727 in Madrid as well. The success of the book was due for the most part to its accessibility. It provided simple recipes that were manageable for those without means in rural areas and in the lower classes in the city. In his work, he mentions for 28 illnesses that *cardo santo* is of help. Examples of illness or conditions are tumors; troubled minds; swollen eyes; pain in the ear; rheumatism; stomach cramps and headaches.

The *tlacuiloque* of Izcatqui could have been familiar with any of the writing of the authors mentioned just now. The paragraph above would seem to point to an interest in and familiarity of the



medicinal purposes of some of the herbs that the *tlacuiloque* included in the eighteenth century Nahuatl text of Izcatqui.

### 6.3 Nahuatl renderings of ‘Master Doctors’

The discussion in Izcatqui on the medicinal use of *cardo santo* and *artemisia* continues with the following:

[f. 94v] *Yzcatqui yn qu[e]nin motocaz  
ynic motocaz ynauhtlamanixtin ypa[?] ]  
cemixtli ymocalaquis ytomapil  
yp[an] cepoto pan ceq[uar]rto  
ça mochiuhq[ui]ynic motocasqui  
huel iq[ua]c yhual momana metztli  
anoço yquac ytlayahualohua  
ca huelitecopatzinco  
yntohueytlatocauh  
yn Sancto padre in o[m]pa Roma  
yc titopatisque yctechmotlaocolilia*

here it is, how it will follow  
thus it will follow, the four  
are in sight, it will enter our finger  
a point, a quarter  
it just continues  
thus good, comes the offer of the moon  
maybe it is covered  
by authorization of  
of our Great Lord  
the Holy Father, there in Rome  
who gives us mercy, so that we can cure  
ourselves

*Ca yzcatqui: nica[n] pehua<sup>214</sup>  
oc centlamatli ynquenin nepatiloç  
Yn ixquich cocoliztli  
yn quiyacatia yehuatl  
yn cenca nohuiya mococohua yn tlacatl  
ytoquechtlan poçahua  
yni[... ]hohu[e]tzi<sup>215</sup> yn tococo  
Auh yntlacatle y[... ]nonamictiya  
Ypatli  
ca yehuatl nima[n] [... ]c iuhcan  
ymocochua [... ]*

here it is: here it begins  
how each thing will be cured  
all illness  
it spears it/he points it  
everywhere people are very sick  
the neck is swollen  
[...] our throat  
and the people [...] are pairing up  
Medicine  
here it is  
when it is sick

This text is followed by nine short paragraphs, each of them beginning with the same sentence: *Quitohua yn occe tiçitl ytoca [...]* which translates as: “it says [of] another doctor named [...].” The closing paragraph of this section of Izcatqui provides a recap of the content of the nine preceding ones:

[f. 96v]  
*Auhca[n] nican omotocayotique  
yxpantzinco yn dios yn totecuiyo  
Auh yhua ypanpā Bonifacio quitohua  
Ma xiquimacacan yn ixquich yn intechca  
  
yn cocoliztli  
maxiquimacacā yxiuhtzintli  
ynic amo momiquilisque  
ma yuh mochihuā huel neli patisque*

and here they have been mentioned  
before God, our Lord  
and with Bonifatius it says  
may they all have been given something to  
go with  
the illness  
may they have been given the herb  
so that they will not die  
let it be that they will cure very well

<sup>214</sup> Written in capitals.

<sup>215</sup> *huetzi* “to fall.”

*Estos Maestros de doctores*  
*Juliano. costiatino. dioscorides.*  
*nicolao giliberte. Bonifacio*

these masters of doctors  
 Juliano Costiatino, Dioscorides  
 Nicoloa Giliberte, Bonifacio

So what preceded this paragraph must have been a discussion of several methods the *maestros* employed to cure using herbs of some origin. The names of the maestros refer to Pédianus Dioscorides (see below) and probably Julianus Alexandrinus the Methodist, Constantinus Africanus, Nicolaus Salernitanus and Gilbertus Anglicus (personal communication Maarten Jansen, 2018). Let's take a closer look at the more detailed discussions of the doctors and their accreditation below:

[f.94v] [...] *Aquitohua yn tiçitl yn itoca Julia[n]o*  
*yntlacana otiquitac yn iuhqui ytech[ca]*  
*yn cocoxqui yn quechpozahua*  
*manina maninia moço*  
*Auh çatepan coniz yn niyaya*  
*yn itoca castillan tlaolli*  
*Anoço: /.../tcatl poço[n]qui*  
*Monamictiya*  
*yn itocan cevata*  
*Auh yticchihuaz ticnechicos*  
*ynquali [f.94r] tetl yn itoca Sancría*  
*ynic nezohuaz yn tonenepil*  
*ytech yn iuhqui ypiltzin*  
*mochiuhtica: yntlalhuatl ynitizintla*  
*y[n] tonenepil: nimatoco[n]cuis*  
*yn iuhq[ui] Avino*  
*yn itech quiza yn itoca Arosa*  
*tictecis ticpatzcaz nima[n]to*  
*conitis toto[n]qui*  
*ycxitinis yn oca[n] pozahua:*  
*yn aquin nitechcan yc patis*

it speaks of a doctor named Juliano  
 the pain, the illness or mumps  
 [mozomani 'inflamed']  
 and afterwards will drink  
 what is named Castilian maize  
 or *pozonqui* (atole of wheat)  
 mixed  
 it is named *cevada*, barley  
 and we will make it, we will collect it  
 the good stone named Sangría  
 so that the tongue will bleed  
 like its beloved child  
 it does: the vein that is below  
 the tongue: afterwards we will  
 like [wine]  
 it [leaves], it is named [Rosa]  
 we will grind it, we will pulverize it  
 it will be drunk warm  
 it will destroy the swelling there  
 we will drink it, it will cure

[f. 94r]  
*Auh quitohua yn occen ticitl ytoca gustati*  
*no toco[n]cuis y[n] xonacatl ynitocā [ceboll]as*  
*ticatilis ticnelos castillantestli /.../*  
*yhiygos<sup>216</sup> yehuatl yn ayamo huaquitict/.../huazas*  
*niman tictēcis ticnelos*  
*ychiucha/.../layotl*  
*niman noncan toconalahuaz/.../quechtlan*  
*ynquechpozahua ycp[a]tz[?]huaz*  
*Anoço yc xitinis yc patis*

and it speaks of another doctor named Gustati  
 also take onion, named *cebollas*  
 we will melt, we will mix it with Castilian masa  
 also figs which are not dry  
 here we will grind it, we will mix it with  
 milk [chichihualayotl]  
 here it will slide in [our] neck  
 the swollen throat [...]  
 perhaps it will destroy, it will heal

[f. 94r]  
 [Initial] *Quitohua yn occe tiçitl ytoca dioscorites*  
*Auh tococuiç xihuatl yn itoca Rodas*

it speaks of another doctor named Dioscorides  
 and we will take a herb named Rodas

<sup>216</sup> Read as *higos* "figs."

*yhuan coratro*<sup>217</sup> *ticnelos vinagre*  
*yc ticaltis castilla testli*  
*tocomis ycpolihuis ypoçah[ua]*

[f.95v]

*yniquechtla yn cocoxqui*  
*Anoço o*<sup>218</sup>*motlatolcauh*  
*Ca yc tlatos yniquac oco*<sup>219</sup>*nic ynatolli*  
[Initial] *Quitohua yn occe tiçitl ytoca diascorides*  
*tictatcaq[ui]z*  
*yn inelhuayo ynahuehuetl*  
*nima tictēcis*  
*ticnelos vino*  
*Tiquicuicuxitis*  
*yn iquechtlan tocotecaz*  
*yn o[n]ca pozahua yc xitinis*

[f. 95v]

[Initial] *Quitohua yn occe tiçitl ytoca Nico/.../*  
*[t]ococuis yn ixihyo ynamacapolin[y]hua*  
*vinagre yhua[n] necuictli*  
*mochi tinelos tictotonis*  
*yquechtlan toco[n]tecas /.../ quilotisqui*  
*Anoço ycxitinis*

[Initial] *[Qu]itohua yn occe tiçitl*  
*yn itoca giliber[te]*  
*tococuis yn imanahuil ytlacatl*  
*yhua[n] yperro yn iyomiyo yquaquahue*  
*Anoço ychichicauh yhuan ticcentlalis*  
*ca yc xitinis yn iquechtla*  
*toconlalis tocotecasque yn cocoxqui*

*yc patis yhuan*  
*tococuis huitziloxi[tl]*  
*tiquicuicuxitis Atl*  
*yhuan tococuis yn icuitl carnero*  
*yehuatl ynohuac tictēcisqui*  
*tocontepehuas ynipan yniyayo*  
*ynocuiltin Auh mamiyacpa*  
*contecas yniquechtla[n]*  
*cenca quicocos tel ic xitin[i]s*  
*yn o[n]ca[n] pozahua ca yc Patis*

[f. 95r]

[Initial] *Quitohua yn occe tiçitl yn itoca Juliano*

and we will mix it [with] vinagre [four times]  
he will bathe himself in Castilian grain/wheat  
he will take it to destroy the swelling

its neck, it is sick  
perhaps the word is ended [i.e. unable to speak]  
then it will speak, it drank *atole*  
it speaks of another doctor named Dioscorides  
we will hear our father  
his old root  
we will grind it here  
we will mix it [with] wine  
we will drink it so that it cures  
put in on the inside of the throat [i.e. drink it]  
when it is swollen there, it will go away

it speaks of another doctor named Nico[lao]  
we will take the herbs of the mulberry  
vinagre and the fragrance  
we will mix it, we will heat it  
its throat will extend [...]   
or it will destroy it

its speaks of another doctor  
named Giliberte  
we will take the protection of him  
and the dog, the bone of the horned animal  
or its bile and we will mix it  
it will cure the throat  
the throat will settle, the throat will put them to  
sleep, the illness  
when it will be cured and  
the throat will take the *huitziloxitl* [balm]  
we will take it [?] the water  
and the throat will take the excrements of the sheep  
we will grind it  
the throat will throw  
[..  
its throat will put it to sleep there  
it will be very sick, but it will destroy it  
it swells up there, by which it will heal

<sup>217</sup> Read as *cuatro* “four.”

<sup>218</sup> “o” in superscript.

<sup>219</sup> “o” in superscript.

*ca yc mocentlalique yn ixq[ui]chtin y[n] titiçitl  
tococuis yn xihuilitl ytoca bexbena xictizi*

all doctors help people  
the throat will take a grass named hierba buena

*Amoqatic onca[n] t[ocote]cas  
yn ipan yn mococohua yc xitini?  
yn pozahua yc patis*

there the throat will put it to sleep  
it sickens itself, when it destroys it  
it will swell up by which it will heal

[f.96v]

[Initial] *Yhuan quitohua xipā[l] nechico  
tococuiz yn ixquich pātzintli xiccencitizin  
xicpatzcā moquechtla tictecasqui  
cequi ticnelos y xitinis  
yn ocā poçahua  
Auh yc patis*

and it says, the lip brings together  
the throat will take all esteemed medicine  
it wrings your neck, we will bring it to sleep  
we will mix it some more, it will destroy  
there it swells up  
by which it will heal

[Initial]

*Quitohuā yn occe tiçitl yn itoca Juli[ano]  
toconanas yn totolin yn amo tom[a]huac  
moteçis oc nimā yçiuha  
ticnelosqui vino cenca yniyo  
Anoço canatiqui[...] ca totoni yas  
y[n i]huac yncan iuhq[ui]  
[...]atezcatl mani  
totoqui yez yn tocōtecas [...]  
moquechtlā Auh nimā timocozqui  
ymonenepil ytech yc tipatis*

it says of another doctor, named Juliano  
the throat will take it, the skinny chicken  
another will be crushed here, quick  
we will mix it [with] wine  
or it will have a fever  
then  
[...] give  
it will be warm, the throat will put it to sleep  
your neck, and here we will  
your tongue [...] we will cure it

### 6.3.1 Pédianus Dioscorides

Of the *Maestros de doctores* that are covered in Izcatqui, it has only been possible to recognize two known names, and only one makes sense in the medicinal context: Dioscorides. Pédianus Dioscorides (or Pédianous Dioskouridos) was a Greek born in the Roman Empire in what is now Turkish territory. He probably lived from AD 40 to AD 90 (Osbaldeston, 2000: xx). As a civilian doctor or perhaps as a military physician in the Roman army he travelled throughout the Mediterranean (Dioscorides, 2005: xvi). Under these circumstances he came across many conditions and regional medicinal plants, and experimented with the use of them to discover new ways of curing. This he recorded in his monumental *De Materia Medica* (probably AD 64), which contains no less than a thousand recipes – of which many were unknown at the time – from around 600 plants. He combined these recipes providing instructions on how to collect and produce drugs from animal and mineral origin (Osbaldeston, 2000: xxii). His *De Materia Medica* also included (brief) descriptions of the physical appearance of the plants used, so later readers of his work were able to find them in nature with relative ease. This was one of the reason why his work became so popular in the following two millennia and received the status as ‘the ultimate authority on plants and medicine’ (Osbaldeston, 2000: xxi). He believed it was essential that any physician was aware of the geographical distribution of plants and the stages of growth, as well as that their medicinal properties empirically attested in the field (Dioscorides, 2005: xiv). Dioscorides’ work consists of five books. Book One describes aromatic plants, how to make salves from the oil or gum of plants and herbs, and how to make use of fleshy fruits. Book Two is a recollection of animal products and a variety of herbs and cereals with medicinal characteristics. Book Three discusses several herbs,

seeds, roots, and juices as nutritional or medicinal. Book Four describes poisonous plants and narcotics. Finally, Book Five describes the use of vines, wine, and metallic minerals in medical practice (Osbaldeston, 2000: xxii).

Dioscorides' status as the 'ultimate authority' is reflected in the course his *De Materia Medica* took over the years; that is, the vast geographic and diachronic reach of its copies, translations, and commentaries. Dioscorides was mentioned for the first time in alphabetic Greek writing – following earlier papyri – in the fourth century by physician Oribasius, possibly the first author of an alphabetical Greek version (Dioscorides, 2005: xviii). Most beautifully illustrated are the Greek copies from Constantinople, which include the oldest and most famous surviving book *Vienna Dioscurides* manuscript<sup>220</sup> or *Juliana Anicia Codex* from AD 512 (Dioscorides, 2005: xiv; xviii). A great variety of commentaries and glosses reflecting medical discourses of the time ended up in later texts of *De Materia Medica*. These additions took place right up until the printed books from the Renaissance, contributing to the *De Materia Medica* long and complex trajectory (Dioscorides, 2005: xviii-xx).

In relation to the mentioning of Dioscorides' work in Izcatqui, it is to be expected that it existed in the Spanish language as well. And it did. It appeared in several vernacular languages in print in the sixteenth century: Dutch, Italian, German, and French between 1520 and 1553; and Castilian Spanish in 1555. It was translated into English in the mid-seventeenth century, but was not published until three centuries later in 1934 (Goodyer-Gunther edition, named after its seventeenth century translator and twentieth century editor). There are two modern English editions of Dioscorides' work: one by Tess Anne Osbaldeston (2000) and a new translation by Lily Beck (2005) based on a modern Greek edition in three volumes by Max Wellmann from 1906-1914 (Dioscorides, 2005: xx-xxi). John Scarborough as author of the introduction to Beck's translation criticizes the edition from 2000 – even going as far as to suggest plagiarism – for not contributing anything to its translation and merely changing its lay-out (2005: xx).

### 6.3.2 Spanish translations and editions of *De Materia Medica*

In Barcelona 1953, César E. Dubler published *La 'Materia Médica' de Dioscórides – Transmisión Medieval y Renacentista*, Vol. 1 *La transmisión medieval y renacentista y la supervivencia en la medicina popular moderna de la 'Materia Médica' de Dioscórides, estudiada particularmente en España y en África del Norte*. This volume was followed by five others; volume six was published in 1959. Dubler provides a historical overview of ancient medicine before introducing Dioscorides and his work translated in Spanish. In addition, Dubler discusses several of the Arab translations of *De Materia Medica* from the ninth century. Some of these found their way to Spain and became the guiding textbook on botany in Muslim teaching centers in the Peninsula (Dubler, 1953: 49-50). Dubler continues by listing several translations in Latin and makes the following statement:

“[...] [L]as traducciones de las obras árabes al latín hicieron que perdiesen su genuino valor científico, fatal consecuencia de una aguda academización. Hacia fines de la Edad Media, la obra de Dioscórides en latín está totalmente desfigurada y, a pesar de imprimirse ya en el siglo XV la traducción latina medieval del Dioscórides alfabético, está ya no reunía las condiciones ni correspondía a las nuevas exigencias de la ciencia y de su nomenclature.”  
(Dubler, 1953: 63)

Texts are everchanging as they travel through space and time, and as they are molded according to their contemporaneous situation. However, as *De Materia Medica* was translated into Spanish, it entered a

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<sup>220</sup> The Akademische Druck-u. Verlagsanstalt published a facsimile of this edition in 1970. See [http://www.adeva.com/faks\\_detail\\_bibl.asp?id=103](http://www.adeva.com/faks_detail_bibl.asp?id=103)

world which was on the one hand was very far from that first century AD in which it originated; and, on the other hand, was still very much rooted in the (re)writing of Classical Greek and Roman scholars.

Having scientific traditions of their own, the composers of the Nahuatl manuscript were not familiar with any of the writings of these scholars overseas. The fragments in Izcatqui that refer to Dioscorides appear to be just snap shots, but they represent a legacy spread over centuries in the Classical, Medieval, and Renaissance periods. It was botanist Andrés de Laguna who translated *De Materia Medica* in 1555 into Castilian Spanish for the first time, basing himself on a Latin version by Ruelle from 1518. The Spanish work was amended by commentaries and personal observations, and as a first edition printed in Antwerp by Juan Latio in 1555. The original by Laguna, unfortunately, no longer exists today (Dubler, 1955: vii; viii). Dubler lists a number of other editions, mainly from Valencia and Salamanca. Matías Gast edited two that were published in Salamanca (1563, 1570). This is the same city in which the edition by Cornelio Bonardo saw the light in 1586. There were also three editions in Valencia by Claudio Mace, Vicente Cabrera, and Herederos de Benito Mace that appeared in 1636, 1677, and 1695 respectively (Dubler, 1955: viii). The latest edition mentioned by Dubler was produced by Domingo Fernández de Arrojo in Madrid in 1733 (Dubler, 1955: viii). The third volume of *La 'Materia Médica' de Dioscórides* by Dubler was published in 1955 and is the first out of the six volumes that includes the Spanish translation by Andrés de Laguna – this edition originates from the Salamanca 1570 edition by Matías Gast and was chosen for its clear and complete character and typical language of sixteenth century Castilian (Dubler, 1955: xviii-xix).

The references to the work of Dioscorides illustrate the interest of the *tlacuiloque* of Izcatqui in a long history of writing from the Old World. In the late sixteenth century, Juan de Cardenas wrote about indigenous medicinal drinks and chocolate in his *Problemas y secretos maravillosos de las Indias*. He explicitly mentions that he is not going to write about Spanish medicinal drinks, and refers the reader to the work by Dioscorides (1988: 140). Cardenas was more interested into the novelties of the New World; just as the *tlacuiloque* were interested in what the Old World had to offer them.

#### **6.4 Indigenous ecology: flora and fauna**

The apparent need to study time and most prominently the changing of time in Western Europe was examined by James Carson Webster in a study of the representations of farming activities in medieval times. Many friezes and sculptures throughout the region depicted farmers working in a typical fashion during a specific time of the year. Friezes were divided into twelve parts and each section had a small representation of its zodiac sign, thereby linking months of the year to heavenly influences and agricultural tasks (DelBrugge, 1999: 7). What is central to the flourishing of humanity across the globe is the procurement of food; either by gathering, cultivating, or by a combination of both. Independently of the local calendar system in play, people need to know when and where to find available foodstuff and when is the correct time to sow, plant, and harvest within the growth cycle of each food source in their natural surroundings. Prior to the invention of greenhouses and temperature and precipitation control, these kinds of knowledge were of the utmost importance. As a result, such knowledge structured daily life and its organization in very fundamental ways. In both Mesoamerica and Europe agricultural activities became central features in depictions of the passing and structuring of time. The main iconographical element accompanying the months of most calendars during the European Medieval Ages was an emblematic activity related to what needed to be done in the field.

Agricultural practices are mentioned in Izcatqui, first in relation to the beginning of a time in which darkness was driven away by the arrival of light. Subsequently, agricultural practices feature prominently in Izcatqui's description of the founding of a new order (i.e. a calendar) in place of what was previously a period of chaos.



[folio. 12r]

*ayamō tlē quipiyān*

*ca cāmonēlonecan.*

*Ayamotlatecpātli catca.*

*imētz tlapōhualiz(tli?) ànoço intlā tecpānaliztli*

They did not have anything yet

it was mixed up

something has not yet been ordered

their month count, or the order

The text continues by explaining that order has returned by the arrival of something indicated by the third person singular (he/she/it) with a face other than that of a devil, so it might be a reference to a Pope, or the calendar in general. This is followed by:

[folio 12r-13v]

*Ca in iquic. itech onaçi ixihuitl*

*iac xihu-tl itōcan yēhuātl machiyōtl*

*oncān pēhua imācēhualtin*

*in iuh quē imīl chiuque milchihuani*

*?camoa ēlimiqui ihuān tōca pixcan*

together with him, the days arrived there

the name of the year was signed

there begin its commoners

to cultivate, to harvest

its fields, they are ‘fieldmakers’

In two instances Izcatqui displays a selection of agricultural products that are often grouped together in a typical *reportorio*. These products are referenced in the part of Izcatqui that discuss the seven planets and over which earthly features they rule. The second group of references is part of the twelve months and provides practically oriented information about what to sow and harvest throughout the year. In the following, I will examine how the vegetables, fruits, and other agricultural products mentioned in Izcatqui compare to the agricultural products mentioned in typical Spanish *reportorios*. There are two reasons for doing so. The first is to find out if the products that are mentioned in Izcatqui are the same or different from those in Spanish *reportorios*; and the second is to find out if these products were present in Mexico in the early colonial period. Thus, my aim here is to ascertain whether or not there are any indications that the content of Izcatqui was designed to accommodate the agricultural products and practices of the New World.

The almanac provides the reader with information on several planets and which metals, stones, animals and vegetation they affect. I have compared two Spanish *reportorios* (namely De Li’s edition from 1495 and Salaya’s edition from 1542) with Izcatqui. The results are found in Appendix I. It becomes clear that the planets in Izcatqui affect less items/animals/produce than a Spanish almanac. Also, all of the metals and stones which are not regarded as precious or as emeralds, are omitted from the Nahuatl text. Those that are precious and emeralds are translated as *chalchihuitl* or jade, a precious local stone.

### 6.5 Typical Mesoamerican ‘ingredients’ in Izcatqui

One research question of this study that concerns the methods of translation of the *tlacuiloque* of Izcatqui is: how was an original source text deconstructed and reconstructed for the desired readership of Izcatqui? Part of this question can be answered through an analysis of terms that were left out of the original text and substituted or added to the target text. Below, I will contextualize those terms that would have had a certain familiarity and significance to an indigenous reader.

### 6.5.1 Jade [*chalchihuitl*]

All of the seven planets rule over one or more types of metal and none of these metals recurs in Izcatqui. Two planets (Sun and Jupiter) rule over gold, precious stone, or emeralds – these do have a representative in Izcatqui, *chalchihuitl*, or precious green stone. According to the dictionary by Frances Karttunen, this signifies turquoise; the GDN, however, translates *chalchihuitl* as jade and gives *teoxihuitl* or *xiuhtomolli* as turquoise. In reality, only jade is really a green stone, and turquoise a more green-blue one. Taking the color into consideration, *chalchihuitl*, in my opinion, is more likely to be translated as jade. Nonetheless, both jade and turquoise are considered symbolically as “precious stones” in Mesoamerica and both stones are found in many archaeological excavations throughout Mesoamerica and throughout history. Jade mosaics, masks, body adornments, vessels etc. are found in the early Formative Olmec period (2000-1200 BC), in the grand capital Monte Albán of the Zapotec area (jade pectoral in the shape of a mask dated 150 BC-AD 100, to the Classic Maya (e.g., the famous jade mask at the tomb of Lord Pakal of Palenque) and well into the contact period of Nahuatl Central Mexico (McEwan et al., 2006: 14-16; Taube, 2005: 23). Jade is also an iconographic element that shows up frequently in Mixtec and Central Mexican codices. Mixtec Codex Bodley, renamed as Codex Ñuu Tnoo – Ndisi Nuú and recounts the genealogy of the rulers of Ñuu Tnoo (Tilantongo) and Ndisi Nuú (Tlaxiaco) in the Mixteca Alta, state of Oaxaca. This colorful, illustrated work of art was probably painted in Ñuu Tnoo, a few years prior to 1521 (Jansen & Pérez Jiménez, 2005: 30). The codex commences with the first ruler, Lord 4 Alligator Eagle of Blood, and continues to his descendent, Lord 4 Deer, who was living at the time of the conquest and to the last ruler of Tlaxiaco, Malinalli or Lord 8 Grass, who was sacrificed by Aztec warriors ten years prior to the Spanish arrival in the area (Jansen & Pérez Jiménez, 2005: 36). In this codex, the iconographic element for “jade,” “preciousness,” or “jewel” is a recurrent motif and appears no less than on 25 of its 40 pages. The motif displays an element comprised of concentric circles embellished with pearl like dots in a green color (i.e. the color of jade); in this case it is part of the name of Lord 13 Eagle, “Precious Jaguar” (Jansen & Pérez Jiménez, 2005: 58). In the same codex, the element reappears again as an object of conquest: the Jewel Stone of Ash River. Jansen & Pérez Jiménez (2005: 63) explained that the Jewel Stone of Ash River was “a precious object associated with the West, the realm of the descending Sun and Venus.” We can not be sure of the effects of the word *chalchihuitl* to a Nahuatl reader, however, it must have conveyed the preciousness and power of what a gem would have conveyed to the reader of a Spanish almanac.

### 6.5.2 Cochineal [*nocheztli*]

“Blood of the cactus” or *nocheztli*, is a beautiful denomination in Nahuatl for the cochineal insect that feeds on cacti. The English word cochineal is derived from the Spanish *cochinilla*, which in itself comes from the word *coccum* proposed by Pliny’s *Natural History* to describe another insect known for its pigment (Cardon, 2007: 619). Tiny bugs, no bigger than 1 cm, feed on a variety of host plants in large parts of Asia, Africa, Europe, and America. These bugs are often used for the production of a red pigment, and as a result of this practice the nine American species are divided between domesticated and wild cochineal (*ibid.*: 619-620). Before the arrival of the Spanish in the American continent there were two centers where cochineal were known to be abundant: Mexico and the Peruvian Andes (*ibid.*: 621). Providing the best living conditions for the cochineal insect requires hard labor and good time management. According to the ethnographic descriptions on this process by Donkin (1977), young cacti pads are cut from adult plants and buried deeply after which they grow out to be strong cacti after a period ranging somewhere between 18 months and three years. After having grown to a considerable size and strength mother cochineal are placed in between the pads of the cactus. A number of fields take part in a rotating system in which cacti are maintained to keep a certain height; dead pads are removed, and exhausted plants are allowed to rest two or three years. Within this time frame of keeping the plants

sustainable for housing the cochineal insects, farmers prepare the coming of the rainy season by cutting off and keeping dry those pads which are covered in pregnant females. As soon as the next generation has hatched, they are placed on racks in the fresh air. After the rainy season the insects that carry eggs are selected and grouped together in small baskets of around 10 to 25 expecting cochineal insects. These baskets are then placed in between pads of the cactus plant and the young insects that have hatched crawl out of the basket and spread themselves over the plant. The remaining mother insects are collected and produce what is considered to be a qualitative superior variety of the colorant (Donkin, 1977: 622). Overall, it is possible to collect insects on two or three occasions within one year.

That the harvest and production of cochineal (mainly concentrated in the Mixtec region in the state of Oaxaca) was a viable economical business in Mexico was soon discovered by the Spanish as is reflected by (early) colonial writing. The Florentine Codex by Fray Bernardo de Sahagún describes *nocheztli* as the “blood of the prickly pear,” so specifically mentioning the fruit of the nopal or *tuna* in Spanish in contrast to describing the pads of the cactus (see folio 216). The cochineal insects in the Codex are described as “worms” or *gusanos* attached to the pads and depicted as such (see Figure 62). These worms are said to be of very colored blood, but the Codex does not go beyond the description of the redness of the blood, failing to describe the labor involved in the production of the red pigment. What it does indicate is that the trade in cochineal was already taking off: it was even transported to China and Turkey and was a valued commodity throughout most parts of the world (folio 217).

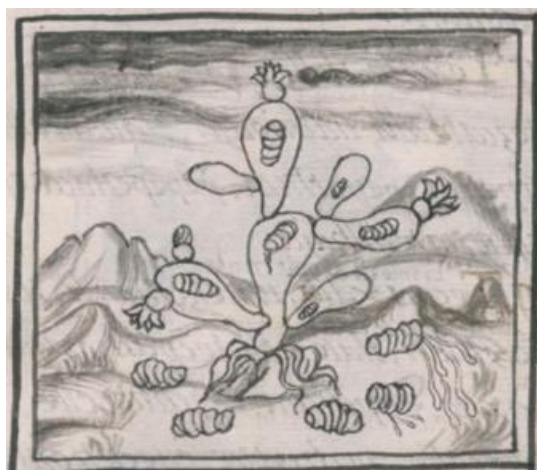


Figure 62. Cochineal as depicted in Book XI of the Florentine Codex [1540-1589], Fray Bernardino de Sahagún, folio 216.

### 6.5.3 Maize, beans, chili and squash

These three main food stocks are as much part of Mexican culture as is the Virgen de Guadalupe – maize, beans (or *frijoles*), and squash constitute an essential part of an average Mexican daily diet and products related to these food types are sold in many of the food stalls that color the streets of Mexico. All three products have a long history of feeding Mexico’s population and indeed the world would never had known them were it not for its domestication many thousands of years ago by its prehistoric population. As small mobile bands of people were moving into the area from North America around 10,600 years ago, hunting and plant gathering were essential for survival (Zizumbo-Villarreal & Colunga-García Marín, 2010: 814). Due to ecological changes caused by shifting weather conditions, a diverse range of grasses appeared in the Balsas-Jalisco region. Evidence points towards this particular region as the origin of species used for domesticated maize and beans as well (*ibid.*: 815-817). As far as is known, the *Cucurbita pepo* squash is the oldest plant to have been domesticated in Mesoamerica (almost 10,000 years ago) (Piperno & Flannery, 2001: 2101). As for maize, scholars are in agreement

that maize is derived from the teosinte plant, a grass native to the Balsas-Jalisco region (*ibid.*: 2101; Zizumbo-Villarreal & Colunga-García Marín, 2010: 817), and recent research has indicated that the oldest C-14 date of maize grains found in the Balsas-Jalisco region are around 9,000 years old (Zizumbo-Villarreal & Colunga-GarcíaMarín, 2010: 817). The article by Zizumbo-Villarreal & Colunga-García Marín suggests that the domestication of plants commenced in the Balsas-Jalisco region, and they reconstruct hypothesized routes along which they reached other areas for which other remains of domesticated maize are dated (*ibid.*: 818-819). Note how the tortilla – the main product made of maize in Mexico and well beyond – also recurs in Izcatqui.

Folio 88r is somewhat hard to decipher as the right margin of the folio has been damaged. However, it is not hard to discern the word *tlaxcalli* (tortilla) in its text: [...] *yn q[ui]quaz tlaxcalli yn iquaz c[...]/coxocatl*. Domestication of these plants eventually developed into a system in which maize, beans, and squash were sown together, as they nutritionally complement each other within a single diet and also create perfect growing conditions for one another (Zizumbo-Villarreal & Colunga-García Marín, 2010: 822). The bean plants use the stem of the maize plant for support and grow around it towards the sun; squash is sown in between the maize plants (personal communication Raul Macuil Martínez 2014). Together these three plants were involved in a system of clearing land with fire, followed by sowing these crops. The resulting plot of land is called a *milpa*, a Nahuatl word composed of *milli* ‘cultivated land, field’ and *-pa*, ‘indicating movement toward or from a point’ so literally it translates as ‘to the field’ (Karttunen, 1983: 147, 182). Maintaining these agricultural fields requires that the land is cleared of rocks and weeds, and it has been suggested that *milpas* producing these three crops were developed around 4,500 years ago (Zizumbo-Villarreal & Colunga-GarcíaMarín, 2010: 822). *Milpas* are known from archaeological sites, occupying the beneficial flanks of hills and mountains, and make up a considerable portion of Mexico’s current landscape. Milpas are typically small patches of land up to 3 or 4 hectares and are crucial in supporting local families in rural areas.

In Izcatqui, the seeds of maize and beans are placed under the rule of the planet Jupiter, together with the seeds of chili, another typical Mesoamerican product. Chili, from Nahuatl *chilli* ‘chili pepper’ (Karttunen, 1983: 52), has been linked to two possible places of origin in Mexico in recent research by Kraig Kraft and co-researchers (2014). This conclusions are based on data from archaeology, ecology, linguistics, and genetics. Chili in this case is the *Capsicum annuum* L., which is the species that is used most frequently throughout the world and is one of five domesticated species (Kraft et al., 2014). The oldest remains of *Capsicum annuum* were found in the states of Puebla and Tamaulipas together with remains of maize and squash. Although it is not clear that these thousand years old specimens were cultivated or domesticated, it does indicate that chili was part of a diet that included domesticated maize and squash (*ibid.*: 2-3). Chili, maize, and beans in Izcatqui are replacing seeds of wheat, barley, chickpea, and rice, all products unfamiliar to the New World. These were, however, great food staples in Europe and it appears that they were classified as such to whoever translated the Spanish text into Nahuatl and were thus replaced by seeds of products that were important food staples in Mesoamerica.

Calabash or squash appears also in Spanish *reportorios* and as such its appearance in Izcatqui does not try to replace one less familiar Castilian product with a Mesoamerican one. In fact, the *reportorios* itself speaks of a ‘Castilian calabash.’ However, in a Spanish edition of a *reportorio* it is just mentioned as being one of the seeds under the influence of the moon, as are the seeds of cucumber and melons. This contrast with what is written in Izcatqui:

[folio 26r]

*yhua Ayotli yn xicalli Anoço tecomatl*

*centlamātl Ayotli caxtilla*

*no yq[ua]c ytmolinis*

*Auh motocas pepinos yhua calabazas*

and vessel of calabash, or *tecomatl*

the one Castilian calabash

then will sprout out

and cucumber and calabash will be sown

This fragment shows two things, one maybe more telling than the other, but nonetheless present. First of all, Izcatqui describes a drinking or storage bowl made of a calabash or gourd – named *tecomatl* in Nahuatl (the same word is used to describe an earthenware vessel). Second, it starts with a description of this calabash, emphasizing this specific plant over cucumber and leaving out melons all together. The above is not just a copy of a short selection of seeds, but a reminder of the utility and abundant use in Mesoamerica of the calabash as food and container.

#### 6.5.4 Chayote

Chayote (see Figure 63) is the cultivated species of *Sechium edule* (Jacq.) Schwarz and is a vegetable from the cucumber family that has been cultivated long before the Spanish arrival in Mexico (Lira Saade, 1996: 7). Although it is now grown in many parts of the world (the Americas, Asia, Southern Europe), linguistic evidence and pre-colonial depictions on pottery point to a Mexican origin that often carries a variant of the Nahuatl *chayote* as its name (*ibid.*: 7). From thereon it was introduced by indigenous peoples to Central America, by the Spanish to South America in the seventeenth and eighteenth centuries, and eventually to Europe, Africa, Asia, Australia, and North America (*ibid.*: 38). Most cultivated and wild species grow in areas at an altitude between roughly 500 and 1500 meters, although there are some that thrive at very low altitudes of 20 meters and some that thrive up to 2100 meters (*ibid.*: 24-25). As for Mexico, in the years 1991 and 1993 chayote was produced in a variety of states, stretching from Baja California to Central Mexico – with most of the production being concentrated in the more central states (see Figure 64). Nowadays, Mexico comes in as the second largest export of chayote after Costa Rica (*ibid.*: 39).



Figure 63. Chayote in the state of Sinaloa, Mexico.

From: [http://www.fps.org.mx/divulgacion/index.php?option=com\\_content&view=article&id=722:el-chayote-atractiva-fuente-de-divisas-para-sinaloa&catid=37:sinaloa-produce&Itemid=373](http://www.fps.org.mx/divulgacion/index.php?option=com_content&view=article&id=722:el-chayote-atractiva-fuente-de-divisas-para-sinaloa&catid=37:sinaloa-produce&Itemid=373)  
(consulted May 27<sup>th</sup> 2014)

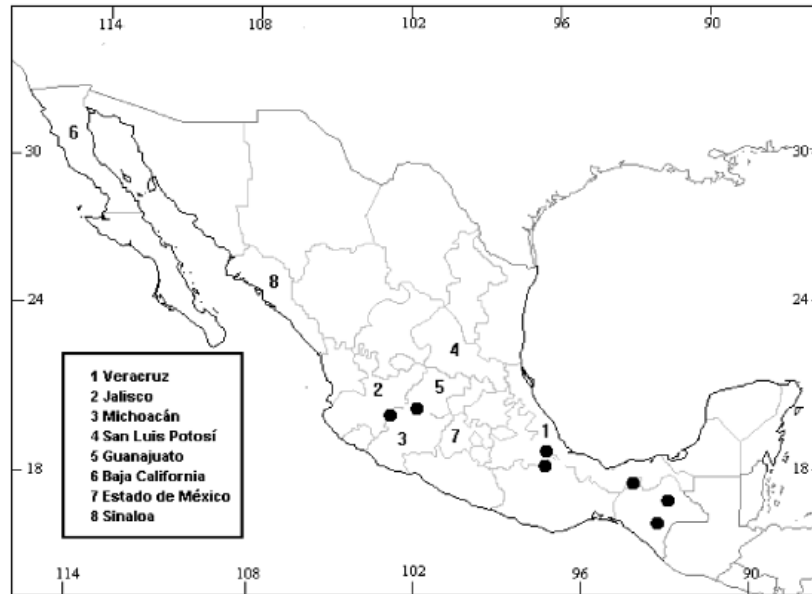


Figure 64. Main production centers of chayote in Mexico. From Lira Saade (1996: 40).

## 6.6 Agricultural cycle in a year

Folio 47 to folio 54 is a translated section that describes the twelve months of the year according to a fixed order. Its description holds the following information:

- The amount of days and night within the month
- The amount of hours of the day and night
- Agricultural activities to be carried out
- Characterization of the month as either beneficial or destructive to people's health
- Some instructions on how to improve one's health

Provided below is a translation of the months of January as an illustration of the type of information provided for each month.

[f. 47v]

¶ *Nicâ tiami Repr.torio*

*NICAN OMPEHVAINHAINDARIO.*

*IN HRTIA pohualiztli*

Here ends the Reportorio

here begins the calendar

the count

[Initial] *In metztli Enero.*

*quipia cenpohualli onmatlactli once ylhuitl*

*âuh yn yohualli cenpohualli onmatlactli*

*yntlasan chicuey horas auh*

*yntlayohua caxtolli. Oncehora*

*[...]auc ypan metztli Enero*

*yn ochi [f. 47r]cahuac yn ixquich quahuil*

*monequi ticcentlacuicuilis*

*yn yehuatl ynohuetz*

*yn ixiuh ye monequi ycuac maquis*

the month of January

it holds 31 days

and 30 nights

the day holds eight hours

and it is dark for 16 hours

then in the month of January

all trees are strong

it is necessary that we will take care of

so they do not fall [over]

in this time of year, appear/come out



yn ixquich xochicualcuahuitl  
 ca cenca cualcan no ycuac mahuiliz  
 yn xocomecatl  
 no yhuan ynixq[ui]ch cuahuitl  
 ynic mochi ytzmoliz  
 ca yquac pehua mitlatzmolini  
 no ycuac huel motoca  
 yn quilxinachtli yn lechocas  
 no ycuac ypan **enero**:cualcan  
 yeca cuali ynieliz amo cocolizyo  
 ycuac moneq neçobalos yn tomac  
 yhuan toxi ynizquican huelneço  
 yhuan huel ipan p[...].tli mizqui  
 yn tlacamo huelic yn tlaq[ua]lli nima patli mizqui  
 no huel netemalos nicchicahuaz ynic pantiz  
 Tonacayohuan  
 yn iq[ua]c hohontlaqualoc  
 Amo nequi nimā timoquetzaz  
 ynic amo moyolmoyahuaz  
 quitosnequi ynicamo telmoyahuaz  
 ocmoqui tatlia  
 Etss.

all fruit trees  
 it is a good time of year to spread  
 the grape  
 and all trees  
 will grow  
 then everything will sprout anew  
 then [is the time] to sow the seeds of  
*quilitl* [herb in general] and lettuce  
 and when in the month of January: a good place  
 it is a good state of being, it is not among illness  
 [illness] will not spread to our hand  
 and our feet and appear everywhere  
 take medicine in order not to die  
 if the food is not good, here medicine, it will die  
 also, bathe yourself, it will strengthen  
 our body

you do not have to kneel  
 to not drift away with your thoughts  
 that is, you will not be disgusted

Etc.

## Month of March

[f. 48r]  
 [Initial] In metztli março  
 quipia çenpohualli omatlactli omce ylhuitl  
 Auh yehuatl Cenpohualli omatlactli yohualli  
 ytlaca quipia horas matlactli omome  
 Auh yohualli matlactli horas  
 yn iquac: ipan metztli **Março**  
 yquac monequi yelimicohuaz  
 mohuilmitlazqu[e] yn çacatl  
 yn ce[n]cā huihuitzo  
  
 yn iuhqui huel intech monequi ytlalchiuhque  
 ynic cencā qualcan qualtiyaz  
 totonic yn tlali  
 ynic no huelamatiz  
 mochihuaz yn ixquich xochiquil qualhuitl  
 @yq[ua]c ynpā metztli **Martios** qualcan  
 yehica yqualli yn iyeliz  
 çan itechpa ytlacauhtica  
 ynin tonacayo cocoliztli  
 quimaca yehica çenca çoçotlahua yntonacayo  
 yn iquac ypan metztli y [f.49v]  
 yn ayac monequi ytech açiz yn ixqua

the month of March  
 holds 31 days  
 and 30 nights  
 the day holds 12 hours  
 and the night ten [two are thus missing]  
 when it is in the month of March  
 it is necessary to plow  
 in straight lines [from here to there] the grass  
 the great *mazorcas* [roots of grass will pop up after  
 plowing]  
 it is necessary for us to make [prepare] the land  
 it will be ready early during the day  
 [as otherwise it is] very hot on the land  
 so we will know it  
 they will 'do' [work with] all fruit trees  
 when in the month of March, it is a good place  
 it has a good state of being  
 we have to pray or ask  
 to keep our body from an illness  
 because our body will faint  
 when it is this month  
 for the illness not to arrive at our head

Anoço quima toca tinemiz  
 ynic amo çoz yn itzontecon  
 amono aca ytech açiz  
 yn inacaz ynic amo quicocoz  
 can oc ye cencā timotemaz  
 yn iquac timaltiz  
 ayac yq[ua]c quiximaz yn itentzon  
 yhuan amono ac[a] moçohuaz yn imac yn icxi  
 @yq[ua]c cenca mococohua totzontecon  
 yhuan tonacaz

[...] we will live  
 so the head will not bleed  
 nor will it arrive with anyone  
 to its body so it will not be ill  
 we will bathe ourselves plenty  
 when we will bathe  
 we will no longer shave its hair  
 it will not spread to its hand and its foot  
 when our head is very sick  
 and our ear

Knowing the structure and content of the discussions of the twelve months, I will now focus on the agricultural treatise within each of the discussions. For the sake of completeness, January and March will be included in the overview below:

#### January:

[f.47v] [...]auc ypan metztli Enero  
 yn ochi [f. 47r]cahuac yn ixquich quahuitl  
 monequi ticcentlacuicuilis  
 yn yehuatl ynohuetz  
 yn ixihuah ye monequi ycuac maquis  
 yn ixquich xochicualcuahuitl  
 ca cenca cualcan no ycuac mahuiliz  
 yn xocomecatl  
 no yhuan ynixq[ui]ch cuahuitl  
 ynic mochi ytzmoliniz  
 ca yquac pehua mitlatzmolini  
 no ycuac huel motoca  
 yn quilxinachtli yn lechocas

then in the month of January  
 all trees are strong  
 it is necessary that we will take care of  
 so they do not fall [over]  
 in this time of year, appear/come out  
 all fruit trees  
 it is a good time of year to spread  
 the grape  
 and all trees  
 will grow  
 then everything will sprout anew  
 then [is the time] to sow the seeds of  
 quiltil [herb in general] and lettuce

#### February:

[f.47r]  
 [Initial] In metztli **febrero**  
 quipia Ce[n]pohualli ochicuey ylhuitl  
 Auhui yohualli quipi[a]  
 [f.48v]  
 Cenpohualli omatlactli ocē:  
 Auh ytlaca quipia matlactli horas  
 yohualtica Cenpohualli onahui horas  
 yn ipani yn m[e]tztli **:febrero:**  
 yquac monequi mocentlacuicuiliz  
 yn xocomecatl yhuā yn ixquich: xochiquahuitl  
 no yquac maq[ui]z yn xocomecatl  
 no yquac motocaz yn Castillanayotl

the month of February  
 holds 28 days  
 and the night holds  
 31  
 and daytime holds 10 hours  
 at night there are 24 hours  
 in the month of February  
 it is necessary to take  
 the fruit rope of all fruit trees  
 then it will escape the fruit rope  
 then it will sow Castilian items

*yhuan pepinas*  
*[in] yn iquac yn ipan metztli huelniqaniz*  
*Anoço yq[ua]c mahaquiz y[n] naxxanJas*  
*yhuan limones yhuan limas yhuan çidras*  
*yhuan Ravanos*  
*yxquich maquiz in quahuitl*  
*yhuan yquac quauhçalolo<sup>221</sup> [...]*

and cucumbers  
 when in the month, I will eat good  
 may they rise, the oranges  
 lemons, limes, citrons, cidres  
 and radices  
 all trees will need  
 to be grafted

March:

*[f.48r] yn iquac: ipan metztli Março*  
*yquac monequi yelimicohuaz*  
*mohuilmitlazqu[e] yn çacatl*  
*yn ce[n]cā huihuitzo*  
  
*yn iuhqui huel intech monequi ytlalchiuhque*  
*ynic cencā qualcan qualtiyaz*  
*totonic yn tlali*  
*ynic no huelamatiz*  
*mochihuaz yn ixquich xochiqua qualhuitl*

when it is in the month of March  
 it is necessary to plow  
 in straight lines [from here to there] the grass  
 the great *mazorcas* [roots of grass will pop up  
 after plowing]  
 it is necessary for us to make [prepare] the land  
 it will be ready early during the day  
 [as otherwise it is] very hot on the land  
 so we will know it  
 they will ‘do’ [work with] all fruit trees

April:

*[f.49v] yn ipan metztli aprilis*  
*no yq[ua]c huel ipā maquiya*  
*yn occequi xochiqua qualhuitl*  
*Auh yn tlacate yn mohuilohuā oncan*  
*nipan tiquimanaz*  
*yn ytepitoton moxinchhuan yezque*  
*yhuā yn [o]c cequime yn yolime ynemitiloni*  
*Auh [i]n iquac yn ipan metztli Aprilis*  
*Ayac [f.49r] Ayac hueliquac mocaltiz*  
*ytlacopehualtiz*  
*yn ical Amo chichahuac yez*  
*çan itlacahuiz xitiniz*  
*Amo no huel mopixoz yntla quilxinachtli*  
*yeyca amo no huel mochihuaz [...]*

in the month of April  
 we take care of  
 some fruit trees  
 everyone is going there  
 there we will spread it  
 our small seeds will be  
 refined things are around  
 when in the month of April  
 it is no longer possible to build oneself a house  
 to build a part of a house  
 its house will not be strong  
 it will just collapse  
 also we will not take the *quiltil* seed  
 because we are not able to

<sup>221</sup> *Quauhçalolo* is a combination of *quauh* ‘tree’ and *çalolo* ‘to glue.’ Here we see the verb as passive (-lo) and in the future tense (-z). There are several methods for grafting trees, all of which are carried out for the purpose of strengthening a tree or a plant (in this case fruit trees). A branch is cut off slantwise from a young tree (up to one year old) and placed in the slant incision of an older and stronger tree of the same kind, and is held in place by wax and a piece of string. Eventually, the new branch grows into the trunk permanently. By doing so, the selected preferred branches that are to carry fruit are able to absorb more water and nutrients from the new trunk as their original smaller and weaker one could have – a process of selecting the best characteristics possible. The best time of year for grafting is early spring.

## May:

[f.50v] *yn iquac ypan metztli*  
*yquac monequi yn ichcame ximalozque*  
*yehica Amo yectli yn iyeliz Ca cocolizço*  
*occēcan yn cacal yn ichcame*

when in the month  
it is necessary to shave the sheep  
its state of being is not good, its among illness  
[in] all [lit: other things] houses of sheep

## June:

[f.50v] *Auh yn iq[ua]c monequi quauhcaloloz*  
*yehuatl yehuatl [sic] yn toca *Peraies* [f.50r]*  
*Anoço membrillos Anoço toraznos mançanos*  
*yhuan yn ipan metztli yquac monequi*  
*huelipan tictocaz yn caxtillā tlaoli*  
  
*yhuan colles yhuan Rauanos yhuan lechocas*  
*no yquac ypan Junio*  
*ytila ycan ypan canapa yaz nequiz*  
*yn hueca yquac hopehuaz<sup>222</sup> [sic]*

and then it is necessary to be grafted  
that which is named pear  
or quince, or apples  
and when in this month, it is necessary  
it is time that we will sow Castilian maize  
[read: wheat]  
and cabbages, and radices, and lettuce  
and when in June  
he will prepare its land in some part  
begin far away

## July:

[f.51v]  
*yn ipan yn metztli*  
*yq[ua]c monequi tictocaz yquixinachtli*  
*seed of quilitl*  
*coles lechocas Rauanos*

in the month  
then it is necessary that we will sow the  
  
cabbages, lettuce, radices

## August:

[f.51r]  
*yquac tictocaz yquauhxinachtli*  
*yn aJus yhuā Avast yhuan cevollas trigos*  
*yn occequi xinachtli*

then we will so the [wood?] seeds  
of garlic and onions, wheats  
and some more seeds

## September:

No information on agriculture.

---

<sup>222</sup> While reading the text together, Raul Macuil Martínez explained to me that this translation should be taken as a piece of advice – a *consejo* – to prepare the land (*milpa*) starting at the far end and working your way towards the patch closest to home.

October:

[f.52r]

*yn ipan yn metztli yq[ua]c*  
*monequi ticcencuicuiç*  
*Ticcennechicoç*  
*yn omochiuh yn ixquich yn xochiqualli*  
*yn granadas y[n] membrillas y[n] mançanas*  
*yn beras yn yerexquich yn xohiquali*  
*yn itech mochihua yn itlaquillo*  
*yq[ua]c mocentequiz*  
*ynic moquaz*

in the month then  
it is necessary that we will get ready  
we will have to collect something  
it is necessary for all fruit trees  
granades, quinces, apples  
pears and all the fruit  
it is necessary for us to chalk [them]  
when we will cut one  
in order to eat it

November:

[f.53v]

*monequiz tihuahuaquiz*  
  
*ça yehuatl ynohuetz yn ixihuahyo*  
*yn ixquich quahuatl*  
*yq[ua]c ticaquiz*  
*ycidxa yhuan [f.53r] naxayas yn limones*  
*yhua limas*

it will be necessary that we will  
dry/diminish/shrink it  
and also the herbs will fall  
[of] all trees  
then we will understand/hear it  
cider, and oranges, the lemons  
and limes

December:

*yn ixquich xochiquilquahuatl no chicahuac*  
*monequi ticcentlacuicuilizque*  
*yehuatl ynopehuaz*  
*yn iquitmolinitz yn ixihuahyo*

all strong fruit trees  
it is necessary that we will collect them  
also herbs [ixihuahyo] will begin  
to sprout

From the Nahuatl text in comparison to the Spanish reportorio, we can conclude that the advice on agricultural activities throughout the twelve months is not so different from the Spanish almanac. This seems to suggest that the aim was not so much to use the almanac in a practical sense, but, rather, to relate to agriculture in a general sense – and more so, to agriculture as it was referred to in a well-known text from another part of the world.

## 6.7 Concluding remarks

Izcatqui showcases that there was a Nahua interest in alternative ways of explaining illness and curing them. The text represents sixteenth century theory on the influence of celestial bodies on the human body, not only as a cause for sickness but also as instrumental in deciding on the right time to carry out certain healing practices. The Nahuatl text goes beyond the image of the Zodiac Man and two Vein Men that were traditionally part of a *reportorio*. In fact, even a first century AD encyclopedic work, a masterpiece of centuries of efforts of translation itself, found its way into the Nahuatl text. The Spanish

translation of Dioscorides' work originates from the mid-sixteenth century. From Juan de Cardenas' remark in his *Problemas y secretos maravillosos de las Indias*, Dioscorides was a name that (at least a certain group of) people were acquainted with in colonial Mexico in the sixteenth century. Although Izcatqui was produced in the eighteenth century, its content was probably produced much earlier and to my understanding it is the only document in an indigenous language that refers to Dioscorides. Perhaps the *tlacuiloque* of Izcatqui were already familiar with the Spanish translation of Dioscorides' work. If not, this was to them a first exercise in selecting whatever they saw fit to include in the Nahuatl manuscript. They decided not to write about the person of Dioscorides, his life, and his writing in general. Instead, they selected certain recipes from his work. If we consider ms 3523-2 as a whole, therefore, it very much resembles the Mayan corpus of the Chilam Balam books that also include translated interpretations of a *reportorio*. These books too are a combination of content from a Spanish almanac and medicinal information that goes beyond the *reportorio* – recipes from either local or New World origin.

The fragments on agriculture illustrate that the *tlacuiloque* probably did not have using the manuscript in everyday life on the field. Thus, I believe that this text is a prime example of an interest in 'the other.' This interest was not so much in describing the differences between the local and far-away, but in describing how people somewhere else in the world deal and dealt with issues that we all face, including, for instance, planning agricultural activities. The substitutions of certain animals, plants etc. with Nahuatl alternatives grounded in local ecology would trigger a Nahua reader to recognize the general intent of the Spanish source text.