

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

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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-<u>96</u>r) 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
in totechnematia	you make us know it
yn yquenicā titic	how it is inside us ¹⁹⁶
ca ytechca chicome planeta	it was with the seven planets
yhuan matlactli omome Machiyotl	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.

¹⁹⁶ 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
Tla	caquilistli toCuexcochtla[n] catqui
[t]	lalnamiquilistli tocuexcochteuh
yte	ch catqui
ney	olnonotzaliztli achito canahuacā
cat	q[ui] nematilistli
toc	anahuacā catqui
nec	quatlatzallistli ahaquetzaliztli
toq	uanepantla catqui
To	cennematia tixquach omcatqui
То	neyximachilia huel ōca tixcotoyacac
yac	cnotixquac onca catqui
To	tlanecuilis 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]*¹⁹⁷ (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 inbierno* [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 propriedades. 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 consequtive 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).

¹⁹⁷ 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 imetztli mayo cocohuame qli. C it means, the month May, twins. [is] good

qtosneq. yn imetztli 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: agusto 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: octobre: 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 dicienbre.tetzon amoqli it means, the month December, 'bearded (animal)' [i.e. goat capricorn]¹⁹⁸, 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]

¹⁹⁸ Here, the *tlacuilo* decided to write a 'tetzon' which could be 'te(ntli) = 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] Ø Yzcatqui planetas:	here it is, the planets
¢	luna tocpac ca yn techtotzōtecon	the moon is above us, by our head
¢	Centetl huei çitlali ytoca mercurius	the first great star named Mercury
	tochichicauh ytechcā pulmo	bile, it is with the lung
¢	Occentetl huey çitlalin ytoca venus	another great star named Venus
	ytechca tocuitlaxillo hyo	it is with the back,
¢	Sol tonatiuh toyollo ytechca	Sun, tonatiuh, is with our heart
	yhuan tochichicauh	and the bile
	no yh[uan] totlatlalil	also with the stomach
¢	Mars centetl huei çitlali ytoca Mars	Mars, the one great star named Mars
	tochichicauh ytecha	is with our bile
¢	[O]ccentetl huey çitlalin yntoca Jupiter	another great star, named Jupiter
	yntechca teltapach	is with the liver
¢	[O]ccentetl huey çitlalin ytoca Saturnus	another great star, named Saturn
	ytechca telxochiuh ytoca bazo	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]

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

¹⁹⁹ "esteril, que no tiene hijos" (Alonso de Molina, 1992 [1555]: 110)

yhuan ytlaca ça xeliuhqui

- Tlatamachihualoni tometzquauhyo ytechca [Amo crossed out] qualli Amo cocolisço
- Scorpius collotl ytecha ytotlacatca ytotlacaxinacho²⁰⁰ xeliuhqui
- Tlacamaçatl toquexil titech catqui qualli Amo cocolisço

[f. 61v]

- Quaquauhtentzone ytechca totlāqua Amo qualli cocolisço
- Ce Acuic anoço atetecac totlanitzco cā q[ua]lli amo cocolisço Mimichtin Centoxocpal nepantla catqui

Auh ca ytechca tocxipil xocoyouh xeliuhqui

and the person is just divided scale is with the strong leg it is good there is no sickness scorpio, scorpion is with [our body] our [lineage divided] man-deer is with our groin it is good, there is no sickness

goat [bearded animal] is with our knee it is not good, it is among illness one tiny shrimp or water pourer our shin, it is good, there is no sickness fish, the sole of the foot, in the middle they are 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 than, 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

²⁰⁰ 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

¶ In tlalhuatl ometotexipal titech nenecoc mamani yn tocā Reoma

¶ 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

¶ Intlalhuatl ytoca circular yehuatl yn iquac techcocohua tochichcauh ynhuan tomatzōtzōpas²⁰¹ yhuan teltapach

¶ ye ytlalhuatl totlaquaticpac ycac yehuatl yn itechcocohua tocuitlaxilloyo topitzahuaca

¶ In tlalhuatl oncan toquexilco ycac yehuatl ytechcocohua yn totlanitzco

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

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

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

[etc.]

[f. 63v] ¶ Ce tlalhuatl oncā tomapilhuey nepātla yhuan tocxipil nepantla ycac 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

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

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

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

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

the nerve which is in our groin hurts our leg

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

the nerve over our nose makes us sniff/cry

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

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

²⁰¹ tzotzopaztli: "needle, thin knife."

yn iquac otztli otztiya nima mitzminas

anoço mixihui yhuan ytotlacatca

[f.63r

second image of Vein Man] Auh yn occetlalhuatl tocuitlapan onoc yehuatl yn iquac techcocohua yn telchiquiuh

In tlalhuatl totzintamalpan onoc quinamiqui²⁰² tometzquauhyo

In tlalhuatl tohuey mapil titech onoc

yhuan yn itech toçihua ytzti yehuatl yn iquac mococohua yn totzōteco yhuan yn tixtelolo

Ome tlalhuatl tacayo ytechpā mani yntoca Venus Scia ticcas yehuatl ynacā mometzcaxania çihuatl Woman

In iquac huelo aquimatque yn huelo aquitaque yn ixquich ymachiyotl yn izquitlamatli omito yn ocā huelnezohuas yhuan y[n]ca tlalhuatl [f.64r] ypan quizas yn estli Auh nican huel namech melahuilis ca yn ixq[ui]ch yn tlalhuatl yn ip[an] nesq[ui]xtillo yq[ua]c yno tlaq[ui]loc Auh nahui tomatzotzopas tlalhuayo ymoçohuas yn iq[ua]c Ayamo tlaquallo *yh[ua]n monequi Aquimatisque* yn iq[ua]c Aquezq[ui]xtisque yn icxitl Anoço maytl Anoço tlamistli Anoço yn canin monequi Auh yhuan monequi ce apaztli Aquitemitisque ynatotomili ynic amo tecocos

when a pregnant lady becomes pregnant will bleed herself or/perhaps to give birth and our womb

and another nerve is in our back then our chest is hurting us

the nerve which is in our buttocks stretches to our thigh

the nerve that is extended in our large finger of our hand and our woman, it [is] cold and thus hurts our head and the eyes as well

two nerves in the bladder named Venusia²⁰³ we will be it it hurts the flesh or skin of the leg of the

when it unravels what we know when it unravels what we see, all the signs all things said, from there they bleed blood will emerge from the nerve and here it will be declared that from all nerves they extract they cover with chalc and four blood vessels of our wrist will extend then no one eats and it is necessary that [we]²⁰⁴ will know it when the foot or the hand, or [...] or where it is necessary, and one bowl is necessary the warm water will swell 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

²⁰² Lit: "it meets our thigh."

²⁰³ 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.
²⁰⁴ 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] *C* Nican pehua centlamātli here it begins [f. 92v] Ø Nican motenehuan here are mentioned in isqui[ch]tlama[n]tli all things named medicine in itoca patli cardo bendito, artemisia carto bendito, artemesa, ruda, hierbabuena²⁰⁵ and some other grass rota Arbabo ena in occequi xihuitl all of its history will help yn itlatollo ca mochi quinanamiquis yn aquin tley quicocohua who are sick the first cure [Initial] Inic centlamatli ynic pati [for those] whose head is sick yn aquin ytzontecon mococohua çan xoxouhqui yn cōnis just drink something green yion tlamanistin carto bendito Artemesa [...] Cardo Bendito, Artemisia or the nose will throw up Anoço yacacpa moltasas²⁰⁶ [Initial] Inic ontlamatli ycpati the second cure yn aquin yn ytozqui mococohua [for] the one whose throat is sick *ça xoxouhqui:* just green Anoço yn tlāco mococohua perhaps [when] teeth are sick perhaps the biting Anoço tlanquallo ehuatl contecaz it will stretch itself there v carto bentito: the Cardo Bendito caquichicahuas yhuan ycpachihuis it will strengthen and it will calm the pain of the teeth *yn totlan quequetol*

[Initial] Iniquetetl ycpati

the third cure

²⁰⁵ 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 *Menta spicata* (Taddei-Bringa *et.al.*). Both *ruda* and *hierbabuena* are known in Mexico to have medicinal characteristics.

²⁰⁶ This seems to be *tlaça*, "to throw up" (see Molina *tlaça* "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 yxcohomotequilis²⁰⁷ anoço homotocas ynixqc yn aço yx na[ci?]pa chihuilistli

[Initial] Inic chiquacentlamatli ycpati yn aq[uin] 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 eztli ytoma yeccapa ytopochcopa[n] ca yc yolis yn eztli 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 ypantli 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 eight 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

²⁰⁷ Ixco: "face."

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

[Initial] Inic matlactlamatli ycpati yn aquin omotec ynica yncochilo Anoço ytztli [...]omotequilis Auh ytla camohuelliti: [...] ypā motecazqui Anoço nacahayo²⁰⁹

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

[Initial] Inic matlactlamatli once ycpati yn aquí yyomotla quicocohua yehua[tl] motenehua yçiuhca quahuaqliztli mototomis²¹⁰ yn atl yc mopatlas²¹¹ ypantli²¹² coniz Anoço hocācotecazque

[f. 93r]*Inic matlactlamatli omome ycpatli ynaqui ynaqui Adonahui oc totoqui²¹³ yc oniz*

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

Iinitial] 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 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 children²⁰⁸

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

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

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

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

²⁰⁸ 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.

²⁰⁹ nacahayo: "flácido" in Spanish or "flabby" in English.

²¹⁰ totomio: "hair"

²¹¹ patla: "change"

²¹² *pantli*: "banner, flag." The words 'hair,' 'change,' and 'banner' in combination with medicine and drinking water does not make sense.

²¹³ 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 3rd 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 Fransciso Tepeapulco, Hildalgo 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, chichicaquilitl and tonalchichicaquilitl 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 Nahua 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 Nahua 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, *huitzquilitl* (f. 9v; 41r; f. 50v) or another member of the thistle family *quauhtla huitzquilitl* (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 *huitquilitl* (see Figure 59) and one *quauhtla huitzquilitl* (see Figure 60). Although different in name, they are a *huitzquilitl* 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 – *huitzquilitl* ("thorny edible; thistle") is a cardo species or Cynara scolynmus L. *Quauhtla huitzquilitl* ("thorny edible growing in the woods").



Figure 59. Huitzquilitl in Libellus de Medicinalibus Indorum Herbis f. 9v Figure 60. Quauhtla huitzquilitl 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 eplicada 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."

CHICÁLLOTI

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] Ø 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

 $\ensuremath{\mathscr{C}}$ Ca yzcatqui: nica[n] pehua²¹⁴ oc centlamatli ynquenin nepatiloz Yn ixquich cocoliztli yn quiyacatia yehuatl yn cenca nohuiya mococohua yn tlacatl ytoquechtlan poçahua yni[...]hohu[e]tzi²¹⁵ yn tococo Auh yntlacatle y[...]nonamictiya Ypatli ca yehuatl nima[n] [...]c iuhcan ycmocochua [...] 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

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. <u>96</u>v] 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

²¹⁴ Written in capitals.

²¹⁵ *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 Pedianus 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 Sancria ynic nezohuaz yn tonenepil ytech yn iuhqui ypiltzin mochiuhtica: yntlalhuatl ynitzintla *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

[f. 94r]

Auh quitohua yn occen ticitl ytoca gustati no toco[n]cuiz y[n] xonacatl ynitocā [ceboll]as ticatilis ticnelos castillantestli /.../ yhiygos²¹⁶ yehuatl yn ayamo huaquitict/.../huazas niman ticteçis ticnelos ychiucha/.../layotl niman noncan toconalahuaz/.../quechtlan ynquechpozahua ycp[a]tz[?]huaz Anoço yc xitinis yc patis

[f. 94r]

[Initial] *Quitohua yn occe tiçitl ytoca dioscorites Auh tococuiz xihuitl yn itoca Rodas* 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

and it speaks of another doctor named Gustati also take onion, named *cebollas* we will melt, we will mix it with Castillian 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

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

²¹⁶ Read as *higos* "figs."

yhuan coratro²¹⁷ ticnelos vinagre yc ticaltis castilla testli tocomis ycpolihuis ypoçah[ua]

[f.95v]

yniquechtla yn cocoxqui Anoço o²¹⁸motlatolcauh Ca yc tlatos yniquac oco²¹⁹nic ynatolli [Initial] Quitohua yn occe tiçitl ytoca diascorides tictatcaq[ui]z yn inelhuayo ynahuehuetl nima ticteçis ticnelos vino Tiquicuicuixitis yn iquechtlan tocotecaz yn o[n]ca pozahua yc xitinis

[f. 95v]

[Initial] Quitohua yn occe tiçitl ytoca Nico/.../ [t]ococuis yn ixiuhyo 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 tocontlalis tocotecasque yn cocoxqui

yc patis yhuan tococuis huitziloxi[tl] tiquicuicxitis Atl yhuan tococuis yn icuitl carnero yehuatl ynohuac ticteçisqui 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

it says of another doctor named Juliano

²¹⁷ Read as *cuatro* "four."

²¹⁸ "o" in superscript.

²¹⁹ "o" in superscript.

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

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

[f.<u>96</u>v]

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

[Initial]

Quitohuā yn occe tiçitl yn itoca Juli[ano] toconanas yn totolin yn amo tom[a]huac moteçis oc nimā yçiuhca ticnelosqui vino cenca yniyo Anoço canatiqui[...] ca totoni yas y[n i]quac yncan iuhq[ui] [...]atezcatl mani totoqui yez yn tocōtecas [...] moquechtlā Auh nimā timocozqui ymonenepil ytech yc tipatis all doctors help people the throat will take a grass named hierba buena

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

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

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 Pedianus 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. Pedianus Dioscorides (or Pedianous 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* manuscript²²⁰ 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 corrrespondia 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

²²⁰ The Akademische Druck-u. Verlagsanstalt published a facsimile of this edition in 1970. See <u>http://www.adeva.com/faks_detail_bibl.asp?id=103</u>

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 tlê quipiayān ca çāmonēlonecan. 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	together with him, the days arrived there
iac xihu-tl itōcan yèhuātl machiyōtl	the name of the year was signed
oncān pēhua imācēhualtin	there begin its commoners
in iuh quê imīl chiuhque milchīhuani	to cultivate, to harvest
?camoa ēlimiqui ihuān tōca pixcan	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 Nahua 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 Nuu and recounts the genealogy of the rulers of Nuu Tnoo (Tilantongo) and Ndisis Nuu (Tlaxiaco) in the Mixteca Alta, state of Oaxaca. This colorful, illustrated work of art was probably painted in Nuu 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 Nahua 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 Guadelupe – 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 centlamātli Ayotli caxtilla no yq[ua]c ytzmolinis 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: <u>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 27th 2014)</u>



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

[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 quahuitl monequi ticcentlacuicuilis yn yehuatl ynohuetz yn ixiuh ye monequi ycuac maquis Here ends the Reportorio here begins the calendar the count

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 ytzmoliniz ca yquac pehua mitlatzmolini no ycuac huel motoca yn quilxinachtli yn lechocas no ycuac ypan enero:cualcan yeca cuali ynieliz amo cocolizyo ycuac moneq necobalos yn tomac yhuan tocxi 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 xochiqual qualhuitl @yq[uac] 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 ixiuh 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

February:

[f.47r] [Initial] In metztli febrero quipia Ce[n]pohualli ochicuey ylhu[itl] 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: xochiqualquahuitl no yquac maq[ui]z yn xocomecatl no yquac motocaz yn Castillanayotl 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 *quilitl* [herb in general] and lettuce

the month of February holds 28 days and the night holds

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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 huelniquaniz Anoço yq[ua]c mahaquiz y[n] naxxanJas yhuan limones yhuan limas yhuan çidras yhuan Ravanos yxquich maquiz in quahuitl yhuan yquac quauhçaloloz²²¹ [...]

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 xochiqual qualhuitl

April:

[f.49v] yn ipan metztli aprilis no yq[ua]c huel ipā maquiya yn occequi xochiqualquahuitl Auh yn tlacate yn mohuilohuā oncan nipan tiquimanaz yn ytepitoton moxinachhuan 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 chicahuac yez çan itlacahuiz xitiniz Amo no huel mopixoz yntla quilxinachtli yeyca amo no huel mochihuaz [...] 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

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

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 *quilitl* seed because we are not able to

²²¹ *Quauhçaloa* is a combination of *quauh* 'tree' and *çaloa* '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

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 ytla ycan ypan canapa yaz nequiz yn hueca yquac hopehuaz²²² [sic]

July:

[f.51v]yn ipan yn metztliyq[ua]c monequi tictocaz yquilxinachtlithen it is necessary that we will sow theseed of quilitlcoles lechocas Rauanoscabbages, lettuce, radices

August:

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

September:

No information on agriculture.

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

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

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

²²² 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	in the month then
monequi ticcencuicuiz	it is necessary that we will get ready
Ticcennechicoz	we will have to collect something
yn omochiuh yn ixquich yn xochiqualli	it is necessary for all fruit trees
yn granadas y[n] membrillas y[n] mançanas	granades, quinces, apples
yn beras yn yerexquich yn xohiquali	pears and all the fruit
yn itech mochihua yn itlaquillo	it is necessary for us to chalk [them]
yq[ua]c mocentequiz	when we will cut one
ynic moquaz	in order to eat it

November:

[f.53v] monequiz tihuahuaquiz

ça yehuatl ynohuetz yn ixiuhyo yn ixquich quahuitl 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 xochiqualquahuitl no chicahuacall smonequi ticcentlacuicuilizqueit isyehuatl ynopehuazalsoyn iquitzmolinitz yn ixiuhyoto s

all strong fruit trees it is necessary that we will collect them also herbs [*ixiuhyo*] 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.