

The Pronuncial Writing System and Graeco-Iberian Language of MS408 (Ischia/Voynich).

This paper provides more precise guidance and instruction with regard to the palaeographic method in translating manuscript MS408 (Ischia, Voynich). Manuscripts of antiquity typically require palaeographic interpretive techniques for the purpose of translation, because they include idiomatic abbreviations, unusual calligraphy, exotic language, unique letter symbols and so on, making them a challenge to read. Therefore, it is necessary to learn and understand the associated peculiarities of the MS408 language and writing system in order to arrive at reasonable translations.

This process requires historical and linguistic research, so that initial translation possibilities can be progressively honed by a process of elimination until the semantics and syntax are workable. This scientific approach ensures that the emergent translations are sufficiently refined to be as close a match as possible to the intended meaning of the text. Due to the mutable nature of palaeographic analysis, there is often room for continued adjustment in translation, so accuracy relies on reprocessing the text time and time again, until new passes offer no further improvement. Thus, by repetition of the procedure the translation becomes more and more precise by degrees: i.e. as near to 100% accuracy as possible.

Initially the language was thought to be an anachronistic or outdated form of proto-Romance, but further research has revealed the language to be the Medieval Iberian variant of Romance known as Galician-Portuguese (G-P), with the inclusion of some Latin, Greek and occasional Arabic. The writing system is phonetic but is heavily abbreviated with enclitics, clitics and plosives, so that silent and junctural consonants and vowels have often become omitted altogether. Thus, the text was written in direct imitation of speech rather than obeying rules of spelling, grammar and punctuation – thus, it is a pronuncial writing system. In addition, Latin stock words and phrases are abbreviated to initial letters.

As the writing system is pronuncial the consistency seen in its idiosyncratic spelling, from one page to the next, suggests that all of the text was written by the same hand, simply because two or more authors would have arrived at two or more spelling methods, unless there was some agreement, or the scribes were being dictated to. As the text does seem to differ in style, this is a possible explanation, although individuals can and do vary in their handwriting from day to day.

Whichever explanation is correct, the author, or authors, of the manuscript evidently devised a unique writing system, which may have been due to absence of formal education, due to cultural isolation, or it may have been deliberate to keep the information away from male eyes, as it would have been deemed embarrassing due to courtly etiquette, because the contents largely refer to private womanly matters relating to seduction, impregnation, gestation, contraception, abortion, childbirth, gynaecology, paediatrics, medicines, astrology, supernatural beliefs, treatments, therapies, ageing, beautification, illness and death.

Ischia was home to a Greek diaspora population with its own Basilian Orthodox monastery and nunnery in the early 15th century, when the island and its citadel, Castello Aragonese, were appropriated by Alfonso V, of the Crown of Aragon, during his campaign to conquer nearby Naples. Thus, the Iberian language of the newcomers was mixed with the Graeco language of the islanders, resulting in the manuscript language, best described as Graeco-Iberian Romance.

Despite its close geographical proximity to Italy, the island of Ischia had been culturally discrete for centuries when the manuscript was written, and therefore had little linguistic commonality with the contemporaneous Neapolitan culture. The manuscript dates quite precisely

because a narrative map within the manuscript describes and illustrates the rescue of islanders from Vulcano and Lipari, with a flotilla of ships from Ischia, following a volcanic eruption that began on the February 4th, 1444, and created the Vulcanello peninsula. The map lies between Portfolios 86 and 87. See papers:

[&](https://www.academia.edu/35769087/Linguistically_Dating_and_Locating_the-Origin_of_Manuscript_MS408_Ischia_1444)

[language MS408](https://www.academia.edu/44261539/Reintroducing_a_vanished_Graeco_Iberian_Romance_language_MS408)

This paper presents reworked and updated translations of the first lines of the manuscript plant pages 1-10 (Portfolios 2a-6b), so that the reader can see how the translation process is conducted and to encourage the reader to continue translating the pages, by employing deeper knowledge of the writing system, the language and historical botanical information, to arrive at the most cogent translations, based on semantics (meaning) and syntax (structure).

An algorithmic approach is first employed, whereby possible words are listed according to the priority array queue of Galician-Portuguese, Latin, Greek, Arabic. Due to their linguistic stem and cultural assimilation, similar words are also often found in other Iberian Romance languages: Valencian, Catalan, Occitan, Asturian, Aragonese. Many variants are also found in other Romance languages: Italian, Neapolitan, Sicilian, Corsican, Sardinian, Istriot, Ladin, Venetian, Friulian, French, Romanian, Aromanian.

Cross-reference with historical botanical and medicinal information is then employed to arrive at the most logical semantics and syntax, so that the most likely translations are preserved, and the least likely translations are eliminated. By running sentences through this process a number of times, the translations are gradually perfected.

Sometimes, deeper research and lateral thought are required to get results. A useful example to consider is the manuscript word *naus*. Priority array queueing initially arrives at *ships*, as that is the Galician-Portuguese translation, i.e. the plural of *nau* (ship). As Ischia is an island, then this seems at first to be a likely translation, but the word is used too frequently, and the semantics and syntax don't fit either. Looking at Latin, a possible translation is an abbreviation of *nausea* (seasickness), but that derives from the same source, which is the Greek *ναῦς* (*naus*: ships). So, the manuscript word *naus* required further investigation.

The solution presented itself when phonetic and enclitic spelling were factored in. Greek includes a number of words that begin phonetically with 'n' but have a preceding silent 'g'. Thus, we arrive at *gnaus*, which only makes sense with the inclusion of a silent junctural 'th', to form *gnathus*. This is the Latinized spelling of *γνάθος* (*gnathos*: jawbone) which therefore means 'to eat', 'to consume', 'to chew'. The English term 'gnathic' (relating to the jaw) has the same root. In literal terms the word '*na'us* (*gnathus*) means 'to jaw', just as the Latin equivalent word *manduco* or *mand'o* (eat, chew, consume) derives from *mandibula* (jawbone). So, the words *naus* and *manduco* have the same meaning, but are derived from Greek and Latin respectively. Furthermore, with *naus* ('*na'us*: *gnathus*) meaning 'to eat' the semantics, syntax and frequency make perfect sense in the context of the manuscript, which often describes plant foods and oral herbal medicines. As Galician-Portuguese did not include the word *gnathus*, then we know it is an example of the Greek diasporic language spoken by the native Ischia population at the time of occupation.

Another example is the manuscript word *æor*. On initial inspection the only feasible match is the word *æora*, which means a kind of manipulation or massage of the internal body, based on

the Greek *αιώρα*: hammock, seesaw, oscillating movement. This translation seems to work in relation to reproduction, especially as the Latin equivalent is *gestatio*, from which we get the word ‘gestation’, but the semantics and syntax are often nonsensical within the manuscript text, and the term *æora* is, in fact, a linguistic reconstruction.

Again, the solution presents itself when phonetic and enclitic spelling are factored in. The diphthong ‘æ’ is first converted to ‘i’, so that we get *ior*. Looking for silent and junctural consonants we then arrive at the variants *icor*, *ichor*, *licor*, *lichor*, which derive from the Greek *ἰχώρ* (liquor, juice, sap, fluid, serum, whey, essence). Thus, the manuscript word *æor* (*i'or*: *ichor*) simply refers to the medicinal juice extracted from the plant in question. The term was also used to describe the blood of gods, in allusion to the associated healing properties of medicinal plants, believed to act as conduits for the gods. By extension, the term was also used to refer to the amniotic fluid that protects the developing foetus in the womb.

A similar example is the manuscript word *æèa*. By converting the diphthong ‘æ’ to ‘i’ we arrive at *ièa*, *ièr*, which are truncations derived from the Latin *hesterna*: *esterna* (yester). Thus, *æèa* (*ièa*), refers to yesterday, yesteryear, the past, bygone days, time behind us. We get the English words ‘stern’ and ‘astern’ from the Latin *hesterna* (*esterna*) as they refer to the rear of a boat or behind a boat. The Latin *hesterna* derives from the Greek *ἐστερήθησάν* (exists no more, taken away, removed, confiscated, stolen): i.e. time lost to the past.

The Romance languages all emerged from Latin which, in turn, emerged from Greek, so the language of the manuscript represents an interesting linguistic feedback loop, whereby Galician-Portuguese was remarried with Greek by chance due to empire building in the Mediterranean. Thus, a Graeco-Iberian Romance language was formed, spoken and written on an Italian island for only a few short years, as an unlikely geographical quirk of Medieval history.

The combination of language hybridization, partially unique alphabet, lack of punctuation, absence of grammatical rules, pronuncial spelling and inclusion of Latin abbreviations rendered the manuscript writing system rather idiosyncratic and mysterious to modern eyes and therefore took some time and effort to fathom, but the process of translation is now quite well honed to be semantically and syntactically accurate, as these examples demonstrate.

The palaeographic technique is to first identify the unambiguous words/phrases and then deal with the ambiguous words/phrases by a process of elimination of options, according to semantics, syntax and cross-reference information (botanical and historical), until the most likely translations emerge. Priority array queuing informs us that all initial letter abbreviations are in Latin, and that written words/phrases are in Galician-Portuguese, Greek or Arabic. An example of Arabic is the manuscript word *nar* (نار), which means fire, flame, heat. In contrast, the Galician-Portuguese (G-P) word *asa* (*assa*) means to burn, roast, bake.

Due to the pronuncial habit of the speakers, the manuscript alphabet lacked various familiar letters or phonemes, (b, c, g, h, j, k, v, w, x, y) that were not needed, and certain synonyms were preferred over others, resulting in the linguistic hybridization seen in the manuscript language. Thus, it was natural human behaviour to take the path of least resistance by adopting the words easiest to say, easiest to write and easiest to remember from each available language. That is the intuitive way in which the Greek speaking natives of Ischia and the Galician-Portuguese speaking Iberian newcomers learnt to communicate with one another: by merging their languages to create the Graeco-Iberian used for the manuscript.

Text line. 1. Plant page. 1. Portfolio. 2a. Species: *Atropa baetica*. Iberian nightshade.



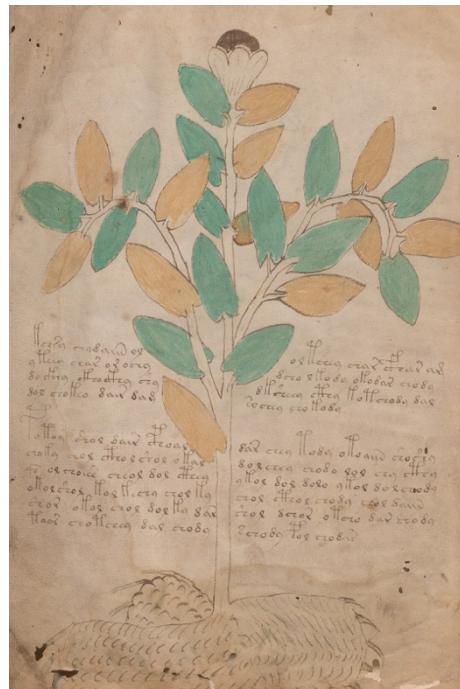
Μετρούσαντος οὐκέτι ταχέας

léta	éo	naus	or	orméia	éas	equeas	asa
lētā'	é'o	'na'us	or'	ormé'ia	é'as	e'queas	assa
lētālis	é o	gnathus (<i>γνάθος</i>)	ora	hormé (ορμή) ia	ésas	e queas	assa
Latin	G-P	Greek	G-P	Greek, G-P	G-P	G-P	G-P
lethal	it is	to eat	now	rapid attack is going	you are	and that you	burn

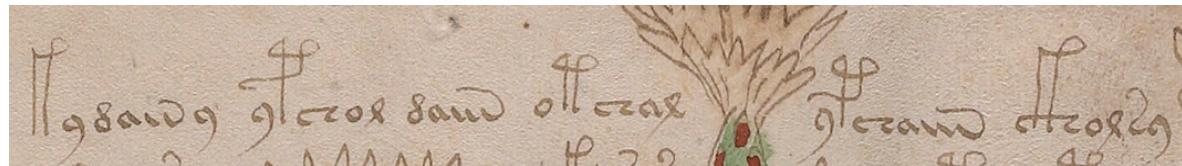
Modern paraphrase: *Lethal when eaten, as soon a rapid attack will come, and you will burn in hell.*

- The word *asa/assa*, (to burn, roast, bake) was also used to mean the devil, or hell, by extension in the Medieval Mediterranean in allusion to the volcanoes where Vulcan was believed to dwell. For example, the term *asafoetida* means ‘devil’s stink’.
- Atropa baetica* contains the highly toxic chemical atropine, which is lethal when eaten, but was used to dilate pupils as a cosmetic and to terminate unwanted pregnancies as an abortifacient.

Original paper: https://www.academia.edu/40431280/Plant_Series_No_1_Manuscript_MS408_Atropa_baetica



Text line. 1. Plant page. 2. Portfolio. 2b. Species: *Serratula erucifolia*. Dry-flowered saw wort.



Πρόσωπον γέτεος δαμού οφειλα
Πρόσωπον γέτεος δαμού οφειλα

lanaisa	apéor	naus	o m	éar	a péaus	ele orta
la'nais'a'	apé'or	'na'us	o' m'	é'ar	a pé'aus	'e'le'orta
la nais elas	apélor	gnathus ($\gamma \nu \alpha \theta \omega \varsigma$)	omni mane	éstar	a pédaus	de le horta
G-P	G-P	Greek	Latin	G-P	G-P	G-P
the mothers they	plead/call	to eat	every morning	to be	on foot (walk)	from the garden

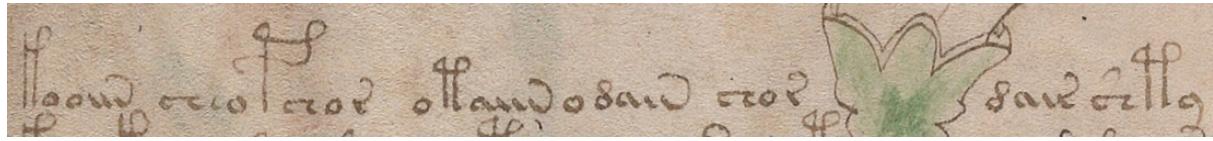
Modern paraphrase: *The mothers appeal to eat this every morning, requiring a walk to collect from the vegetable garden.*

- The oil rich seeds of *Serratula erucifolia* were eaten just as milk thistle seeds are still eaten in the Mediterranean.

Original paper: https://www.academia.edu/40700471/Plant_Series_No_2_Manuscript_MS408_Serratula_erucifolia



Text line. 1. Plant page. 3. Portfolio. 3a. Species: *Nymphaea alba*. White waterlily.



Moowccō ſccō offamōgawccō 8ar2tHg

loous	éio	péos	o m aus	onais	éos	naes/nais	aema
lo'o'us	é'io	pé'os	o m a'us	'o'nais	é'os	na'es/ na'is	ima
lo lotus ($\lambda\omega\tauός$)	é io	pédidos	omni mane avidus	'olas (polas) nais	é os	nades/nadis	ima
G-P, Greek	G-P	G-P	Latin	G-P	G-P	G-P	Latin
the lotus	it's me	requested	every morning avidly	by the mothers	it's they	to swim	deep

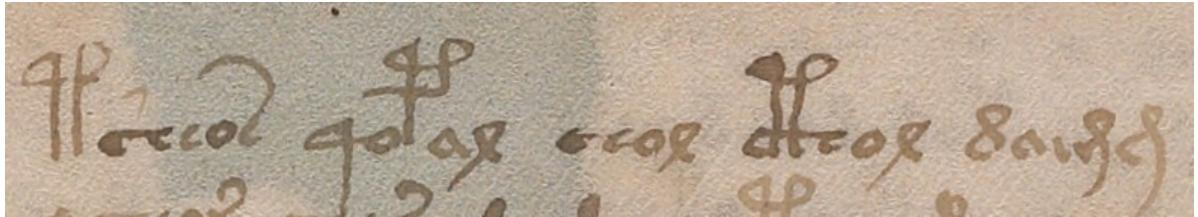
Modern paraphrase: *The lotus, I am requested for avidly every morning, by the mothers, they require deep swimming.*

- As well as food, the waterlily root also provided a mildly narcotic effect, which was highly regarded.
- The word *a'us* may also be the Latin *animus* (moodily, passionately, animatedly), with a similar outcome.
- Note the difference is the manuscript 's/z' spelling of *nais* (mothers) and *nais* (*nadis*: to swim).

Original paper: https://www.academia.edu/40805336/Plant_Series_No_3_Manuscript_MS408_Nymphaea_alba



Text line. 1. Plant page. 4. Portfolio. 3b. Species: *Euphorbia myrsinites*. Wolf-milk spurge.



Народът създава сърдечни

mæeot	dopar	éor	emior	naisasa
mæ'e'ot'	dopar	é'or	emi'or	nais'a'sa'
mai de otoño/otobre	dopar	ésor (εσώρ)	emittor	nais a sato
G-P	G-P	Greek	G-P	G-P, Latin
May to October/Autumn	to dope	inside	to drive, force	mothers to litter, sow (give birth)

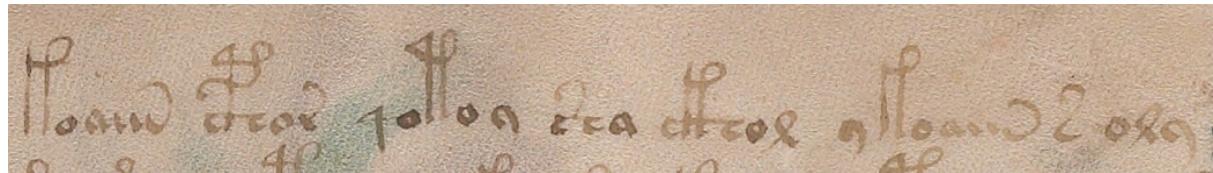
Modern paraphrase: *From May to October/Autumn it is used for doping inside to induce birth (miscarriage/termination).*

- *Euphorbia myrsinifolia* sap contains toxic substances that were used to purge the body in the Medieval.
 - The phrase *naisasa* may also be *naissa sato* (foetus/baby sown: Latin, G-P) with much the same intention.

Original paper: https://www.academia.edu/40935442/Plant_Series_No_4_Manuscript_MS408_Euphorbia_myrsinites



Text line. 1. Plant page. 5. Portfolio. 4a. Species: *Hesperacodon hederaceus*. Ivy-leaved bellflower.



Moam ðcor 40 Hög æa dcor gMoam 20x9

loaus	epeos	domoa	æa	elior	aloaus	t ora
lo'a'us	e'pe'o's	domo'a	ia	eli'or	alo'a'us	t' ora
locatus	en petos	domo na	ia	eligor	allocamus	tabularium ora
Latin, G-P	G-P	Latin, G-P	G-P	Latin/G-P	Latin/G-P	Latin, G-P
located	in cavities, recesses	at house	going	I collect	I allocate	storage room now

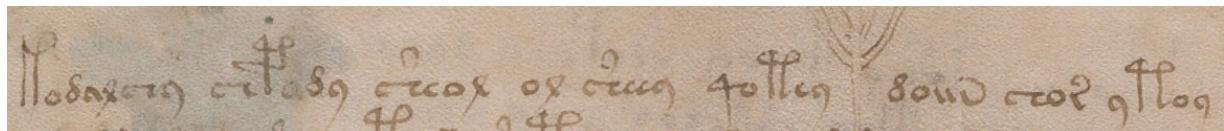
Modern Paraphrase: *Found in our outside wall cavities, I go and collect and then put in storage straightaway.*

- Ivy-leaved bellflower naturally grows in clumps in stone crevices and recesses in damp and shady places.

Original paper: https://www.academia.edu/41260989/Plant_Series_No_5_Manuscript_MS408_Hesperocodon_hederaceus



Text line. 1. Plant page. 6. Portfolio. 4b. Species: *Andromeda polifolia*. Rosemary-heather.



Modaréa rétaðg skóð ox skúð tollen smid skor gflög

lonaréa	épana	æior	or	æèa	do mea	nous	éos	amoia
lona'ré'a	épanáfero	'e'ior	'or	ièa	do' mea	nous	éos	amo'a
lona (marche) ré a	(επαναφέρω)	señior	dor	ièa/ièr	dono mea	(voūz)	éos	amola
G-P	Greek	G-P	G-P	G-P	Latin/G-P	Greek	G-P	G-P
ageing reverse to	reset/restore	elder	angst	yesterday, the past	I gift my	mind	they are	honing

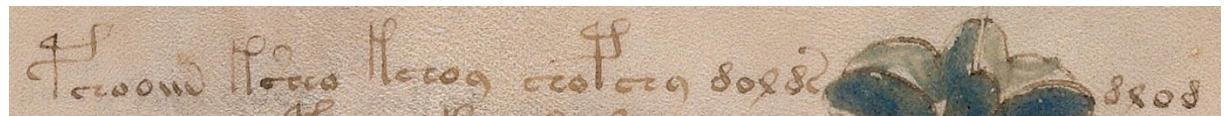
Modern paraphrase: *They reverse ageing, to remove mature worry, as a gift of the past, by smoothing the skin.*

- The Galician-Portuguese word *ièa/ièr* (yester, yesterday, yesteryear, the past) survives in Occitan, whilst in Catalan it has become *ahir*, in Spanish *ayer*, in French *hier*, in Italian *ieri*, and in Neapolitan *ajère*.
- The word *amola* (honing, whetting) may also be *a mola* (the grindstone, the whetstone), with the same meaning.

Original paper: https://www.academia.edu/41594847/Plant_Series_No_6_Manuscript_MS408_Andromeda_polifolia



Text line. 1. Plant page. 7. Portfolio. 5a. Species: *Campanula rapunculus*. Rampion bellflower.



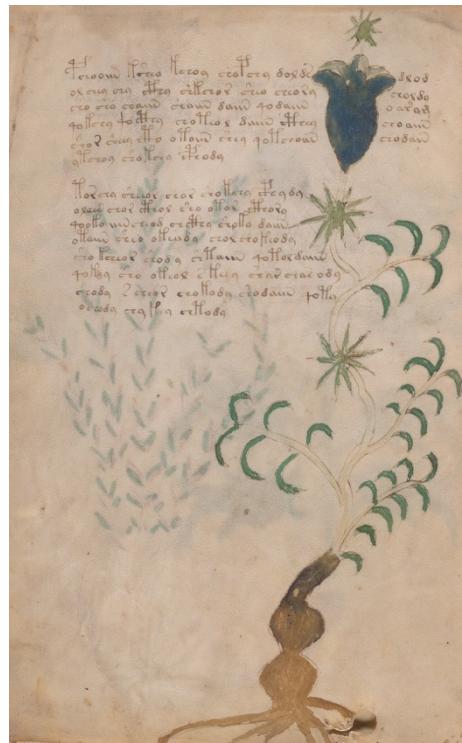
Þeoow Þeoow Þeoow coþeo 8oþ 82 8oþ

péoous	læeo	léoa	éo p é a	nor nt	nron
péo'us	lie'o	léo'a	éo p' é a	nor' n't'	n'ron'
peon-lotus ($\lambda\omega\tau\circ\zeta$)	lieto	léona	éo praesidium é a	normalis nativitas	na ronda
G-P, Greek	Latin/G-P	G-P	G-P, Latin, G-P	G-P, Latin	G-P
pawn-lotus	delights	Léona (Léonora)	it is protection for	normal birth	in the round

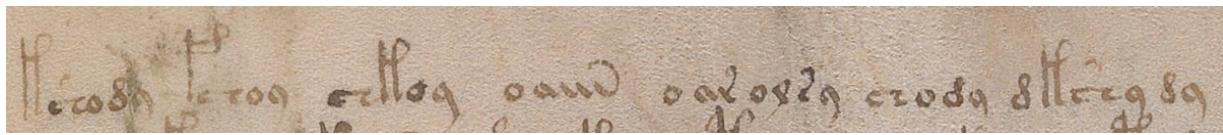
Modern paraphrase: *The pawn-lotus delights Princess Léonora as it provides encircling protection for a normal birth.*

- The Greek word lotus ($\lambda\omega\tau\circ\zeta$) was used to describe edible roots and stems of plants (see. Plant page. 3).
- The root was likened to a chess pawn, or spinning top, due to its shape, similar to a lathed cone of wood.
- Léonora d'Aragon was the elder daughter of Alfonso V of Aragon – she resided in the citadel of Castello Aragonese, Ischia, for her protection from enemies whilst her father was conquering Naples.

Original paper: https://www.academia.edu/42160198/Plant_Series_No_7_Manuscript_MS408_Campanula_rapunculus



Text line. 1. Plant page. 8. Portfolio. 5b. Species: *Paris quadrifolia*. Herb paris.



¶2089 ¶209 o20g oam oar0829 c2089 8¶29 89

læona	quéoa	éloa	o aus	o as	orta	éona	n læa	na
'lão'na	qué'o'a	é'lo'a	'o aus	'o as	orta	é'ona	n' li'a	na
olhão una	qué onda	é loba	lo auspiciosa	lo elas	horta	é bona	numero lita (λίτι)	na
G-P	G-P	G-P	G-P	G-P	G-P	G-P	Latin, Greek	G-P
one staring-eye	whose life force	it's she- wolf	they auspicious	they are	grow	it is good	prayer number	in

Modern paraphrase: *The one staring-eye is the essence of the she-wolf, which is auspicious as its leaves grow in a good number for prayers, like the holy cross.*

- The word *olhão* can mean to give the ‘evil eye’ (i.e. to stare with evil intent), or simply to ‘eye’, ‘glance’, ‘look’.
- The word *onda* means ‘wave’ in its various senses: energy wave, a gesture, a pulse, life force, essence of.
- The word *loba* (she-wolf) is the feminine counterpart to *lobo* (he-wolf).
- The four cruciform leaves were considered to symbolise the holy cross, so prompting four prayers; to the father, the son, the holy ghost and the virgin mother.

Original paper: https://www.academia.edu/42787693/Plant_Series_No_8_Manuscript_MS408_Paris_quadrifolia



Text line. 1. Plant page. 9. Portfolio. 6a. Species: *Erodium malacoides*. Mallow-leaved heronsbill.

l o	éeos	éos	améia	paeon	éor t	éonaus	amoius	naus
l' o'	é'eos	éos	am'é'ia	paeon	é'or t'	é'ona'us	'a'moius	'na'us
lux orientalis	é eos	Éos (Ἐως)	ama é ia	Paeon (Παιών)	εσώρ (esór): tribunicia	é bona us	da motius	gnathus (γνάθος)
Latin	G-P	Greek	G-P	Greek	G-P, Latin	G-P	G-P	Greek
eastern light	it is dawn	Eos Goddess of Dawn	loving it goes to	Paeon God of Sunlight and Medicine	inside protector	it is good for us (you. pl.)	thus reasons	to eat

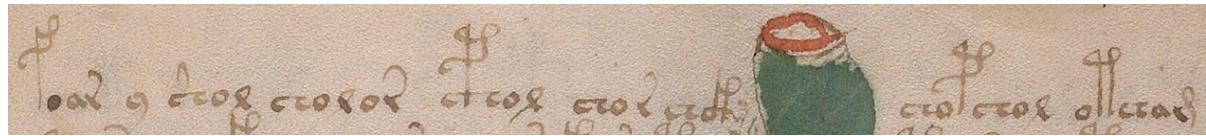
Modern paraphrase: *The eastern light of dawn is the love of Eos (Goddess of Dawn) that goes to Paeon (God of Daytime); so, reasons to eat, it gives us good protection inside.*

- The Latin word *orientalis* (eastern) was synonymous with morning: i.e. where the sun rises.
- The Greek word Éos (Goddess of Dawn) lent itself to *eos* (dawn) in Galician-Portuguese.
- The Greek gods Éos and Paeon are equivalent to the Roman gods Aurora and Apollo.
- The word Paeon lent itself to the word ‘paeony’ which was used to mean a ‘pink flower’ and is now used scientifically for a different pink flowering plant genus: *Paeonia*.

Original paper: https://www.academia.edu/43403558/Plant_Series_No_9_Manuscript_MS408_Erodium_malacoides



Text line. 1. Plant page. 10. Portfolio. 6b. Species: *Crepis vesicaria*. Beaked hawksbeard.



Þoar gætor ætor ðeoroðr eo 2 ræðr eotanox offearð

quoas	a	æor	éoros	epeor	éo s	é ele	éo p	éor	oméasa
quo'as	à	'i'or	é'oros	'e'pe'or	é'o s'	é ele	é'o p'	é'or	'omé'a'sa
quotas	à	icor, licor (ixóp)	é soros	d'espertor	é o sanctum	é ele	é o potens	esór (εσώρ)	foménta sa
				dispenso					
			é d'oros,	de penhor	é o sacram		é o pater		
G-P	G-P	Greek	G-P	G-P	G-P, Latin	G-P	G-P, Latin	Greek	G-P
doses	of	ichor (holy juice)	it is medicine (serums)	of cleverness, wisdom, awakening	it is the sanctuary	it is him (god/Apollo)	it is the potency	inside	promotes health
				dispenser					
			it's golden, of gold	of promise, pledge	it is the sacred		it is the father		

Modern paraphrase: *Doses of the ichor (holy juice) is the wisest medicine, it is sanctuary, it is him (god), it is potent inside, promoting health.*

- The term *ichor* (*ixóp*) describes the extracted plant juice as an ethereal fluid (godly plasma), believed to be a curative holy elixir.
- The word *soros* (serums, wheys) would allude to a rehydrating liquid medicine, often with added sugar and salt.
- The phrase *d'oros* (golden, gilded) would allude to the golden-yellow (sun-like) flowers, representing Apollo: he was god of the healing sun and protector of the young (*kourotrophos*: κουροτρόφος).
- Various alternative syntactically workable translations are shown, with much the same semantic outcomes.

Original paper: https://www.academia.edu/43403603/Plant_Series_No_10_Manuscript_MS408_Crepis_vesicaria



Symbol-Italic key for MS 408.			
Symbol	Italic	Symbol	Italic
α	a (trapped)	ᾳ	a (free)
ѧ	ais	ѧ	aus
Ճ	æ (ae, a, e, i)	Ւ	d
Ը	e (short)	Ծ	e'e (intonation)
Ծ	é (long)	Ը	i
՚	l (ll)	՚	ele (elle)
՚	m (mm)	՚	eme (emme)
՚	n (nn)	օ	o
՚	p (pp)	՚	epe (eppe)
՚	qu	՚	eque
՚	r (rr)	՚	s/z (ss, zz)
՚ ՚	s/z (ss, zz)	՚	sa/za
՚	t (tt)	՚	ta
՚	u	՚ ՚ ՚	v, f, fv, ph, pv