The Silphium plant: analysis of ancient sources

Asciutti, Valentina

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Valentina Asciutti

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Valentina Asciutti

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This paper is born as an extension of previous research for the thesis of my first degree. Since that time my studies have been addressed to the analysis of the ancient sources that mention the silphium plant. This name was used in the past by the Greeks to designate a sapling that grew only in Libya.

By combining this paper and the thesis of my first degree, we obtain a monography whose main subject are silphium and its various applications. The sapling was particularly used in medicine and appreciated in cuisine.

In this paper I intend to analyse the Greek texts where the plant is mentioned, and to single out the properties of it. I also suggest reading some passages of well-known Latin works as implicit allusions to silphium. Finally, I intend to show the massive presence of the shrub in ancient iconography. This section is not original since I have already analysed the iconographical sources with the image of the plant; however, I think it is worth reporting them to have a complete overview of the sapling.

INTRODUCTION

This work is born as an extension of previous research for the thesis of my first degree in Classics. Since that time, my studies have been addressed to the analysis of ancient sources dealing with the silphium plant. This name was used in the past by the Greeks to designate a sapling that grew only in Libya and gave this country wealth and wide renown for many years until its final extinction.

In my thesis for my first degree I have already analysed all the Latin sources that for many reasons and in different spheres, mention explicitly, and more and less in detail, the features and the utilizations of this plant. I will summarise the findings of my previous research in this introduction.

A big source of information is without any doubt Pliny the Elder, who gives us an enormous amount of detail about this shrub in different passages of his *Naturalis Historia.* However, almost all of the writers of technical-scientific literature mention the silphium plant in their works; for instance Cornelius Celsus talks about it with reference to its properties in medicine, Vegetius talks about its use in veterinary, Apicius reports hundreds of recipes including different parts of this plant, and finally, both Cato and Columella allude to it in their works about agriculture. Thus, the silphium plant is frequently mentioned in Latin literature and many authors talk about it as a powerful and miraculous panacea, a useful remedy against every disease and medical problems, besides being a tasteful seasoning to put in every kind of recipe.

However, in some Latin works it is possible to find the name of this plant even without any reference to its properties. For instance, one of the most interesting quotations of it is in chapter 35 of the *Satyricon* written by Petronius[1]. In this passage, in the middle of

[1] Petronius, 35 *Circumferebat Aegyptius puer clibano argenteo panem...atque ipse etiam taeterrima voce de laserpiciario mimo canticum extorsit* (*...An Egyptian slave handed around bread on a silver chafing*

the description of the dinner of Trimalchio, when the concentration of humour and derision is very high, the author shows an Aegyptian valet handing around bread on a silver chafing dish, and intoning a song, in a awful voice though, from the mime about the seller of laser.

Unfortunately, we do not have any other information about this mime, apart from the quotation in the *Satyricon* I have just mentioned. I am not dwelling on this matter for obvious reasons of space but for more details I can refer to a paper I wrote this year in occasion of a conference[2].

Looking at the other 'pure' quotations of silphium we can find in Latin literature, I would mention Catullus 7 in which Cyrene is called "*lasarpicifera*", which means full and fertile of *laser*. This latter word is actually one of the names used by the Romans to indicate the silphium plant and the whole epithet itself reminds the adjective used by Strabo to describe this country, σιλφιοφόρος[3]. Thus the *laser*, or σιλφιός, was basically cosidered the symbol of Cyrene, land exceedingly beloved by Catullus since it was the hometown of his model and master of poetry, Callimacus.

The name of this plant appears also, for example, in a passage of the *Saturnalia* written by Macrobius[4] where it is mentioned in a list of very precious and rare things and it is used as a metaphor to describe Maecenas, even if in a ironic way. Indeed, all of the fascinating things that Augustus mentions as epithets to refer to his friend Maecenas have to be considered in their sarcasm, since all of them are not a prerogative of the region specified. For instance, it was pretty sure at that time that silphium did not grow

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dish... And with an awful voice, he screeched out a song from the pantomime about the seller of Laser... ').

[2] Asciutti V. (forthcoming) 'Who wrote "De laserpiciario mimo"' *British Archeological Reports*, Oxford, Archeopress.

[3] Strabo, *De Geographia* 2,5, 37.

[4] Macrobius, *Saturnalia* 2,4,12 *Idem Augustus quia Maecenatem suum noverat stilo esse remisso, molli et dissoluto, talem se in epistulis quas ad eum scribebas saepius exhibebat, et contra castigationem loquendi, quam alias ille scrivendo servabant, in epistola ad Maecenatem, ebur ex Etruria,* ***lasar*** *Aretinum, adamas Supernas, Tiberinum margaritum, Cilniorum smaradge, iapsi Iguvinorum, berullae Porsene, carbunculum Hadriae, ἵνα συντέμω πάντα μάλαγμα.*

in Italy, in the city of Arezzo in Tuscany, but it was a privilege of Libya. So it is easy to recognise that ivory, silphium, diamond, pearl, emerald are all just simple elements which refer to the looseness of morals of Maecenas.

Of course, there are many other quotations of this sapling in Latin literature that I have singled out and analysed in the thesis and they still turn out useful to this work as well.

In particular, with this paper I intend to take into account the Greek sources that explicitly mention the silphium plant. Even in this case, most of them are technical and scientific comments that underline the role played by this sapling in the general economy of the country. It is interesting to note how this shrub and all of its parts were more and more appreciated with time, as it became one of the most precious and in demand goods in the trade of the ancient world. The singling out of the Greek sources, which talk about the silphium plant, has been made easier by using the *Thesaurus Linguae Graecae,* even if I have to say that in this work I am not reporting all of them, selecting instead the ones that seem to be more significant. I also propose to analyse some Latin sources in which it seems to me likely to find general allusions to the silhpium plant even if it is not mentioned with its proper name.

Thus, the major scope of this paper is concluding the data collection of the ancient sources in which this sapling appears, both explicitly, and perhaps implicitly, underlining the confirmations, and especially the differences, in case there are some of them. I am also briefly reporting the iconographical sources, such as coins, statuettes, capitals where the image of the silphium plant is variously impressed. I have to say that this section is not original since I have already analysed this topic in my thesis for my first degree; however, I decided to include in this work some information about the iconography of the silphium plant, since I find it useful to provide background details. The final result will be a complete and deep study of the sapling as it has been known and appreciated from its first miraculous apparition in Libya to the surprising extinction.

GENERAL DESCRIPTION OF THE SILPHIUM PLANT

I would like to begin this work with the analysis of the general description of the plant itself. It seems to me reasonable to start by talking about the several names that were referred to this shrub and all of its parts through time[1]. Besides that, I will take into account the most important sources in which the plant is delineated in its appearance; I am referring especially to Theophrastus and Dioscorides who gave us the longest and most detailed description of the silphium plant. It will be also interesting to compare the information found in these two authors and that given by Pliny in his *Naturalis Historia*. The plant was certainly known even before the arrival of the Greeks in Cyrenaica, and without any doubt, the local people gave it a name even if they did not care so much about this plant and that is why we actually do not have any information about silphium before the seventh century BC. The Greeks, however, from the time of their arrival in Libya, around 630 BC, noticed and appreciated this sapling, and they called it with the terms σίλφιον or σίλφιος and all of the most important Greek lexicographers report both of these names. The Suda talks about it as a very precious plant, given to Battus I at the time of the foundation of the Greek colony in Libya. Even in Hesichius the plant is mentioned as a property of the king Battus I when it is called Βάττου σίλφιον[2]. In any case, the connection between these two subjects was quite strong if they were also represented together in a capital of the house of Jason Magnus in the ἀγορά of Cyrene[3]. Thus, Battus I and the silphium plant were considered the two most representative symbols of this land, on the one hand the founder and on the other hand the plant which gave fortune and renown to the whole country.

[1] See also Galen, *Linguarum seu dictionum exoletarum Hippocratis explicatio*, Künh vol. 19.
[2] See also Aristophanes, *Plutus* 925 (τὸ Βάττου σίλφιον).
[3] See Appendix II: The silphium plant in the ancient iconography.

In Hesichius, then, we can also find the term σέλπον which seems to be a dialectal variant used for the same plant.

Moreover, it seems quite interesting to analyse the history of the Latin names used to designate this plant. The first attestation of it is in Plautus[4] who talks about *sirpe et laserpicium* to indicate the plant itself and its juice (*lac serpicium*). Looking at these two terms, it is easy to note the likeness between the Greek words σίλφιον and σέλπον, and the Latin *sirpe*, so that it seems reasonable to hypothesize for these terms a common origin, surely not Indo-European but perhaps African, and even better Libyan[5]. Indeed, although the Mediterranean area cannot be classified precisely in linguistic terms, however, it is possible to single out five big zones around this sea with common exchanges of words and linguistic features, and one of them is Libya itself[6]. That is what the linguists call 'the Mediterranean *substratum*' referring to a vast group of linguistic fossils belonging to this area, and especially terms concerning geography, zoology and botany, since the names of plants and animals are, by their very nature, linked to their area of origin, as well as toponomy and anthroponomy. Thus, a base-word, probably of Mediterranean origin, and more precisely Libyan, would seem to have led to the Greek σίλφιον and the word *sirpe*, which actually seems to be at an intermediate stage, probably Etruscan, from which the Latin *laserpicium* derived. Moreover, many Latin words which are suspected to be of Mediterranean origin passed through an Etruscan phase. Then, Latin imposed itself upon the pre-existent language while preserving some characteristics of that.

In Latin-speaking areas, the plant, therefore, was initially called *sirpe* from which, as I have said above, the term *laserpicium* derives. It is a combination of two words *lac serpicium- sirpicium* or *lac serpitium-sirpitium,* all variations of the same meaning;

[4] Plautus, *Rud*ens 630.
[5] Chantraine 1984.
[6] Devoto 1983: 37-54.

later, with usage, the suffix *–picium* was isolated so that a new term *laser* or, more infrequently, the much later *lasar*, was used. From this term, other terms derived, such as the adjectival forms *laseratus-a-um* and *laserpitiatus-a-um*, used to express the addition of some substance with silphium, a 'silphiumised' mixture, I might say, and also the two terms which are alone in the whole Latin literature, *laserpicifer-a-um* used by Catullus in poem 7 to describe Cyrene, which clearly recalls Strabo's σιλφιοφορός-α-ον[7], and the other hapax *laserpiciarius-i,* used by Petronius[8] to designate the silphium seller.

Besides these terms, the Latins also used words that appear as direct loans from the Greek σίλφιον, such as the substantives *silphium* and *silphion.*

Finally, for what concerns the names given to each part of the plant, there seems to be a certain amount of confusion in the use of the various terms. The same word σίλφιον, besides the whole plant, could simply mean the root, as the Suda gives, or even the stalk; but to indicate either the root, the stalk, or also the gum resin, there was another term, μαγύδαρις in Greek, and in Latin *magudaris* or *magydaris;* this terms could also refer to another plant, actually different from silphium, but similar in its appearance.

The leaves of silphium were called μάσπετα and in Latin *maspeta*, while the singular name *maspetum* could indicate the stalk as well. To make things even more complicated, the word φύλλον, which actually means leaf, designated the seed of the plant, because of its unusual shape, which was exactly like a flat leaf.

Therefore, many signifiers for a single meaning and, vice versa, many meanings for a single signifier so that the singularity of the silphium plant was expressed even on a linguistic level.

[7] Strabo, *De Geographia* 2,5,37.
[8] Petronius, *Satyricon* 35.

1.a) The silphium plant in Theophrastus

Looking at the Greek sources in which the silphium plant could be mentioned, it was quite obvious that some good information might be found in Theophrastus and his works. Indeed, he is considered the most important and influential botanist of antiquity so that he was called 'father of botany'[1].

He was born around 372 BC at Eresus, in Lesbos and studied in Athens under Aristotle, becoming also one of his best friends. He inherited both his teacher's library and unpublished works and continued to work on them. He spent, just like his teacher, the decisive years of his life in Athens, where he gathered a lot of pupils and was in charge of the first existing botanical garden, of whose size, different plant species and time of existence nothing has come down to us.

Theophrastus was the author of two surviving works dealing with botany: *Historia plantarum* and *De causis plantarum*. Both works became known to the west, during the middle of the fifteenth century, and they had a large influence, if only to show how varied the knowledge of the plants was in antiquity and what criteria were used to order the findings. His works continue what Aristotle had done with animals; the philosopher studied and analysed the birth, growth, life and every single part of animals, while Theophrastus studies plants and the analogies between vegetable and animal growth. He begins his *Historia plantarum* with the sentence: 'We must consider the distinctive characters and the general nature of plants from the point of view of their morphology, their behaviour under external conditions, their mode of generation, and the whole course of their life'. This declaration could be considered like the beginning of the scientific understanding of plants.

[1] Information about Theophrastus' life and his works are mostly taken from Harrison 1920.

In his works, Theophrastus seems particularly interested in all Mediterranean flora, not only the Greek, and that is another reason why we can find many allusions to the silphium plant in both of his works.

I will take into account some of the passages of the two treatises in which the plant is quoted, starting with the *Historia plantarum*, where Theophrastus gives us one of the longest and most detailed descriptions of the sapling. I will report only an English translation[2] of them, giving the Greek only for significant technical terms.

The *Historia plantarum* consists of nine books that are a real sort of botanical encyclopaedia in which the author inaugurates the botanic taxonomy and describes the structure, the shape and the uses of each part of every plant[3].

He mentions silphium several times in this work but the most important quotation is in book 6,3,1-7 where he is talking about herbaceous perennial wild plants:

> 1-Most important and peculiar in their characters are *silphium* and papyrus of Egypt. Both of them are ferula-like plants...
>
> ...*Silphium* has a great thick root; its stalk is like ferula in thickness; the leaf, which is called *maspeton*, is like celery; it has flat seeds like leaves and they are called *φύλλα*. The stalk lasts only one year, like that of ferula. So at the same time, in Spring, it sends up this *maspeton*, which purges sheep and greatly fattens them, and makes their flesh delicious; after that it sends up a stalk that, as they said, is eaten in all ways, either boiled or roast, and this too seems to purge their bodies in forty days.
>
> 2-*Silphium* has two kinds of juice, one from the stalk and one from the root; wherefore the first one is called *καυλίαν* and the other

[2] Most of the translations are made by myself, and based on LOEB edition.
[3] Hort, A. 1961: introduction.

one *ῥιζίαν*. The root has a black bark and this is stripped off. There are some regulations, as in mines, for cutting the root, in according with which, it is possible to notice the proper amount of the sapling, which needed to be cut, having regard to previous cuttings. Indeed, it is not allowed either to cut it wrong or more than the fair amount; indeed, the juice goes off and decays if it is kept and not used. By conveying it to Piraeus, they dealt with it thus; indeed, they put it in pots and mixed flour with it, they shook it for a considerable time and from this process it got its colour and it kept itself without decaying. So these are the facts in regard to the cutting and treatment.

3-The plant grows over a wide tract of Libya for a distance, as they say, of more than 4.000 stadia; but it is most abundant near the Syrtes, starting from the Hesperides islands. It is a peculiarity of it to avoid cultivated grounds and to retire itself from lands under cultivation and reclamation, so it is clear that it does not need any care, but it is a wild plant. The people of Cyrene say that *silphium* appeared seven years before they themselves founded that city. They had lived there for about 300 years till the archonship of Simonides in Athens.

4-That is what some say. Others, however, say that the root of *silphium* grows to the length of a cubit or a little longer. And they say that this plant has in the middle a head which is the highest part; it is quite near to the ground and is called 'γαλα'; from this, then, the stalk grows in the middle, and from this one, the *magydaris* which is also called *φύλλον*; but actually, this is the

name used for the seed as well; and when a strong southern wind blows at the time of the Dog-star, *silphium* grows from it. In the same year, the root and the stalk grow as well; this is not a singular feature of this plant since others have it, unless they mean that it grows immediately after the dispersal of the seeds.

5-Indeed, this could be its singular property even if it is in contrast with what was said above, that it is considered necessary to dig ground every year; and if it is left alone, it bears the stalk and the seeds but they are inferior and the same is for the root; and, if the ground is dug around, the plant improved because of the change of the soil. But this is in contrast with its peculiarity to avoid cultivated lands. They also say that the roots are eaten fresh and cut into vinegar, and that its leaves are of a golden colour.

6-It is also inconsistent to say that sheep are not purged by eating the leaves; they say that in Spring and in Winter they are driven into the hill-country and fed on this and on another similar plant as well, the southernwood; both these plants appear to be heating and not to cause purging, however they have a drying effect and promote digestion; if a sheep, which is in a bad condition, comes to this district, it is either quickly cured or it dies, but usually it recovers. Which of these accounts is true is something to enquire.

7-The plant called *magydaris* then, is different from *silphium*, being of later growth and less pungent and it does not produce any juice either; experts can recognise it by its appearance. It grows in Syria and not in Cyrene; they say that it is also abundant on Mount Parnassus; others, however, call it *silphium* too. Whether it avoids

> cultivated lands, like *silphium*, is something to enquire, as also whether it is similar in leaf and stalk, and in general whether it produces a juice. Now, in these examples, we may consider if it has a similar nature to the ferula and in general to thorny plants.

The description given by Theophrastus of the silphium plant is quite clear and detailed. By looking at that, we construe that it was an herbaceous, umbelliferous plant, not growing to a great height. He talks about all of its parts: the big and thick root, the ferula-like trunk, the celery-like leaves, the flat seeds and finally its two juices.
He refers to these two juices in other passages of the same works, and precisely, in book 9,1,3 when, talking about the juices of the plants and the medicinal properties of herbs, he says:

> In some plants they draw out the juice both from the stem and from the root, as for *silphium*.

And again, in the same book but in chapter 1,7 he repeats the same note, adding some information:

> ...And in those plants the stem and the root are both cut and the stem is cut first, as it happens for *silphium*; and the juices obtained are called respectively *καυλίαν* and *ῥιζίαν*. And the juice obtained from the stem is pure, transparent and less liquid. The one from the root is, instead, more liquid; and for this reason, they sprinkle meal over it to make it denser. The Libyan people know

> the fair season to cut it; indeed, they themselves were in charge of the harvesting of *silphium*.

Theophrastus talks again about the juice, although without specifying whether he is referring to the one from the root or the other from the stem; in another passage of the same book he says:

> τὸ δὲ τοῦ σιλφίου δριμύ, καθάπερ αὐτὸ τὸ σίλφιον· ὁ γὰρ ὀπὸς καλούμενος τοῦ σιλφίου δάκρυόν ἐστιν.
>
> The juice of *silphium* is pungent like the plant itself, and for this reason it is called `tear´ (9,1,4).

In the main description of the shrub, then, Theophrastus also claimed that the silphium plant was supposed to have appeared, for the first time, seven years before the foundation of Cyrene that should be dated around 630 BC, and that is what he says in book 3,1,6:

> In some places they say that after a rain a more singular abundance of vegetation has sprung up as, for instance, it happened in Cyrene after a heavy pitchy rain... They say also that *silphium* appeared only because of that, where there was none before.

Therefore, this is the information we can easily learn from the description of the plant made by Theophrastus in his *Historia plantarum*; however, I have to say that not everything he says is completely clear. Indeed, he seems to take into account two different sources of opinions about the sapling and they are sometimes in contrast with each other. For example, it is quite sure that silphium was a wild plant and Theophrastus himself says that more than once in some passages of his works[4]; moreover, we know that the ancients tried to transplant it into India and the Peloponnese but without any success[5] because of the climatic differences. However, in *Historia Plantarum* 6,3,5 he says that it is necessary to dig the ground around the root of the plant every year to make the stalk and the seeds grow better. This only seems a contradiction though, since it is clear that, even if the silphium plant was able to grow naturally, without any kind of help, at the same time it seems reasonable to think that it could grow in a better condition if the ground around was a bit turned over. Nevertheless, it is not easy to resolve another discrepancy we can find in the text when the author first says that the silphium plant can purge sheep[6] and after a few lines he refers that this sapling does not cause purging at all but it has a drying effect and promote digestion as well. Theophrastus himself notes that these two statements are completely in opposition to each other, however, he cannot decide which of these two accounts is true.

To conclude the analysis of Theophrastus, I would like to consider the other work he wrote about botany in which it is possible to find some quotations about the shrub.

De causis plantarum is a very carefully planned work, consisting of six books. Its style and language, as for the *Historia plantarum*, are extremely scientific, without any literary charm; the sentences are quite compressed and highly elliptical, sometimes even

[4] Thophrastus, *Historia Plantarum* 3,2,1; 6,5,2; *De causis plantarum.* 1,16,9.
[5] Hippovrates, *De morbo* 4,34
[6] *Historia Plantarum* 6,3,1.

obscure[7]. I have to say that all of the information we find in this work about silphium are approximately the same gathered in the other work even if, sometimes, the author adds something new.

The first mention of the sapling is in book 1 where Theophrastus makes an overall view of the different ways of coming into being, talking about the propagation and growth of plants. And in chapter 5,1 he refers the story of the silphium plant:

> They say that *silphium* came up in Libya after a thick and pitch-like rain and that the present forest came from another cause; indeed, it did not exist before.

The other passages of this work, in which the silphium plant is mentioned, insists on the bitterness of its taste. In book 3,1,4 Theophrastus says:

> Ὧν καὶ ἡ κάππαρις ἔοικεν εἶναι καὶ τὸ σίλφιον καὶ τὸ λάπαθον καὶ ἡ θύμβρα καὶ τὸ θύμον·

> ...These results are analogous in those plants with a certain bitterness in their taste and among these, there are caper, *silphium*, dock, savory and thyme.

And again, in book 3,1,5:

> Ο δ' αὐτὸς λόγος καὶ περὶ σιλφίου καὶ θέρμου καὶ εἴ τι τοιοῦτον ἕτερον.

[7] Einarson, B., and Link, G.K.K 1976: introduction.

This story is valid for *silphium*, lupine and other similar plants. [The first one, indeed, has not the same bitterness (if it is cultivated) because the fruit is too abundant and watery].

And finally, in book 6,12,8 Theophrastus faces the same topic. Actually, the book 6, in general, talks about the odour and taste of plants. Referring to silphium, he says:

Ὃ καὶ ἐπὶ τοῦ σιλφίου καὶ ἄλλων δριμέων ἐστίν· ἡδὺ γὰρ τὸ φύλλον αὐτοῦ καὶ ὁ καρπὸς ἁπαλὸς ὢν διὰ τὴν ὑπάρχουσαν ὑγρότητα· σύμμετρος γὰρ ἡ δριμύτης γίνεται κραθεῖσα τῷ ὑδατώδει καὶ ποιεῖ τινα χυμὸν, ἀποξηραινομένου δὲ σφοδροτέρα, καὶ ἡ τοῦ σπέρματος δ' ἔτι μᾶλλον.

And this is also true for *silphium* and other pungent plants. Indeed, its leaf is sweet and it is the same for its fruit that is quite tender because of its fluidity; in fact, the pungency, moderated by the wateriness, becomes of a fair measure, and this results in a succulent juice.

There is another passage in the same book where the silphium is mentioned in reference to the incisions, and it also alludes to the juice that come out from them. In chapter 11,14-15 Theophrastus says:

...And by making incisions to other plants to permit that the sun and the air harden them (and it happens, for examples, with

> resins and other similar ones, frankincense, myrth and the juice of the *silphium* plant...).
>
> ...And the incision is made in both the upper part and the roots of these plants, like in certain medicinal plants and *silphium* as well (indeed, both the root and the stalk are cut, and the juice comes from both of them)....

In conclusion, we can say that with Theophrastus, between the end of the fourth century BC and the beginning of the third, we have one of the most detailed and richest descriptions of the plant. It particularly insists on the general appearance of the shrub, taking into account all of its parts, and especially the two kinds of juice. However, Theophrastus does not give us much information about the properties of this sapling; he is, instead, more interested in the general aspect of the shrub. Anyway, his description is extremely helpful to delineate the overall shape of the plant, and it is very similar to the representations of silphium that was frequently impressed on the coins of Cyrene[8].

[8] See Appendix The silphium plant in the ancient iconography.

1.b) The silphium plant in Dioscorides

Dioscorides Pedanius[1] was a Greek physician, pharmacologist and botanist born in southeast Asia Minor in Cilicia, in the small town of Anazarbus, near Tarsus, shortly before that area became a Roman province, probably between AD 40 and 90. Few other things about his life are known: he studied medicine at Tarsus, which was at that time an intellectual centre, in particular for pharmacy and pharmacology; he was a student of Areios, a medical writer on pharmacy whose works are lost but mentioned in later testimonials; later on he became citizen of Rome and served in Nero's armies as doctor, having the chance to travel extensively through Italy, Gaul, Spain, and especially North Africa. His military experience provided opportunities for studying diseases, collecting and identifying medicinal plants, and discovering other healing materials. Some time around AD 50- 70, Dioscorides wrote his fundamental work, Περὶ ὕλης ἰατρικῆς, known in Latin as De materia medica. This five book study focused upon the preparation, properties and testing of drugs and became the most central pharmacological work in Europe and the Middle East for the next sixteen centuries[2]. The work is an assemblage of data about the medical properties of slightly more than 1,000 natural products from the plant, animal and mineral kingdoms and, while he may not have been the first to discover most of the usages of them, 'he industriously collected them from various lands, codified data and organised it in a clear, concise and rational fashion'[3].

The whole work is dedicated to his colleague Areios; indeed, the preface to the five books is a letter to him in which Dioscorides explains why he had tackled that task; he also claims that his predecessors' contributions suffered from a number of faults such as

[1] Information about Dioscorides' life and his works are mostly taken from Wood and Osbaldeston 2000: introduction.
[2] Ridde 1985: introduction.
[3] Riddle 1985: introduction.

incomprehension, mistakes of information, confusion of drug identities, too little attention to drug properties, insufficient emphasis on experimental testing of drugs and a general poor organization of the work. His study differed from that of his predecessors in a direct and personal observation of drugs and in a new and different arrangement of classes according to the properties of the individual drugs. He obtained most of his information through direct observation, by talking with local people about the remedies of each plant, by observing the effects of drugs on patients' bodies, and by identifying drug affinities. Above all, he had the ability to observe nature and then to base his working postulates on empirical data.

Unlike Theophrastus, who classified plants as trees, shrubs and herbs, Dioscorides grouped his plants under three headings: as aromatic, culinary and medicinal. The first book deals with aromatic plants, oils, ointments and trees; the second one, with living creatures, milk and dairy produce, cereals and sharp herbs; the third and fourth, with roots, juices and herbs; and finally, the fifth book deals with wines and metallic ores. However, Dioscorides' work cannot be compared to that of Theophrastus; it pays almost no regard to general botany, though the philosopher describes about 500 different plant species and thereby he leaves the widest list of plants of antiquity. It is possible to notice the different planning of the two works by looking in the descriptions of the silphium plant made by both of them in their studies. Indeed, it is not surprising that Dioscorides, like Theophrastus, mentions this sapling more than once, since his work is in essence a compendium of drugs, whose intention is to summarize the features and geographical distribution of all the plants known at that time and we know that silphium played an important role between them, and especially for its properties in medicine. The main report of the shrub is in book 3,94[4]:

[4] The translation is based on Gunther 1934: 328-9

The *silphium* plant grows in Syria, Armenia, Media and Libya; its stalk is called *maspetum*, like that of ferula but its leaves are similar to those of apium; it has got a broad seed and its root is warming, hard of digestion, inflammatory and hurtful to the bladder. Mixed with oil, it cures bruises and it medicates scrofulous tumor and tuberculous, if it is taken in a cerate; but with a cerate of *irinum* and *cyprinum* it is of fit use for the sciatica. It takes away the excrescencies around the anus being sodden in a pomegranate coat and vinegar. Being drunk, it opposes the action of poisons; it is good for the mouth, if it was mixed with sauces and gravies; the liquor is gathered, the root and the stalk being cut; but of this, that is the best, which is somewhat red and transparent, emulating myrrh and prevalent in the smell, not scented like a leek, neither unpleasant to the taste, and easily changing into a white colour. But the Cyrenaic, although one shall taste it ever so little, expels the moisture from all the body and it is very gentle to the smell so that to him that tastes it, the mouth does not breath but a little of it. But the Median and Syriac are weaker in strength and they have a more poisonous smell. But all the juice is adulterated before it is dry, *sagapen* or bean meal being mixed with it, which you shall discern by the taste and the smell, and by the sight and by the lotion as well. But some people have called the stalk *silphium* and the root *magydarim* and the leaves *maspeta*. The juice is the most effectual, then the leaves and finally the stalk. It causes windiness and is pungent; it cures alopecia by anointing it with wine, pepper and vinegar. It is a causer of quickness of sight and a

disperser of suffusion, being smeared on with honey. It is a good remedy against pain in the teeth: it is put into their concavities either being put into a linen cloth with frankincense and wrapt around the teeth, or washing the mouth with boiled hyssop and figs with vinegar. It is good also for the dog-bitten, being laid on the wounds and for the hurts of all poisonous beasts and of poisoned arrows, being applied on or drunk; for the scorpion-smitten, being diluted in oil, it is applied on and it is poured into gangrened parts, scarifying them first, though; and it is good for carbuncles if mixed with rue, nitre and honey or simply by itself; it takes away corns and fleshy hardness, they being cut all around, kneaded together with cerate or dry figs; it cures the late-come lichens if mixed with vinegar; and it cures the late-come lichens[5]; but *carcomata* and the polyps, being anointed for some days together with cobblers ink or aerugo, but pulled off protuberances with a pair of pincers. It also helps long continued exasperations of the bronchi and, being diluted in water, it clears the voice which has grown suddenly hoarse; it recovers the uvulas, being smeared with honey. With melicrat[6] it is a profitable gargle for angina. It makes men better coloured, being eaten and it is good for a cough and for pleurisy with egg when drunk; it is given with dry figs as a good remedy for jaundice and the dropsy. And it dissolves rigors being drunk with pepper, frankincense and wine. It is given in a quantity of a obolus

[5] It is a skin disease, characterised by an eruption of reddish solid papules over a more or less limited area (OED).
[6] Drink made with honey and water (OED).

> to swallow for the contraction of tendons and the opisthotonos[7]. And being gargled with vinegar, it casts off leeches that stick to the throat; it is given to drink when milk curdles in the stomach and it helps the epileptic, being taken with oxymel; but being drunk with pepper and myrrh, it moves the menstruation; it helps the colic, being taken in the grape. But being drunk with lixivium, it helps the sudden convulsion and ruptures. It is dissolved for potions with bitter almonds, rue or warm bread; even the juice of the leaves performs the same even if it is extremely less efficient. It is eaten with oxymel to purge the trachea, especially for those who have lost their voice. It has eaten with lettuce instead of eruca. It is said also in reference to another plant called *magydaris* and growing in Libya as well; its root is similar to the one of the *silphium* but less thick, sharp and not having any juice. However, it has some properties like the *silphium* plant.

By looking at this description of the plant, it is clear that the main interest of Dioscorides was not botanical. Certainly, in his work he made a big effort to describe not only the qualities and remedial effects of the plants, but also something of their botany and living morphology including roots, foliage, and sometimes flowers; `although not as naive as many other herbal writers, he showed little interest in botany, concentrating rather on the practical uses of plants, and especially their pharmaceutical usage, and sometimes, as in this case, giving only brief descriptions'[8].

In this passage, he introduces the plant, and he gives some information about its place of growing; he says that it used to spread not only in Libya, as Theophrastus says, but also

[7] Spasm of the muscle of the neck, back and legs, in which the body is bent backwards (OED).
[8] Wood and Osbaldeston 2000: introduction.

in Syria, Armenia and Media; in this case, it is possible that Dioscorides is actually referring to another kind of plant, similar to silphium, at least in the appearance, and it was known with the name of *persicum laser*, which used to grow in those countries. He does not provide many details about the shape of the plant, instead he spends only a few words for the stalk, similar to that of ferula, the leaves like those of apium, the broad seed and finally the root that was warming and hard of digestion. Theophrastus had already said something about the warming and purging effect of the plant, and especially of its leaves and stalk as well, even if, as I have already said, there is a bit of confusion about this information. Dioscorides does not mention at all the juice which actually seems to be, according to the Theophrastus' description, and not only that, the most useful and used part of the whole plant. Dioscorides does not talk about the story of the plant either, and he does not say anything about the way of cutting it.

To conclude, it seems reasonable to say that in general, his description is more focused on the medical properties of the plant itself but it is mostly like a simple listing of them where he does not provide any kind of explanation for those remedies. In any case, the data collected by Dioscorides have been useful in this work to underline again the importance and renown of the plant even at his time.

1.c) Comparison with the description of the plant made by Pliny

No scientific subject, perhaps, produced a larger, a more curious, or a more splendidly illustrated literature than the world of plants. Greek medical men and scientists, Roman encyclopaedists, and medieval doctors compiled and recompiled herbals, generally taking special interest in those plants that were thought to be of medicinal value.

The Romans, in particular, were a practical people, extremely interested in the development of agriculture and horticulture. The best-known Roman author dealing with plants is without any doubt Dioscorides, who was supposed to be the superior authority in pharmacology for more than sixteen centuries[1]. Pliny the Elder is another relevant Roman author who wrote a monumental work on natural history. He[2] was born in Como in AD 23-24 and died in the eruption of Mount Vesuvius in AD 79. Thus, he was a contemporary of Dioscorides but there is no evidence that they met each other and Pliny may not have read his work. Pliny was a busy Roman official and also a prolific writer, though only the thirty-seven books of his *Naturalis Historia* survived. In this study, written around AD 77, Pliny transcribed the knowledge of his time in accurate and precise detail, uncritically adding myths, legends, superstitions, personal observations, and opinions in a discursive, entertaining, encyclopaedic work. It is a vast treatise devoted to cosmology, geography, anthropology, zoology, botany, agriculture, medicine and mineralogy, a work of erudition that lacks critical scrutiny. Therefore, Pliny is certainly less systematic and more credulous than Dioscorides and his remedies while no more effective are generally more unpleasant. In truth, Theophrastus was the scientific botanist, Dioscorides a medical botanist and Pliny produced a systematic encyclopaedia of knowledge[3].

[1] Riddle 1985: introduction.
[2] General information about Pliny's life and his works are mostly taken from Monaco 1994.
[3] Wood and Osbaldeston 2000: introduction.

Pliny devoted several sections of his work to plants, mentioning in total about 1000 different plants, and especially in books 12-27 dealing with botany. Some of his passages are, poorly, borrowed from Theophrastus' works and we can easily detect it when we analyse, for example, the sections in which Pliny describes the silphium plant. Pliny mentions the shrub several times and for different purposes but the main report of it and its general appearance is in book 19,38- 46[4] where he says:

> "...After these (mushrooms) I would like to talk about *laserpicium*, extremely famous for its prestige; it is called *σιλφίον* by the Greeks and it was found in the Roman province of Cyrene; its juice is called *laser* and it is important either for the daily use or like a medicine, and the whole plant is sold at the price of silver.
>
> Nowadays, it is not easy to find in that land because the tax-collectors, who are in charge of the pasture land, thinking of a bigger profit, devastated it to use it as forage for their livestock. Just one stalk has been found and it has been given to the Emperor Nero. It is possible to recognise if livestock has run into a new stalk by this sign: the sheep, once has nibbled it, immediately falls asleep while the goat sneezes over and over again.
>
> Nowadays, the only type of *laser* you can find is the kind coming from Persia, Media or Armenia; however, it is inferior compared to the Cyrenaic and also it is mixed with gum, *sacopenium* and minced broad beans; it seems to me opportune to say that, when G. Valerius and M. Erennius where consuls, 30 *librae* of *silphium* were brought to Rome from Cyrene, and the government paid for

[4] The translation is made by myself.

that; moreover, when Caesar was dictator, at the beginning of the civil war, he took out of the public treasury 1500 *librae* of *laserpicium*, besides gold and silver.

By looking at the most authoritative Greek authors we see that this plant came out suddenly after a black, pitchy rain in the area around the Hesperides' gardens and the Syrtes, and precisely seven years before the foundation of Cyrene; that was around the 143rd year of our city, and this weather was felt in Africa for about 4000 stadia. *(... vim autem illam per IV stadium Africae valuisse...).*

Laserpicium used to grow in that area like a wild and rebellious plant, and if cultivated, it retired itself into the desert; it has many thick roots and a ferula-like stalk. The leaves were called *maspeta* and they are very similar to that of the apium. Its seed looks like a leaf and the foliage falls down in Spring.

Livestock used to be fed on *silphium* and it was purged by it; it fattens and its flesh gets a particular taste. Once the leaves have fallen down, the men eat its stalk in different ways, either boiled or roasted and it purges them for forty days. The juice was gathered in two different ways, either from the root or from the stalk and they have two different names, *rhizias* and *caulias*, this latest one being less valuable and liable to go bad.

The root has a black bark. The juice was put in pots and mixed with bran to defraud the purchaser; the mixture was shaken to avoid it going bad. The colour and the dryness were two proofs of the quality of the juice.

> Others say that the root of *laserpicium* was bigger than a cubit and that there was a tuber on the top of it. It was cut and a milk-like juice came out of it; its stalk was called *magudarys*. The gold-coloured leaves were used as seeds, and they fell at the time of the Dog-star when the zephyr blew. It lasted one year. This plant was pulled out by digging the ground around its root, and it did not purge the livestock but it could either recover it, if ill, or kill it immediately; but this happened rarely. The first information seems to be referred to *persicum laser*.
>
> There is also another plant, and it is called *magydaris*; it is tender and less strong, without any juice and it grows in Syria and not in Cyrenaica. It is also quite abundant around Mount Parnassus and someone calls even this plant *laserpicium*. The red colour of the plant is considered a proof of the real *silphium*, which is not very bright but white inside if it is broken. This shrub is used as a very potent medical remedy.

By comparing the two descriptions made by Theophrastus and Pliny the Elder, we notice that most of the report written by Pliny comes actually from that made by the first author and indeed, in these passages we can find again all of the details and even confusion about some aspects of the silphium plant. In fact, Pliny seems to take into account and translate quite exactly the information given by Theophrastus, completely trusting him especially because he himself was not able to have a direct look at the plant. Pliny starts talking about the shrub saying that it was becoming extremely rare in the first century AD and mostly, in his opinion, because of the devastations made by the tax-collectors. The reasons for the extinction of the silphium plant are interesting and

controversial, and I will talk about them later on in this work[5], analysing all of the possibilities suggested so far.

Pliny adds that at his time the sapling was considered very prestigious and was being sold at the price of silver; it was also kept in the public treasury in Rome with gold and silver as well. The importance and renown of the plant depended especially on his very useful medical properties and in several passages of his work Pliny refers to them even if, as I have already said, without any critical and scientific point of view.

[5] See Conclusions.

DIFFERENT APPLICATIONS OF THE SILPHIUM PLANT

As I have already said many times in the previous paragraphs, the silphium plant was highly valued in the ancient world as one of the most precious gifts from nature to man, and during Roman times it was considered to be worth its weight in denarii.

It once formed the crux of trade from the ancient city of Cyrene and was so critical to the local economy that most of the coins of this area bore a picture of the sapling[1]. It was appreciated widely by most ancient Mediterranean cultures because of its many uses, as a food source, seasoning for dishes, and most importantly, as a medication. Perfumes were made from the flowers, the stalk was used for food or fodder while the juice and root were useful to make a variety of medical potions. Aside of its uses in Greek-Roman cooking and medicine, other applications were ascribed to the plant in agriculture and veterinary as well; for example, it was believed to improve the meat of those animals which had grazed on the plant.

In this chapter I will take into account the most important sources where the silphium plant is quoted with regard to its utility and exploitation in medicine, veterinary, cuisine and agriculture. In particular, I intend to analyse the most authoritative Greek sources, and especially Hippocrates and Galen for medicine, and Athenaeus for cuisine; I will also have a look at the Latin scientific works when the plant is mentioned.

[1] See the images at the end of this work.

2.1) THE SILPHIUM PLANT IN MEDICINE

The silphium plant is quoted quite often in the ancient works as a very useful herb with so many medical properties that it was considered a real panacea that could resolve any kind of disease or trouble. Reported medical uses for the juice, for example, included remedies for cough, sore throat, fever, indigestion, fluid retention, seizures, aches and pain. The sap was supposed to be able to remove warts and other growths. In addition, the silphium could be used for a variety of diverse conditions including treatment of leprosy, to restore hair, cleanse retained afterbirth from the womb and as an antidote for poisons. Potions made from this sapling were supposedly among the most effective birth-control methods known at that time, and were the most common contraceptive agent used in the ancient Mediterranean world[1]. Preparations used for birth control included a tea made from the leaves, a "pea-sized" ball of sap mixed with wine and a suppository containing the juice. The timing of administration suggests it functioned as an abortifacient similar to preparations made from related plant species[2].

It is for these reasons and many others that the silphium plant was also considered, according to the legend, a gift to men from the god Apollo who was consulted many times at the temple of Delphi even for medical purposes. Gods dominated the life of the Greeks and natural occurrences were so often attributed to the gods so that many people turned to them when ill. The god Apollo, as I said above, was consulted by the sixth century BC, while many turned for help to his son, the god Asclepios; places called asclepieia were built for those in poor health and one of them is at Balagrae, near Cyrene. Inside that sanctuary, it is possible to admire some capitals with images of the silphium plant[3]. The choice to put this shrub as an ornament for the colonnade of the

[1] Riddle, Estes and Russel 1994.
[2] Tatman 2000.
[3] See the Appendix II: The silphium plant in the ancient iconography.

sanctuary devoted to a god of healing confirms again the wide popularity of the properties and utility of the sapling in the world of medicine.

2.1a)Silphium in Hippocrates

Ancient Greece, as did ancient Rome and ancient Egypt, played an important part in medical history. The Greeks started practicing medicine 1,000 years before Christ, and in general, their medical practice was based upon religious beliefs.

The most famous of all ancient Greek doctors was, without any doubt, Hippocrates; he made such an impression on medical history that his name is still very much associated with medicine today, and he is generally considered as the father of medicine[1].

He[2] was born at Cos, about 460 BC, but spent most of his life at Larissa, in Thessaly. He was educated as a physician by his father, a physician himself, and travelled extensively as an itinerant practitioner for several years. His travels in different climates and among many different people undoubtedly tended to sharpen his keen sense of observation. He was a practical physician as well as a theorist, and he wrote his theories in a clear and concise style[3]. He became known as the founder of medicine since he rejected the views of his time that considered illness to be caused by superstitions and by possession of evil spirits and disfavour of the gods. He held the belief that illness had a physical and a rational explanation, and based his medical practice on observations and on the study of the human body. He founded a medical school on the island of Cos where he expanded his theories and it was of enormous importance in separating medicine from superstition and philosophic speculation, placing it on a strictly scientific plane based on objective observation and critical deductive reasoning. Indeed, he told his students to carefully observe their patients and therefore to learn from the things they had observed. Students of Hippocrates and others, mainly from medical schools in Cnidus and Cos, wrote

[1] Porter 1994.
[2] General information about Hippocrates' life and his works are mostly taken from Jouanna 1999.
[3] Debus 1968.

different books; from these, we have the collection of books known as *Corpus Hippocraticum*. It consists of some sixty medical treatises collected in Alexandria by the middle of the third century BC, under Hippocrates' name. We do not know who wrote most of them, however, they cover a time span of 150 years so they could not have all been written by Hippocrates himself, although his influence is felt throughout. '*The Hippocratic corpus* of knowledge was widely distributed and spread in the eastern Mediterranean, it was highly influential, and marked the rise of rationality in both medicine and the physical sciences'[4].

Essentially Hippocratic medicine allowed diseases to run their natural course; in fact, Hippocrates was convinced that the human body could heal itself and could return itself to good health. Though the patient was given some treatments, such as herbal remedies to ease pain, nothing else was done, and only when absolutely necessary, and after a reasonable period of observation, the doctor should resort to surgery. He believed in the natural healing process of rest, fresh air and cleanliness, and especially a good diet.

The silphium plant appears several times in his works as a valid remedy against different troubles, and in general, as something healthy to eat. For example, we can find many references to this shrub in the study entitled *De affectionibus interioribus* which is devoted wholly to the description and treatment of diseases. Each of its 54 chapters deals with a specific nosological entity. For instance, the first twelve sections take into account any kind of disease in the lungs and sides, and the silphium seems to be quite useful. Indeed Hippocrates in section 6, line 39 says:

> Οκόταν δὲ αἱ
> πέντε ἡμέραι παρέλθωσιν, πρώΐος νῆστις πινέτω ἐν
> μελικρήτῳ ἢ οἰνομέλιτι ὀπὸν σιλφίου ὁκόσον ὅροβον, καὶ

[4] Jouanna 1999.

σκόροδον τρωγέτω καὶ ·αφανῖδας νῆστις, καὶ ἄκρητον οἶνον ἐπιῤ·οφανέτω μέλανα ἢ λευκὸν αὐστηρόν· πινέτω δὲ καὶ ἐπὶ σίτῳ καὶ μετὰ τὸ σῖτον· σιτίοισι δὲ ξηροῖσι καὶ κρέασιν ὀνείοισιν ἢ κυνείοισι χρεέσθω ἑφθοῖσιν, ἢν τὸ ·ἶγος καὶ ὁ πυρετὸς μὴ ἐπιλαμβάνῃ.

When five days are up, let him drink, early in the morning, in the fasting state, *silphium* juice to the amount of a vetch-bean, in water and honey or in wine and honey; let him also eat garlic and radishes, always in the fasting state, and drink pure dry wine, either dark or white during his meals and after them too.

The sections 22-26 are devoted to dropsies and the silphium plant turns out helpful again. Indeed, in section 23, line 46, talking about pleurisy, a disease in which watery fluid collects in the body, Hippocrates says:

Τάδε δὲ δεῖ μετὰ τὴν τμῆσιν διδόναι· σκευάσας ὀποῦ σιλφίου δραχμῆς σταθμὸν, καὶ ἀριστολοχίης κνῆσαι ὁκόσον ἀστράγαλον ἐλάφου, καὶ φακῶν καὶ ὀρόβων πεφρυγμένων ἄλφιτα καθήρας ὁκόσον ἡμιχοίνικον ἑκατέρων, ξυμφυρῆσαι ταῦτα μέλιτι καὶ ὄξει· εἶτα πλάσαι κόλλικας ἑξήκοντα, καὶ καθ' ἑκάστης ἡμέρης τρίβων ἕνα διεῖναι οἴνου μέλανος ἡμικοτυλίῳ, αὐστηροῦ ὡς ἡδίστου· εἶτα διδόναι νήστει πιεῖν.

After the incision, prepare *silphium* juice a drachma in weight and grate aristolochia to the amount of a deer's vertebra and sift a half-

choinix each of the flours of lentils and vetches; then knead these all together with honey and vinegar.

And again in section 24, line 11:

Τούτῳ ὁκόταν οὕτως ἔχῃ, κατ' ἀρχὰς τοῦ νοσήματος διδόναι, ἢν ἀλγέῃ τὸ ἧπαρ, ὀρίγανον τρίβων, ὀπὸν σιλφίου ὁκόσον ὄροβον διεὶς, ἐν οἴνῳ λευκῷ ἡμικοτυλίῳ πίνειν, καὶ γάλα αἰγὸς, τρίτον μέρος μελικρήτου παραμίσγων, τετρακότυλον κύλικα· σιτίων δὲ ἀπεχέσθω τὰς πρώτας ἡμέρας δέκα· αὗται γὰρ κρίνουσιν, εἰ θανάσιμον ἢ οὔ·οφανέτω δὲ πτισάνης χυλὸν, κάθεφθον μέλι παραχέων· οἶνον δὲ πινέτω λευκὸν Μένδαιον ἢ ἄλλον τὸν ἥδιστον ὑδαρέα.

When the case is such, at the beginning of the disease, if he suffers from his liver, give him ground oregano and *silphium* juice to the amount of a vetch-bean, soaked in a half-cotyle cup of white wine to drink.

The diseases of the liver are tackled more in detail in the chapters 27-29 and Hippocrates refers, once again, to the utility of the sapling. In section 27, line 32 he says:

πινέτω δὲ καὶ
σιλφίου ὀπὸν ὁκόσον ὄροβον, καὶ ὀρίγανον τρίβων διεῖναι
οἴνῳ λευκῷ,

> And let him drink some juice of *silphium* to the amount of a vetch-bean; and give him ground oregano soaked in white wine to drink in the fasting state.

The last sections of the study deal with the diseases of the spleen, and it is interesting to note that the silphium plant should not be administered in this case, perhaps because of its warming effect. In section 30, line 32 Hippocrates says:

> τῶν δὲ γλυκέων καὶ λιπαρῶν ἀπεχέσθω καὶ κνισωδέων, καὶ σίλφιον μὴ προσφερέσθω

> Have him abstain from foods that are sweet, fat, or smell like burnt fat, and do not administer *silphium*, pork, grey mullet, either salted or fresh, eel or any kind of vegetable without vinegar.

And in section 40, line 43 talking about typhuses he says:

> καὶ γλυκυσίδης καρποῦ δέκα κόκκους
> ἑψῶν ἐν οἴνῳ μέλανι, διδόναι πίνειν· καὶ γογγυλίδας
> διέφθους ποιέων ·οφανέτω τοῦ χυλοῦ, ἀρτύσας τυρῷ ἀνάλτῳ
> καὶ μήκωνι καὶ ἁλὶ καὶ ἐλαίῳ καὶ σιλφίῳ καὶ ὄξει.

> And boil ten grains of peony seeds in dark wine and let him drink it; then boil some turnips and let him drink their juice with unsalted cheese, poppy, oil, salt, *silphium* and vinegar.

And again in section 42, line 17:

> ·οφεέτω ψυχρῆς ἀνάλ-
> του, σίλφιον δὲ ἐπιξύσθω πουλὺ

> Let him drink a bowl of cold lentil-soup without salt, but with a lot of *silphium* grated over it.

Finally, in section 44, line 31 he is talking about ileuses and mentions the shrub once again:

> καὶ φακὴν ἐχέτω ὧδε ἐσκευασμένην· κο-
> τύλην φακοῦ ἑψήσας τρῖψαι λείην, ἔπειτα ἄλευρον
> παραμῖξαι, καὶ σίλφιον ἐπιξέσαι, καὶ ἅλας ἐμβαλεῖν, καὶ
> ὄξος ἐπιχέαι, καὶ σκόροδα συνεψεῖν· ἔπειτα ὕδωρ ἐπιχέας
> ζέσαι δὶς ἢ τρὶς, καὶ τορυνᾷν ἅμα·

> And prepare the lentils in this way: boil a cup of lentils and mash them; then mix them in flour and grate some *silphium*, add salt and pour vinegar and boil in garlic; pour water over this, previously boiled two or three times and stir all together.

But this is not the only work where the silphium plant is mentioned by Hippocrates. In fact, the precious sapling appears quite often in another important study, entitled *De morbis*, and especially in books 2 and 3. The second book consists of two parts: the chapters 1-11, devoted primarily to aetiology and pathogenesis, and the chapter 12-75

where the author talks generally about different diseases. In particular, in section 42, line 7, talking about fevers, he mentions the plant:

> Ἢν δὲ μηδὲ ἐν τούτῳ παύηται, λούσας αὐτὸν πολλῷ θερμῷ, πῖσαι τὸ τρίφυλλον καὶ ὀπὸν σιλφίου ἐν οἴνῳ ἰσοκρατέŽ, καὶ κατακλίνας ἐπιβαλέειν ἱμάτια πολλὰ ἕως ἱδρώσῃ·
>
> [If a tertian fever occurs, and after three attacks, there is a fourth one, let him drink a medication; if you think a medication is not necessary, grind into water cinquefoil roots to the amount of one *oxybaphon* and give him this potion to drink]. If with this, the fever does not stop, wash the patient in copious hot water, have him drink clover and *silphium* juice in wine diluted with an equal amount of water and take him to bed, covering him with many blankets to let him sweat.

Then, the sections 44-65 of the same work deal with the diseases centred in the lungs and sides. Actually, Hippocrates has already mentioned in the other work the utility of the shrub to resolve troubles in these parts of the body; however, in section 47, line 46 he repeats:

> ἢν μὲν ὑπὸ τούτου τὸ πῦον ·αγῇ· εἰ δὲ μὴ, ἕτερον ποιῆσαι· σίδια δριμέα ἐκχυμώσας καὶ κυκλάμινον, ὅσον ὀξύβαφον τῶν σμικρῶν ἑκατέρου ἔστω, ἔπειτα ὀπὸν σιλφίου τρίψας ὅσον κύαμον, διεῖναι, καὶ συμμῖξαι γάλακτος ὅσον ὀξύβαφον αἴγειον ἢ ὄνειον, τοῦτο χλιαρὸν ἐγχεῖν·

> If with this treatment pus breaks out, that is fine, otherwise, make the following alternative: squeeze juice from the pomegranate peels and from cyclamen as well, to the amount of a small *oxybaphon* each and add some *silphium* juice to the amount of a broad bean; combine them all together and add an *oxybaphon* of goat's or sheep's milk; infuse this warm.

And, finally, in section 50, line 38 he reports another situation in which silphium must not be administered:

> σιλφίῳ δὲ μηδὲν χρῆσθαι μηδέ τινι ἄλλῳ λαχάνῳ δριμέΖ, ὅ τι μὴ ὀριγάνῳ ἢ θύμῳ ἢ πηγάνῳ.

> [If the pipe of the lung becomes aphthous, there is violent fever, pain in the middle of the chest and itching of the body... The patient dies at once unless he is treated in this way...] Do not give him any *silphium* or any sharp vegetables except oregano, thyme or rue.

As for the third book of the treatise, it consists of three parts:

1) a two-line tag
2) a nosological work (sections 1-16)
3) a collection of cooling agents (sections 17)

There are three mentions of the plant in this work and they are all gathered in the second group. The first one is in section 15, line 88, when Hippocrates, talking about pneumonia, says:

> Ποιέειν δὲ καὶ ἄλλως ἀπὸ τῆς πρώτης ἡμέρης ἀρξάμενος· δίδου ἄρου τοῦ μεγάλου κόγχην χηραμίδα, καὶ δαύκου καὶ ἀκαλήφης μίην, καὶ νάπυος καὶ πηγάνου ὅσον τοῖσι τρισὶ δακτύλοισι λαβεῖν, καὶ ὀπὸν σιλφίου ὅσον κύαμον· ταῦτα ἐν ὀξυγλυκεῖ καὶ ὕδατι κεράσας καὶ διηθήσας, δίδου νήστει χλιαρόν.
>
> Alternatively, do as it follows, beginning on the first day: give the patient a cheramys of cuckoo-pint, wild carrot and stinging nettle, good pinches of mustard and rue, and *silphium* juice to the amount of a broad bean; mix these all together in a sweet vinegar, water and sieve as well and give warm to the fasting patient.

The other two quotations are in section 16 where Hippocrates cites the plant twice:

> ἢν δὲ πρὸς τῇσιν ἐν τῇσι πλευρῇσιν ὀδύνῃσι καὶ τὰ ὑποχόνδρια ἀλγέῃ, ὑποκλύσαι δεῖ, καὶ πιέειν δοῦναι νήστει ἀριστολοχίαν καὶ ὕσσωπον καὶ κύμινον καὶ σίλφιον καὶ μήκωνα λευκὴν καὶ ἄνθος χαλκοῦ καὶ μέλι καὶ ὄξος καὶ ὕδωρ.
>
> If besides the pain in the side, the hypochondrium is in pain too, administer an enema give the patient in the fasting state

aristolochia, hyssop, cumin, *silphium*, white poppy, flowers of capers, honey, vinegar and some water to drink.

Ἐν δὲ τῇσι πτύσεσιν, ἢν ὀδύνη τε ἔχῃ καὶ μὴ δύνηται ἀποπτύειν, νήστει δίδου ἄνθος χαλκοῦ ὅσον κοτινάδα, καὶ ὀποῦ σιλφίου ἥμισυ, καὶ τριφύλλου καρποῦ ὀλίγον ἐν μέλιτι λείχειν· ἢ πεπέρεος κόκκους πέντε καὶ ὀποῦ σιλφίου ὅσον κύαμον, καὶ μέλι καὶ ὄξος καὶ ὕδωρ πίνειν χλιαρὸν νήστει δίδου·

If there is pain during coughing and it is not possible to expectorate, give the patient in the fasting state flowers of capers in the amount of a wild olive, half as much *silphium* juice, and a little clover seed in some honey to eat; alternatively, give him in the fasting state five corns of pepper, *silphium* juice in the amount of a broad bean and honey, vinegar and water to drink warm.

To conclude the analysis of uses of the silphium plant in the works I have chosen from among the *Hippocratis Corpus*, I would like to consider other two studies.
The first one is entitled *De fistulis* and it is a clear and well organised summary of the pathology and therapy of haemorrhoids, condylomas, fistula in ano and their complications. Even in these cases, the silphium plant can play a quite useful role; indeed, Hippocrates in section 9, line 24 says:

Ὁκόταν ἀρχὸς ἐκπίπτῃ καὶ μὴ θέλῃ κατὰ χώρην μένειν,
σίλφιον ὅτι ἄριστον καὶ πυκνότατον ξύσας λεπτὸν
καταπλάσσειν.

> When the rectum protrudes and does not remain in its place, grate the finest and most compact *silphium* and apply as a cataplasm.

The second work is called *De superfatione*[5], which basically talks about the conception. In section 27, line 12-18 Hippocrates mentions the sapling, and for the first time, its trunk as well:

> If any pregnant woman loses her fetus after two months, and exactly at that time, neither earlier or later, and the same thing happens to her twice or three times, or more perhaps, even if she loses them after three, four or five months in the same way, it means that her womb does not grow in the middle as the fetus grows becoming too big between the second and third month; the womb does not have the right size and for this reason she has a miscarriage. Her womb needs to be washed, and cleaned out, and extended as much as possible with the application of a medicament; sieve, cutting in small pieces, the marrow of a pumpkin; mix a bit of it soaked with honey and a bit of *silphium* in boiled honey; the honey must be well cooked; spread it on a probe which must have an acceptable size to come into the stomach; lay it on the hole of the uterus and push it to let it enter; once the medication is in, let the probe go out; apply a purgative and do the same with wild coloquintide; let her eat in this period as much

[5] See CMG.

garlic as he can and some trunk of *silphium* and let it go down to the uterus.

By looking at all of this references, there is no doubt, once again, about the relevant importance that the silphium plant played in the ancient world as a very useful, and necessary perhaps, remedy to cure many diseases. It would appear that the most important part of this shrub, at least for its applications in medicine, was the juice. In the works analysed above, Hippocrates refers to the juice of this plant nine times and for different purposes; it seems to be particularly efficient against the diseases in the lungs and sides if taken to the amount of a vetch-bean or to the one of a broad bean, whereas the whole plant does not turn out helpful in this case, and actually, Hippocrates suggests not taking it if the pipes of the lungs become ulcerated. At the same time, according to the physician, the plant should not be administered when the patient suffers from any diseases of the spleen, perhaps because of its warming effects and its pungency. These are the only two cases where the plant must not be used; however, like every medicine, the silphium plant could be extremely helpful but at the same time it could have some side effects. Moreover, another thing we have to consider, is the fact that the plant was never administered by itself but always in some compounds and generally in a very small amount. In fact, Hippocrates talks about the amount of a vetch-bean or the quantity of a broad bean, and in general in the ancient works, a very moderate use of the shrub was suggested. Only once, Hippocrates says to drink a potion made with lentil-soup without salt but with a lot of silphium; this beverage seems to be helpful against typhus, a disease which arises mainly in late summer and causes diarrhoea. However, apart from this quotation, he usually alludes to a very small amount of it.

Besides the plant itself and its juice, Hippocrates mentions also the trunk; this was generally considered useful for its dietetic properties, and we know that the physician believed in the importance of a good diet to be healthy and strong.

All things considered, it is fair to say that Hippocrates really believed in the medicinal qualities of this plant which was a very popular herb, particularly appreciated in the ancient world. Its uses covered a vast range of possibilities and applications, and it is not very easy to single out the real properties of silphium, which was usually mixed with other substances; moreover, sometimes it seems to be applied in case of diseases very different to each other. In general, it is fair to say that this sapling had a drying effect since it was useful in case of haemorrhoids and against typhus, a disease which caused diarrhoea; moreover, it dehydrated and helped to expectorate, and that could be why it was given to the patient in case of fever.

2. 1 b) Silphium in Galen

Claudius Galen was a second century physiologist, philosopher, and writer who is often considered the most important contributor to medicine following Hippocrates. If the works of Hippocrates can be taken as representing the foundation of Greek medicine, then the work of Galen, who lived six centuries later, is the apex of that tradition. Galen crystallised all the best work of the Greek medical schools up his own time.

While Hippocrates is known mostly for his contributions to patients' rights and the moral and professional obligations of physician, Galen is still respected for his contributions to anatomy, physiology, and pharmacology and for his incorporation of philosophy, logic, and experiment with medicine[1].

Galen[2] was born around AD 129 in Pergamum, Asia Minor, and belonged to a prestigious family headed by his father Nicon, an architect. Pergamum was at that time a wealthy, bustling and vibrant city, famous as a centre of learning and particularly for its temple of the god of healing, Asclepius[3]. Throughout Galen's life, he avowed a devotion to Asclepius.

At the beginning, his education was broad and directed by his father but while Nicon intended for Galen to study philosophy or politics, Asclepius supposedly came to Nicon in a dream and told him to allow his son to study medicine. Thus, starting at the age of sixteen or seventeen, Galen studied medicine and at the age of twenty he became a therapeutes of Asclepius in the local temple for four years. During this time he also studied philosophy from at least four different schools of thought in order to learn many different viewpoints. In fact he believed that philosophical knowledge was essential to all educated persons.

[1] Farrington 1953.
[2] General information about Galen's life and his works are mostly taken from Sarton 1954.
[3] Walzer and Frede 1985: introduction.

For hundreds of years before Galen's time, debates existed among physicians about what philosophy of medicine was most proper[4]. By Galen's time, the Empiricists and the Rationalists were two of the major schools of philosophy influencing medicine and science. Empiricists[5] believed that a competent doctor gained knowledge by experience, not by creating or following medical theories. Others who believed that theories were necessary to supplement pure experience for adequate treatment of patients became known as Rationalists[6]. In addition to the influence of the Empiricists and the Rationalists, the belief in Asclepius, the god of healing, who was thought to produce supernatural causes and cures for diseases, and the importance placed on Hippocratic teachings all helped to shape the state of medicine that Galen faced in his time. However, he took a unique approach by incorporating both Rationalist and Empiricist ideas with a respect for his predecessors and for the supernatural role in disease and healing and he often characterises himself as an eclectic belonging to no school. Indeed, because he found both strengths and faults with many philosophies, he avoided using one method of thought exclusively[7]. Galen's accumulation of knowledge in many fields and his tendency to make conclusions based on facts and truth throughout his life contributed to his success and reputation.

When Galen's father died, he travelled to Smyrna, Corinth and Alexandria where he lived for approximately five years, in order to achieve a more extensive and vast knowledge of medicine. In 157 he returned to his hometown where was appointed as the physician to the gladiators. This was a prestigious position that provided him with plenty of opportunities to practice surgery techniques[8]. By 161 he realised that even a great and prosperous provincial city like Pergamum could not offer the chances his talent and ambition demanded so he left for Rome where the medical community was competitive and unfortunately corrupt. In the

[4] Walzer and Frede 1985: introduction.
[5] Frede 1988.
[6] Walzer and Frede 1985.
[7] Horstmanshoff 1995.
[8] Scarborough 1971.

city, Galen's ambition got the best of him with the result that his high profile created powerful enemies who caused him to depart secretly in 166. After a couple of years he was recalled back by the Roman Emperor Marcus Aurelius and he was made personal physician to this Emperor and his son Commodus. Galen's carrier, research, and teachings thrived in Rome, so he remained there until his death around AD 200.

He was a prodigious writer of books and a large amount of his works has survived. The Kühn edition, which is the one I am following in this paper and still the only nearly complete collection of Galen's Greek works, consists of the Greek text with a Latin translation and it runs over 20,000 pages in twenty volumes; however, Galen's treatises have never had, as a whole, a critical edition. An important part of his works has been transmitted only in Latin, Arabic and vary rarely Hebrew translations; moreover, most of his original manuscripts, and especially the philosophical treatises, perished in fire in 191 at the Temple of Peace where he had paradoxically deposited them for safekeeping.

Galen's works fall into three main categories: medical, philosophical and philological. His medical writings encompass nearly every aspect of medical theory and practise in his era. In addition, he reports his own important advances in anatomy, physiology and therapeutics[9].

Fundamental to Galen's knowledge was Hippocratic medicine; he revived the methods favoured by Hippocrates, and in particularly he believed in the healing power of nature as well. He recommended specific diets and ran his own pharmacy, stocked with medicines made from animal and vegetables extracts. Galen catalogued countless remedies including how each was made and the correct doses to be given. He believed that, depending on the dose taken, every medicine was capable to having a slight, strong, harmful, or even fatal, effect on the patient. Proper medicinal dosing is still a crucial aspect of modern medicine that was started by Galen nearly two thousand years ago.

[9] Pearcy 1985.

Drugs developed by Galen were made from herbs that he collected from all over the world; they were classified by their properties-heating, cooling, drying, or moistening-and not surprisingly he mentions the silphium plant quite frequently in his works even if it seems reasonable to think that at his time the sapling was already extinct, and perhaps Galen refers to another plant which was known with the same name but actually did not grow in Libya and was not as effective as the silphium plant itself.

First of all, we can see some brief mentions of the shrub that say how helpful it was generally considered to be. In the work entitled *In Hippocratis de victu acutorum commentaria IV* Galen says:

> ἢ σίλφιον ἢ ὀπὸς ἢ καυλὸς ἢ ἄλλα ὁκόσα τοιουτότροπα μεγάλας δυνάμιας ἰδίας ἔχοντα
>
> *Silphium*, its juice, its root or other similar substances with remarkable properties... (Book 2,34)

And in another passage:

> κατὰ μέρος δὲ τῆς ὅλης ·ήσεως ἡ ἀρχὴ τῶν ἰσχυρὰν δύναμιν ἐχόντων σιτίων ὀνομαστὶ μέμνηται, <κρεηφαγίης> τε καὶ <σκορόδων> καὶ <σιλφίου> καὶ <ὀποῦ> καὶ <καυλοῦ>, δηλονότι τοῦ σιλφίου· καὶ γὰρ ὅλον τὸ <σίλφιον> ἰσχυρὰν ἔχει δύναμιν καὶ κατὰ μέρος ὁ <ὀπὸς> αὐτοῦ καὶ ὁ <καυλός>.

> ...These are some foods which have significant properties: meat, garlic, *silphium* and its juice and root as well. Indeed, the whole plant has got notable qualities, and especially its juice and root...(book 2, 34)

In another work entitled *De simplicium medicamentorum temperamentis ac facultatibus libri XI* he presents a general introduction of the sapling and some of its properties, and in book 8, chapter 16, which is actually devoted to this plant, he says:

> The juice of *silphium* warms up, and so do its leaves, the juice of the stalk and the root. All of these parts cause flatulence, and at the same time, they are difficult to cook; however, if they are applied for external use, they are quite useful for the body, and the most efficient part is without any doubt the juice. It is widely believed that it can weaken and loose the excrescences because of its warm temperature.

Besides these general mentions of the shrub and some of its features, in other passages of his works Galen refers to more specific cases in which the plant can be used as a valid remedy against different healthy problems.

The first thing we can consider is him insisting on the utility of the shrub in case of sciatica[10]. In fact in the book called *De compositione medicamentorum secundum locos libri X* he refers to this property several times, and in book 10, when he says:

[10] See also Dioscorides, *De materia medica* 3,94

γὰρ καὶ θερμαντικώτατόν ἐστι τὸ φάρμακον ἀγρίου
πηγάνου σπέρμα, σὺν τούτῳ δὲ σίλφιον καὶ δαφνίδες, εἶτα
τὸ ἀφρόνιτρον

Indeed, the seed of wild rue mixed with silphium and berries of laurel, and saltpetre as well, is considered a very valid remedy, which actually warms up incredibly.

Plus, in the same book of the same work he mentions again this very useful medicament against sciatica and the silphium plant is in it once more. Indeed he says:

...Seeds of wild rue, *silphium*, berries of laurel...

And the identical medicament is repeated later on in the same book:

...*Silphium*, seeds of wild rue and well cleaned berries of laurel...

And over again:

...*Silphium*, wild dry rue, dry berries of laurel, saltpetre...

Finally, the plant is mentioned another time with regard to this property in the book entitled *De compositione medicamentorum per genera libri VII* where Galen in book 7 reports the same combination of ingredients:

...Seeds of wild rue, *silphium*, berries of laurel, saltpetre...

In the same work, but in book 1, Galen also mentions the useful application of silphium when the diaphragm is in pain, quoting what has been already said and suggested by Hippocrates:

> καθάπερ Ἱπποκράτης
> ἐν τῷ περὶ διαίτης ὀξέων ἔφη κατὰ τήνδε τὴν ·ἦσιν· ἢν δ'
> ὑπὸ φρένας ᾖ τὸ ἄλγημα, ἐς δὲ τὴν κληῖδα μὴ σημήνῃ,
> μαλθάσσειν χρὴ τὴν κοιλίην ἢ μέλανι ἐλλεβόρῳ ἢ πεπλίῳ,
> μέλανι μὲν δαῦκον ἢ σέσελι ἢ κύμινον ἢ ἄνισον ἢ ἄλλο τι
> τῶν εὐωδέων μίσγοντα, πεπλίῳ δὲ ὀπὸν σιλφίου.

> Hippocrates in the book *De victus ratione in morbis acutis* says: ``If the pain is under the diaphragm, use either black hellebore or peplium, carrots with hellebore or seseli, cumin, aniseed or any other flavouring, peplium or juice of *silphium*''.

But this is not the only passage where Galen quotes the silphium plant with regard to its utility if the diaphragm is in pain. Indeed, in another work entitled *In Hippocratis de victu acutorum commentaria IV*, and specifically in book 2,11, when he actually reports again what Hippocrates had already said about this particular pain[11], he repeats:

> Ἦν δὲ ὑπὸ φρένας ᾖ τὸ ἄλγημα, ἐς
> δὲ τὴν κληῖδα μὴ σημαίνῃ, μαλθάσσειν χρὴ τὴν κοιλίην ἢ
> μέλανι ἐλλεβόρῳ ἢ πεπλίῳ, μέλανι μὲν δαῦκον ἢ σέσελι ἢ
> κύμινον ἢ ἄνισον ἢ ἄλλο τι τῶν εὐωδέων μίσγοντα, πεπλίῳδὲ
> ὀπὸν σιλφίου· ἀτὰρ καὶ μισγόμενα ἀλλήλοισιν ὁμοιότροπα
> ταῦτά ἐστίν.

[11] Hippocrates, *De dieta in morbis acutis* 25,3.

> If the inferior part of the diaphragm is in pain, but no the clavicle, it is necessary to soften the stomach either with some black hellebore or *peplium*; and if you use the hellebore, mix it either with carrots, seseli, cumin, aniseed or any other odorous herb, but if you use the *peplium*, it is better if you mix it with some *silphium*; however, you can gain the same useful effects if you mix all of these substances.

And quoting Hippocrates again, Galen refers to the properties and effects of silphium on the intestine. It was widely believed that the plant was difficult to be digested and that is what Galen says in book 4,86 of the work *In Hippocratis de victu acutorum commentaria IV*:

> Σίλφιον δὲ καὶ ὀπός· ἔστι μὲν
> οἷσι μάλιστα, τοῖς δ' ἀπείροις οὐ διέρχεται ἡ κοιλίη, <ἀλλὰ
> καλεῖται ξηρὴ χολέρη>.

> ...Both the root and the juice of *silphium* do not easily go down to the intestine. Actually, this is a sort of disease and it is called *arida cholera*...

> ...It is believed that both the root and the juice of *silphium* cause a dry cholera...

εὔδηλον οὖν, ὅτι πνεῦμα φυσῶδες ἀθροίζεται κατὰ τὴν κοιλίαν ἐκ τῆς τοῦ σιλφίου προσφορᾶς· ἐστὶ δὲ δριμὺ καὶ καυσῶδες τοῦτο....

It is clear that the air that produces flatulence is accumulated in the abdomen by eating *silphium*, and it is pungent and burning...

Τὴν αὐτῷ κεκλημένην ξηρὰν χολέραν μάλιστα γίνεσθαί φησι τοῖς τὸ σίλφιον ἅμα τῷ τυρῷ πλέον προσενεγκαμένοις ἢ βοείοις κρέασιν· ἡ γὰρ ἐκ τοῦ σιλφίου γεννωμένη φῦσα τοῖς ἐμπλαστικοῖς καὶ βραδυπόροις ἐδέσμασι μιχθεῖσα μένει κατὰ τὴν γαστέρα μὴ διεξερχομένη.

...It is said that what is generally called *arida cholera* is principally caused by eating *silphium* mixed with a big portion of cheese or meat of ox. Also, the air generated in the stomach by eating *silphium* mixed with other sticky foods which are difficult to digest as well, does not stop in the stomach.

However, at the same time, the silphium plant happens to be useful in case of colic[12], and in general if the stomach is irritated[13].

In addition, it may be interesting to give details about some of its other fascinating uses. For example, it could be used if curd or bull's blood has been swallowed. Galen talks about this specific usage in the work entitled *De antidotis libri II*, and precisely in book 2:

Πρὸς δὲ τὰς τοῦ γάλακτος ἐκθρομβώσεις συμφέρει ποτίζειν ὄξος·

[12] Galen, *De composizione medicamentorum per genera libri VII*, book 12.
[13] Galen, *In Hippocratis librum VI epidemiarum commentarii VI*, book 5,24.

διδόναι δὲ χρὴ καὶ πητυὰν μεθ' ὕδατος κρηναίου ἢ σιλφίου καὶ θείου τὸ ἴσον λεανθέντα μετ' ὀξυκράτου διδόναι πίνειν.

...To counteract curd in the stomach: a portion of vinegar is useful. It is also necessary to give the patient some curd with tap water and let him drink *silphium* with same quantity of sulphur in powder and water and vinegar.

Τοῖς δὲ ταύρειον αἷμα πιοῦσι
συμφέρει ὄξος θερμὸν διδόναι πίνειν, καὶ ἀναγκάζειν ἐμεῖν, ἢ σιλφίου ὀβολὸν, ἢ ἡμιωβόλιον, ἢ νίτρου διώβολον, διέντας οἴνῳ διδόναι πίνειν, ἢ ἐρινεῶν καρπὸν τρίψας μετ' ὄξους δίδου.

...To counteract bull's blood in the stomach: it seems effective to give the patient hot vinegar and let him throw up or let him drink either *silphium*, nitre mixed with wine, or unripe fig minced with vinegar.

Further Galen refers to the application of the plant when the ears are in pain:

In truth, when the ears are in pain, *silphium* boiled with oil seems a good remedy (*De simplicium medicamentorum temperamentis ac facultatinus libri IX*, book 9, 49).

He faces the same matter in the work *De compositione medicamentorum secundum locos libri X*, when in book 3, exactly referring to the ears in pain, he says:

> *Silphium* with some oil of roses is particularly helpful.

In conclusion, I would like to give an account of the utility of the shrub in dental problems. Galen suggests using it when the teeth are decayed:

> Apply in the decayed teeth either the juice of *silphium* or its root (*De compositione medicamentorum secundum locos libri X*, book 5).

> ...In case of ulcers, some diluted juice of silphium is used...(*De compositione medicamentorum secundum locos libri X*, book 6).

Certainly, these are not the only references to the plant in Galen's works; however, it seemed reasonable to report only the most significant citations by underlining how much he follows Hippocrates sometimes, even though he often gives us more details about some properties or effects of this sapling never mentioned before. Aside from some original prescriptions, which seem absurd if we analyse them with current methods, we can find in Galen's works references to the drying effect of the silphium plant, and they seem to confirm what Hippocrates already said. Indeed, Galen mentions a disease, called *arida cholera*, that was mostly caused by eating silphium, and especially its root or juice.

Galen's works in many ways came to symbolise Greek medicine to the medical schools of Europe and Middle East for the next fifteen centuries[14]. He achieved notoriety during his lifetime, and his ideas and writings lived on for about 1,400 years after his death. Indeed, his theories remained prominent until the Renaissance when his works were re-examined and studied more carefully. Despite new developments and understanding of the body, Galenic practices and remedies lived on for some time because, even if the concepts behind the treatments had been proven wrong or partially inaccurate, the physicians still believed that Galen's methods were effective[15]. And while Galen's practices were eventually overturned and replaced with more modern therapies, his influence on medicine was still crucial. 'The progress Galen made in his lifetime was astonishing, especially because he managed to influence medicine and philosophy simultaneously in dramatic ways'[16].

[14] El-Gammal 1998.
[15] Temkin 1973.
[16] Temkin 1973.

2. 1 c) Other mentions and information about the application of the plant in medicine

It seems fair to say that there was no doubt in the ancient world about the powerful properties of the silphium plant in medicine. Two of the most important and best-known physicians and experts in medical science, Hippocrates and Galen, mention the plant and its qualities quite frequently in their own works; they often agree, and at the same time, both of them add different information. Before ending thi section, devoted to the analysis of the application of silphium in medicine, I would like to take into account what another important Greek author had to say.

I am referring to Nicander[1], physician[2], poet and grammarian, who lived in the second century BC. He was born at Claros, near the Ionian city of Colophon, where his family held the hereditary priesthood of Apollo and he served as a priest of this God. He lived and flourished in the court of Attalus III, son of Eumenes II and last king of Pergamum, whose reign can be placed between 133 and 138 BC.

He wrote a number of works both in prose and verse, of which only two are preserved. The longest, *Theriaca*, is a poem in 958 hexameters addressed to one of his friend, named Hermesianax. It concerns the bites of poisonous insects, snakes and wild animals, the effects of their poisons and the proper remedies against them, and he mentions approximately 125 species of plants. The information gathered in this work can be divided into three main categories: the physical and ethological description of the venomous animals, the symptoms of their bites and stings, and finally the remedies for poisoning[3].

[1] General information about Nicander's life and his works are mostly taken from Monaco 1991.
[2] Nicander is generally believed a physician; however see OCD: 'The Suda entry on Nicander (v.374) makes him a grammarian, poet and physician, the last falsely adduced from his ersatz medical poems, or from Nicander's versifying of the pseudo-Hippocratic Prognostic'.
[3] Moleiro 2004.

The other work, *Alexipharmaca*, consists of 630 hexameters treating of about twenty oral poisons and their antidotes based on plants, animals and minerals[4].

Both of these works are verse versions of the opus On poisonous animals written by Apollodorus of Alexandria, a physician, zoologist and toxicologist who lived approximately at the beginning of the third century BC[5]. 'Nicander gives priority to what he considers good verse over faithfulness to his source, with consequent loss of accuracy. His works, as Plutarch says[6], have nothing poetical about them except the metre, and the style is bombastic and obscure; however, they contain some interesting information as to ancient belief on the subjects treated'. His works are especially a fundamental document for natural sciences, and specifically in this paper, they turn out quite helpful because of their rich references to botany.

In particular, analysing some passages of these works, we can easily find some references to the silphium plant. For example, Nicander quotes the sapling as a good remedy against the hot and harmful doom that snakes bring[7]. More generally, he mentions the shrub in *Theriaca* as a cure against deadly banes of male vipers, wounds of scorpion, bites of poisonous spiders, stabs of female viper, and over again, in opposition to strokes of scorpion, buzzers, bees, woodlouses, wasps, centipedes, shrewmice, seps, salamanders, morays, stings, rays and sea-snakes[8]. I include here some examples:

> ἀλλ' ὁπόταν χρειώ σε κατεμπάζῃ μογέοντα,
> σῶχε διὰ κνήστι σκελετὸν δάκος, οἷά τ' ἀφαυρόν
> σίλφιον ἢ στροφάλιγγα περιξήροιο γάλακτος
> οἴνῳ ἐπικνήθων·

[4] Moleiro 2004.
[5] OCD.
[6] Plut., *De audiens poetis* 16.
[7] Nicander, *Theriaca* v.85.
[8] See also Galen, *De antidotis libri II* book 2.

> When the necessity comes upon you in anguish, rub a desiccated beast with a grater as it was frail *silphium* or a round cheese made with dry milk, and add some wine (v. 697).
>
> ...And use some trefoil and gum-resin (of *silphium*) of the weight of three obols (v. 907).
>
> ...And use horn-shaped tyme, often fennel too, or pluck some cypress and add anise and Libyan roots to a drink (v.909).

In the *Alexipharmaca* then, Nicander makes a list of the poisons traceable in nature and he opposes to each of them an antidote that is essentially based on plants. In fact, when he talks about the effects of hemlock he suggests to use against it the bitter juice of silphium or the plant drenched with gleaming oil[9]; and later on in the work, discussing about the wormwood he mentions the silphium plant as a powerful antidote against that poison:

> ἢ ὀδελὸν κνηστῆρι κατατρίψαιο χαρακτῷ
> σιλφίου, ἄλλοτε δ' ἶσον ἀποτμήξειας ὀποῖο·
>
> Grate with a toothed grater an obol of *silphium* or use the same quantity of its juice (v. 309).

[9] Nicander, *Alexipharmaca* 202-204

The last two mentions of the shrub we can observe in this work deal with a matter I have already examined in the chapter devoted to Galen. In the first case, Nicander remembers the utility of the sapling if someone happens to drink blood of bull:

> If someone tastes fresh blood of bull...give him a *litra* of *silphium* with equal part of its juice (v. 329).

This quote is also interesting for the out of the ordinary adjective σιλφιόεις-εσσα-εν, apparently never used either before Nicander or later on in the Greek literature.
The second case analysed by Nicander is when the curd goes down to the stomach and causes suffocation; in this situation he suggests:

> Grate into a drink some roots of *silphium* coming from Libya, or else its juice (v.368-369).

All things considered, I think that with this section I added some data to the information given by Hippocrates and Galen about the uses of the silphium plant in the Greek ancient medicine. This cannot be considered a fully exhaustive work since there are certainly other quotations of the medical properties of the shrub in other Greek authors, perhaps less famous, who talk either explicitly or implicitly about medicine[10]. However, it is probably fair to consider it a quite complete analysis of the applications, at least the most famous and appreciated, of silphium, so that we can have a valid general idea about its supposed utility in the past.

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[10] See for example: Archigenes, *Fragmenta*;Philumenus, *De venenatis animalibus eorumque remedies*-Erasistratus, *Testimonia et fragmenta*;Paulus, *Epitomae medicae libri septem*; Erotianus, *Vocum Hippocraticum collection*;Aetius, *Iatricorum*;Aretaeus, *De curatione acutorum morborum libri duo*-Oribasius, *Collectiones medicae/ Eclogae medicametorum/ Synopsis ad Eustathium filium/ Libri ad Eunapium*;Palladius, *Commentarii in Hippocratis librum sextum de morbis popularibus*;Alexander, *De febris/ Therapautica*;Thessalus, *De virtutibus herbarum.*

2. 1 d) Comparison with the information given by Latin authors about the application of the plant in medicine

Ancient Romans, like ancient Greeks and ancient Egyptians, made a huge input into medicine and health. Roman medicine[1] was a mixture of new theories and developments of Greek practices; indeed, the Romans learned a great deal from the Ancient Greeks; they used their ideas but they did not simply copy them.

In the early years of the Roman Empire there were no people in what would be a separate medical profession. It was believed that each head of the household knew enough about herbal cures and medicine to treat illnesses in his family. In other words, Ancient Roman medicine was based on individual choices; it was a sort of homely medicine confiding in the wisdom and knowledge of the *pater familias* and every single member of the family. However, the therapeutic choices of Romans were supported by a secular tradition, perhaps full of superstition and magic belief, but at the same time corroborated by a careful empirical observation of causes and effects[2].

Real doctors started coming to Rome quite late, around third century BC, and they were mostly from other countries, and especially Greeks. In truth, as the Roman Empire expanded into Greece, many Greek doctors came to Italy, and in particular to Rome. Some of these were prisoners of war and could be bought by wealthy people to work in their household. After 200 BC, more Greek doctors arrived in Rome but their success at the expense of Romans did generate some mistrust and their therapies were seen with suspicion. However, many Greek physicians had the support of the emperors and the best-known doctors were highly popular with the Roman public. It was under Julius

[1] General information are taken from Monaco 1994.
[2] Paoli 1958.

Caesar, in the first century BC, that the Greek doctors gained Roman citizenship and people started appreciating and trusting them more and more.

Roman interest in botanic medicine is quite ancient. The Romans knew many remedies based on plants and herbs with which they made different medicaments. Evidence about what we could call *scientia herbarum* comes from several well-known Latin authors, such as Marcus Porcius Cato, Celsus, Pliny the Elder and Scribonius Largus.

As I have already mentioned in one of the previous chapters[3], Pliny certainly attributes miraculous properties to some herbs and he definitely refers to the silphium plant and its medical qualities in his *Naturalis Historia*, and especially in the chapters 12,27. Without any doubt, Pliny is inspired by previous sources, and that is why we basically find in his work that all of the information is derived from other ancient works.

However, the fact that he specifies the different properties of each part of the sapling, is quite interesting[4]:

> ...The leaves of *silphium* are used to clean the womb and expel the dead foetus...The root is useful when the trachea burns and it can be successfully spread on haematoma; however, if it is mixed with some food, it is difficult to digest and causes flatulence. It is also harmful to the urine whereas is extremely helpful mixed with wine and oil, in case of bruises, and it turns out useful against scrofula if combined with wax...(20,100).

[3] See section Comparison with the description of the plant made by Pliny.
[4] The following translations are made by myself.

> ...The juice warms up and attenuates the tendon in pain. It has mixed with wine and given to women to provoke the period. It is useful for removing callouses on the feet as well...(20,101).

Generally, it seems that the efficacy of silphium improves if it is mixed with other substances, and in particular oil, flour of barley, dry figs, rue, honey, mistletoe, pomegranate, nitre, wine, saffron, pepper and dung of mouse. Moreover, Pliny insists on the effectiveness of the sapling when added to cauliflower[5] and he quotes what Cato[6] said too:

> Cato takes into account the properties of all the different kinds of cauliflower. It is good against headache, vision-problems, if the stomach and the intestine are in pain, and it has to be taken in the morning with vinegar and honey, coriander, rue, mint and root of *silphium* (20,80).

> ...The powder extracted from cauliflower with *laser* and vinegar can be used as a depilatory cream...(20,90).

> ...Epicharmus claims that against the bite of a dog with rabies it is useful to apply cauliflower on the wound, better if with *laser* and vinegar...(20,94).

[5] See also Quintus Gargilius Martialis, *Med. Ex oler. et pom.* 30

[6] Cato, *De re rustica* 157, 7: *And if there is dark bile and the spleen is belly and the hearth, the liver, the intestine or the lungs are in pain as well, grate some silphium on cauliflower...*

Pliny also lists other utilizations of the plant in medicine and, like Galen and Nicander, he notes the uses of it against the bites of scorpions, snakes or other venomous animals as well as the utility of the shrub if blood of bull or curd are swallowed. However, he seems to be in contrast with Galen as for the application of silphium when teeth are in pain:

> I do not agree to put *silphium* inside the cavity of teeth in pain...
> It makes bulls furious if it is spread on their nostrils, so I would
> not suggest distributing it on human body...(20,106).

Another expert in making unguents and medicaments is Scribonius Largus[7] who lived in Rome during the reign of Claudius (41- 54 AD). His major work is a book of prescriptions, called *Compositiones medicamentorum*, where he gathers all of the information he acquired during his trips around all over the world and by talking with local people about their tradition and knowledge in medicine.

The silphium plant is mentioned a few times as a good remedy to cure angina and contusions as well as against the bites of poisonous snakes and stings of insects. Actually, these quotations do not add anything specific about the medical properties of the sapling; however, they are still quite interesting since they report the exact quantity of silphium to take and this is not so common in the other sources[8]. In general, it would appear that only a small amount of the shrub is used, either *scripula* or *denarii*[9], perhaps because it was such a precious and quite rare sapling that should not be wasted; likewise, it is probably fair to think that even a small quantity of silphium could have strong effects.

[7] General information about Scribonius Largus are mostly taken from Conte 1989.
[8] See also Galen, *De compositione medicamentorum per genera libri VII* and Marcellus Empiricus, *De medicamentis.*
[9] Small units of measurement respectively equivalent to about g. 1.3 and g. 3.40.

Among the Latin authors then, I cannot ignore Aulus Cornelius Celsus[10]. He was one of the most important encyclopaedists, and not specifically doctor[11], of the Ancient Roman period, and precisely he flourished in first century AD. His famous treatise, entitled *De artibus*, touched on many subjects including rhetoric, philosophy, history, law, military art, zoology and agriculture, besides the last book dealing with medicine, which is the only that survives. *De medicina* is a vast source of knowledge of early medicine and leaves behind a clear picture of this art during that era, combining together both the empirical approach and the rational one[12]. The opus is written in a clear, elegant, pleasant and impressive style and that is why Celsus was called *medicorum Cicero*. The work consists of three sections: dietetics, pharmacology and surgery; therefore, the three parts of the book discuss diseases requiring diet, drug and surgical therapy.
Celsus seems to follow quite frequently the Hippocratic ideas as for the medicinal uses of the silphium plant; for example he definitely tracks the Greek doctor when he discusses about the utility of the shrub in case of quartan ague[13]:

> It is helpful in case of quartan ague to change food some time; to drink wine instead of water and water instead of wine; to eat delicate foods instead of pungent substances and vice versa; to eat some roots to vomit and clean the stomach with chicken soup...It seems useful to drink before the start of the disease, either two cups of vinegar, one cup of mustard with three cups of

[10] General information about Celsus are mostly taken from Conte 1989.
[11] See also OCD: '...Some have doubted that he was a doctor himself but understanding of highly trchnical details of medical practice, especially in surgery, where he refers more than once to his experience, militates against it.'.
[12] Ludwig 1967.
[13] See also Pliny, *De medicina*, 3,15. Quartan ague perhaps stands for malaria; 'Fever characterised by a paroxysm every fourth day'.

> Greek salty wine, or a mixture of pepper, *castoreum*[14], *laserpitium*, myrrh and water (3,12,2).

The fact is that Celsus refers quite often to the silphium plant in his work, however, I am not reporting all of the passages since he basically repeats what other authors said and I have already analysed these cases. Indeed, he describes the use of the sapling if curd or hemlock happened to be swallowed; he tells about the utility of it in case of cough and if the uvula is in pain, and he informs that the shrub can be used with *castoreum* and pepper against every disease of the neck.

However, there is another application of the silphium plant, which is quite original and curious:

> In case of paralysis of the tongue... it is necessary to gargle water either with thyme, hyssop or catmint... and it is helpful to grease the tongue itself with *laserpitium* (4,4,4).

To conclude, it is worth adding that the plant turned out quite useful in veterinary as well. I will refer to these particular properties of the shrub later on in the section dealing with the other applications of the silphium plant.

[14] Medicinal substance extracted from the inguinal glands of beaver.

2.2) THE SILPHIUM PLANT IN CUISINE

Despite its many medical uses which I have already discussed copiously in the previous sections, the silphium plant was no less famous for its quite valuable cookery properties. In the ancient world flavours and spices were basically utilized to prepare medicaments and ointments, at least until the fourth century BC when the Greeks started considering them not only for their therapeutic qualities but also for their particular taste[1]. However, the Greeks dealt with cuisine especially from a medical point of view; therefore, it is not surprising that the most important Greek work about diet was written by the doctor Hippocrates, since dietetics was considered a real branch of medicine. Galen himself wrote a book about slimming diet and the silphium plant appears among the other foods recommended. In section 13 of *De victu attenuante* he says:

> τὰ τοίνυν ἁπαλὰ καὶ νέα πάντα διὰ τὸ πλῆθος [ἔτι] τῆς ὑγρότητος ἣν ἔτ' αὐξανόμενα κέκτηται, μέτρια ταῖς δυνάμεσίν ἐστιν, ὡς καὶ μικρῷ πρόσθεν εἴρηται, καὶ διὰ τὴν αἰτίαν τήνδε πολλὰ τῶν φαρμακωδῶν, ἔστ' ἂν ἔτι φύηται καὶ αὔξηται, παραπλησίως τοῖς ἐδέσμασιν ἐσθίεται, καθάπερ οἵ τε τοῦ σιλφίου καὶ οἱ τοῦ νάπυος καυλοὶ καὶ προσέτι τούτοις πυρέθρου τε καὶ σκολύμου καὶ ἠρυγγίου καὶ ἄλλων μυρίων, ἃ δὴ καλεῖν ἔθος ἡμῖν ἐστιν ἄγρια λάχανα τῷ μικρὸν ὕστερον αὐτῶν ἕκαστον ἀκανθῶδές ε γίνεσθαι καὶ μηδὲ τοῖς βοσκήμασιν ἐδώδιμον ὑπάρχειν.

[1] Arndt, Dalby and Saberi 1993.

> [Let us return to where we left off in our enumeration of those foods which have a thinning effect on the humours within the body; but at the same time let us begin with a little more precision in our definitions]. All young succulent plants have gentleness in their effects due to the moisture which they acquire so long as they are still in the process of growing, as we mentioned above. For this reason many plants normally used as drugs can at this stage be eaten as foods: the stems of *silphium* and mustard, for example, and also of chamomile, golden thistle, and eryngo, and countless others of the sort commonly referred to as wild herbs, because of the fact that at a slightly later stage they all become like acanthus and are inedible even for animals[2].

Greek cuisine, and even more Roman cuisine, was based on rich combinations of flavours which made the dishes particularly strong in taste[3].

Some of the most ancient references to the use of silphium in Greek cuisine are in Aristophanes' comic plays. In *Aves*, staged in 414 BC, he mentions the silphium plant when the birds, captured by men, are sold and then cooked, mostly roasted, with cheese, oil, silphium and vinegar[4]. The other mentions of the plant in the same work are simple quotations that do not add any particular or useful information about it[5]. More interesting and quite curious is the reference to the shrub in another play, entitled *Ecclesiazuse*, and staged before *Aves*, around 392 BC:

[2] The translation is based on Singer 1997.
[3] Paoli 1998: 78-82.
[4] Aristophanes *Aves* 534.
[5] Aristophanes *Aves* 1579,1582,1585.

For soon there will be served

Limpets and saltfish and sharksteak and dogfish

And mullets and oddfish with savory pickle-sauce

And thrushes with blackbirds and various pigeons

And roosters and pan-roasted wagtails and larks

And nice chunks of hare marinated in mulled wine

And all of it drizzled with honey and *silphium*

And vinegar, oil and spices galore![6]

The chorus is speaking, almost at the end of the play, and in the Greek text, this list of food is combined into one huge word[7], which seems to be the longest and most bizarre attested word in any Indo-European language[8]. By looking at this list, we can easily observe that the sapling is considered a sort of dressing rather than a real food.

Aside the whole plant itself, the stalk[9], and especially the juice[10], are also mentioned in ancient recipes; in truth, it seems that every single part of the plant could be used as a tasty seasoning to add to every sort of dish.

Another interesting citation is made by Polyaenus[11] when he describes a bronze column, dated around the fourth century BC, on which a long list of foods and flavours is inscribed. The silphium plant is mentioned twice even though the large amount of it, indicated on the column, let us question whether it is the real precious plant from Cyrene or perhaps *persicum laser*.

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[6] The translation is based on Henderson 1996.

[7] λοπαδοτεναχοσελαχογαλεοκρανιολειψανοδριμυποτριμματοσιλφιοπαραομελιτοκρατακεχυμενοκιχλεπικουσουφοροττοπεριστεραλεκτρυονοπτεκεφαλλιοκιγκλοπελειολαγῳοσιραιοβαφητραγανοπτερύγων.

[8] Henderson 1996.

[9] See for example Aristophanes *Equites* 895.

[10] See for example Aristophanes *Ecclesiazusae* 404.

[11] Polyaenus, *Strategemata* 4,3,32.

In general, it is fair to say that the silphium plant was richly included in the ancient daily diet and it was basically used as a common herb, with a strong and pungent smell, very similar to the modern garlic. In the following paragraphs I will analyse some recipes, written by Athenaues and Apicius, which clearly show how frequently the plant was used in cuisine.

2. 2 a) Silphium in Athenaeus

Athenaeus was a native of Naucratis in Egypt who lived in Rome between the end of the second and the beginning of the third century AD. The *Deipnosophistes* (The Sophists at dinner) is his only surviving work; it consists of fifteen books extremely rich in learned information and literary quotations. It recounts the imagined discussions at a series of fictional banquets attended by a various and extensive cast of prominent intellectuals, such as for example the physician Galen. It would appear hard to find a Greek work more heterogeneous both in style and subject than this opus, which could be considered a sourcebook for cultural history and an encyclopaedia of fragments from otherwise lost authors[1]. In the pretence of telling a friend about a banquet at a scholar's house, Athenaeus discusses about a wide variety of subjects such as music, dances, games, and all sorts of literary issues. Thus, the work is invaluable for providing much information about both the Roman and Greek world in late antiquity. Much of the matter, however, concerns food and accessories. The reader learns about strange dishes, wines, menu cards, elaborate and expensive banquets, furniture of the dining-room and a thousand of other table matters. In this mixture of information the silphium plant is mentioned quite frequently. The first thing we have to consider is that Athenaeus underlines and insists on the importance and value of the sapling. In fact, he says[2]:

> As for the preparation of bulbs, Philemon says: take into account everything is considered valuable (δαπανήσας): cheese, honey, sesame, oil, onion, vinegar, *silphium*...(2,67).

[1] Capps, Page et Rouse 1927: introduction (The Loeb Classical Library).
[2] The translations given from now on are based on The Loeb Classical Library edition of *Deipnosophistes*; however, I have tried to render them in a version nearer to the modern English.

Moreover, in another passage he mentions the plant in a emphatic way, perhaps referring to its several medical properties:

ἀκτῖσι θείαις σιλφίου παραστατεῖ.

...Stalk of *silphium* with its divine radiance...(14,7).

However, in my opinion, the author with the word δαπανήσας means something valuable in the sense of useful in cuisine, something that everybody should always have at home. And indeed, it is included in a list of kitchen tools:

...Plates, beet, silphium, pans, lamps, coriander, onion, salt, olive-oil, bowl...(4,68).

And in another passage, Athenaeus is simply making a list of essential foods, and he mentions the shrub again:

...Bulbs, cauliflowers, silphium, vinegar...(2,7).

This explanation can find a proof in another reference to the plant when Sophon of Acarnania and Damoxenus of Rhodes include silphium in the list of banal seasoning, maybe because it was too common while the *nouvelle cuisine* needed something more original to put in its recipes[3]; they allude to the shrub and mention it with all of the other foods otherwise considered valuable in book 2:

[3] See also Plaute *Pseudolus*, 810-816.

> ...Old and banal seasonings such as cumin, vinegar, *silphium*, cheese, coriander... (9,68).

It might be possible to think Atheneus is referring to the Persian plant which was without any doubt less valuable than silphium. Moreover, he does not mention the scarcity of the sapling, and does not allude to the two different kinds of plants. Hence, I suppose Atheneus actually knew only the Persian plant, or at least he refers to that when he talks about silphium, perhaps because the Cyrenaic shrub was extinct in his time.

By looking at his work, it is clear that the silphium plant was believed a seasoning and not anything to eat by itself. In fact, it is included in a list of flavours made by Antiphanes:

> And these are the seasonings listed by Antiphanes: raisin, salt, must, *silphium*, cheese, thyme, sesame, soda, cumin, pomegranate, honey, oregano, herbs, spices, capers, eggs, stockfish, cress, leaves, juice (2,77).

And a list of seasonings is written by Alexis as well:

> Alexis has made his own list of seasonings as follows: ...sesame seeds...fennel, anise, mustard, trunk of *silphium*, dry coriander, sumach, cumin, capers, oregano, onion, garlic, thyme, sage, must, seseli, rue... (4,69).

Another evidence that the silphium plant was used in cuisine as a seasoning and not as a complete food, neither a starter nor a side, could be what is said in book 2,64:

> Heracles refuses to eat bulbs in Eubulus' *Amaltheia* and he says:
> ...neither the cauliflower, *silphium*, sacrilegious or bitter sauces can replete me.

Atheneus also mentions several recipes[4] in his works and the silphium plant seems a quite consistent ingredient, especially to season fishes. I will not report all of them since they usually only quote the plant without giving any particular detail of it. However, I intend to describe one of the most popular Greek dishes, *Myma*, and the shrub is indeed one of its indispensable ingredients. Atheneus quotes the complete recipe as given by Epainetus in his Art of cookery:

> A myma is made by every kind of meat or fowl; it should be prepared by cutting the tender parts of the meat into small pieces and by mashing the viscera, intestine and blood, and by spicing with vinegar, toasted cheese, *silphium*, cumin, fresh and dry thyme, savory, fresh and dry coriander, onion and common peeled onion, poppy-head and raisin, honey and pips of acid pomegranate (14,82).

To some extent, the focus on food in *Deipnosophistes* is also a reason for including the work with symposiastic literature[5]. Some sort of evidence of that, could be found in

[4] See for example 1,50;3, 48;3,58;3,86;4,69;7,124.
[5] Capps, Page et Rouse 1927: introduction (The Loeb Classical Library).

book 3 where Archestratus describes the second part of dinner, which is what the Greeks called *Symposium*:

> Therefore Archestratus, expert in cooking, is speaking about cuisine, and especially he describes the second part of dinner, when people have toasts and use odorous fragrances: At a banquet, put always every sort of crown around your head, wherewith the happy ground of the earth flourishes again and adorn your hair with fragrances and put myrrh, frankincense and odorous oils all the day over the ash. And this delicacy is for you drinking wine: belly of pig and vulva of sow boiled in cumin, bitter vinegar, *silphium* and every sort of seasonal roasted birds (3,59).

To sum up, it is reasonable to say that the plant was widely used in ancient cuisine as one of the most necessary and useful seasonings; however, we must remember that Athenaeus is writing in the third century AD when silphium was surely already extinct. Thus, he himself cannot know the shrub in person even if it is fair to suspect that it was still quite famous at his time even if it could not be used any more. He only reports opinions and data collected from other people, perhaps to add precious and beneficial information to his valuable work.

2. 2 b) Comparison with the information given by Apicius in 'De re coquinaria'

The silphium plant was a common ingredient, quite important for the daily cookery in Roman cuisine as well. Moreover, it is also true that Greek cuisine and Roman cuisine were very similar to each other since they were basically founded on agricultural products growing approximately in the same area with similar weather conditions. In Latin literature, we do not find many fanatics of cuisine and only a few authors talk about gastronomy, such as for example, Cato, Varro and Columella. The most famous work dealing with cuisine is without any doubt *De re coquinaria* by Apicius[1], which consists of ten books in which the author describes every kind of wine, sauce, meat, vegetable, legume, fish, bird, and provides us with a large amount of recipes, more or less detailed and sophisticated. Among the five hundred recipes described in the work, the silphium plant appears in seventy-seven of them; by looking at the opus, it would come out that the sapling was used in three different ways:

1- its dry root (*laseris radix*), either cut into small pieces or ground

2- a mixture made with its juice and flour (*laserpicium* or simply *laser*)

3- its gum-resin (*laser vivum*).

That seems to suggest that every part of the plant had got different culinary properties; the root was surely easier to find and perhaps cheaper, since it is mentioned in most of the recipes; however, it was generally considered inferior compared with the other components. Sometimes in the same recipe the sapling is also cited more than once with regard to its different parts and the two kinds of it, the Cyrenaic and the Persian, which apparently had the same qualities in cuisine. However, there was a consistent difference

[1] His real name seems to be simply Marcus Gavius; it would appear that the *cognomen* Apicius was added to him in regard to his love for food, since that was the name of a notorious gourmet lived in the second century BC (Carazzali 2003).

between these two varieties: the juice of the Cyrenaic sapling had indeed a very strong and pungent smell, and it was definitely more pleasing than the other kind.

Apicius does not give us the exact doses of silphium to use in the recipes, apart from two of them when he mentions six *scripulae* of the root, which are approximately seven grams, therefore a quite small amount of it. Moreover, some broad information are included in a few recipes when he uses the words *modice* or *modicum*. In any case, he seems to suggest not abusing it, and especially because of its strong and pungent smell aside the fact that it was quite rare and precious[2].

I do not find extremely helpful to report all of the recipes with the silphium plant included in *De re coquinaria*, since the shrub is just mentioned as a common ingredient, a seasoning which could be used either with meat, fish or vegetable; I will select and report only a few of them, as I did for Atheneus in the previous section. In particular I would like to point out an interesting word which seems to appear only in this work; I am referring to the adjective *laseratus-a-um* meaning a sauce whose main ingredient is *laser* itself[3], and was used to flavour several dishes. First of all, I want to report the recipe for this sauce found in book 1,16[4]:

> *Laseratum*: melt some Cyrenaic or Parthian *laser* with tepid water and vinegar and add it either to *garum*, pepper, parsley, dry mint, root of *laser* or honey.

This sauce is mentioned other few times in the opus as a tasty seasoning to add to some dishes:

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[2] See the chapter about medicine for the same statement.

[3] See also the similar word σεσιλφιωμένον in Atheneus, *Deipnosophistes* 4, 28.

[4] For the translation of the passages I have decided to select and mention in this paper, I am following different editions but mostly ed. Tascabili Bompiani (Giulia Carazzoli 2003).

Pollum lasaratum: clean the chicken, wash it and put it in a pot from Cumae. Mince together: pepper, *ligusticum*[5], *laser vivum*; temper it with *garum* and add wine; pour this mixture over the chicken. Once it will be cooked, flavour it with pepper and serve it (book 4,9).

Porcellum lasaratum: mince pepper, *ligusticum* and thistle all together in a mortar; add a pinch of cumin, *laser vivum*, root of *laser* and stir; pour over it vinegar and add pine seeds, dates form Caria, honey, vinegar, *garum* and creamy mustard. Stir everything all together with fine oil (*excerptum* 25).

Aedum lasaratum: Clean carefully the viscera of a kid; stuff with pepper, *garum*, *laser* and oil; put it in the oven and prepare the sauce made with rue and berries of laurel. Once the kid is ready, let it dry and pour the sauce on it (*excerptum* 28).

To conclude, it is clear that the silphium plant was used in Roman cuisine[6] as well as in Greek cuisine; it was basically considered a seasoning and it could be utilized to make sauces or simply to flavour different kinds of dishes, either meat or fish. It is quite probable that Apicius, differently from Athenaeus, knew and saw the plant in person since he was born around 25 BC and lived in a time where the sapling was still on sale. He gives us a precious evidence of the application of silphium in cuisine by including it in his work which is basically a simple list of ingredients and recipes. 'The style of the work is lacking in any rhetoric and formal elegance; the ingredients are enumerated

[5] Shrub belonging to the family of umbelliferae with a pungent taste and warm nature.
[6] Besides Apicius, see for example Columella, *De agri cultura* 12,59 and Pliny, *Naturalis Historia* 19,43.

with punctilious essentiality and the language is often dull'[7]; he really does not furnish particular and new information about the plant itself but his work is still helpful to be aware of the fame of the shrub and its essential utility in cuisine.

[7] Gian Biagio Conte 1989: 309.

2.3) OTHER APPLICATIONS OF THE SILPHIUM PLANT

I would like to conclude this chapter by talking about some applications of the sapling which I have not taken into account until now. However, since I did not find in the Greek works I decided to analyse, any reference to the applications of silphium in other fields different than medicine or cuisine, in this section I am reporting what I did learn by looking at some Latin texts since I consider it helpful to have a complete idea about the plant and reconstruct its real utility over the years. Indeed, the uses of the sapling were not limited to the areas of medicine and cookery, although other applications are certainly less supported by documents.

First of all, as I have anticipated in the chapter dealing with medicine, the silphium plant seems to have beneficial effects towards animals as well. For instance, according to Columella, the root of this shrub was a very efficient remedy if the eyes of oxen were in pain[1], and Vegetius mentions the sapling several time in his *Mulomedicina*[2] in reference to the different properties that the shrub has got in veterinary. Nevertheless, this author wrote his opus at the end of the fourth century AD when the silphium plant was without any doubt already extinct so that we cannot really take into account the information he gives us and think of that as fully reliable. Possibly, Vegetius is referring to some old beliefs which attracted his attention, and that is why he wanted to report them, even though some of the information included in them could not be considered valid anymore.

Aside this use, a few ancient sources mention also the application of the plant in agriculture. I am referring to the two works written by Cato and Columella, respectively entitled *De agri cultura* and *De re rustica.*

[1] Columella, *De re rustica* 4,17,7
[2] See for example 1,10,4; 2,28-48-79-96-97-99-111-124-129-131; 4,22.

Marcus Porcius Cato[3] was born in 234 BC in Tusculum, near Rome, where his father owned a farm. As he himself claims, he 'spent all his boyhood in frugality, privation and hard work, digging and planting'[4] and that is why we can consider his work quite trustworthy since it is based on his own experience and knowledge. 'He put down what he knew, as it came to his mind, as if he were giving advice or instructions verbally: the choice of a farm, the staffing and equipping of it, the use of land, the work that must be planned through the year, the essential religious rites, the terms of trade for building work and for various tasks that were subcontracted'[5].

This is the first surviving work of Latin prose and Cato himself was a pioneer by writing about agriculture[6]; moreover, the later solid and systematic Latin textbooks on farming were quite far in the future, about 200 years later. *De agri cultura* is a treatise consisting of 162 chapters where the author gives advice about a good tenancy of a farm and reports remedies against diseases which affect plants, trees and animals.

Cato mentions the silphium plant in chapter 116[7] and hints at it as an insecticidal, since it has got the property of keeping insects and parasites away from lentils:

> How you should preserve lentils. Dissolve *laserpicium* in vinegar, soak the lentils in this mixture and stand them in the sun. Then rub the lentils with oil, let them dry and they will keep quite sound.

About two centuries after Cato, Lucius Junius Moderatus Columella refers to the plant and reports the same utilization given by Cato.

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[3] Information about life and works of this author are mostly taken from A. Dalby 1998.
[4] Cato, *Orationes*, 128.
[5] A. Dalby 1998: 17.
[6] 'Let us recall Marcus Cato the Censor, who first taught agriculture to speak Latin' (Columella, *De re rustica* 1,1,12).
[7] The translation I give here is based on A. Dalby 1998.

Columella[8] flourished about the middle of the first century AD; he was originally from Spain but moved early in life to Italy where he owned farms and lived near Rome. His principal work *De re rustica* comprises twelve books that are intended to provide instructions in all aspects of farming life. In particular, in book 2 he talks about ploughing, cereals and fertilising and here is where he quotes the sapling with regard to its application to lentils, quoting what Cato had already said:

> ...Then let the lentils dry in the sun and soak them in vinegar and minced root of *laser*...

It is interesting to note that a few years later the same information is reported by Pliny[9] who perhaps is only referring to an old statement that could not be considered useful any more at his time but was still worth mentioning. Moreover, Pliny talks about another usage of the plant in agriculture, and again he seems to quote what Columella said a few years before him. They both agree with the statement that silphium was used to eliminate the acidity of pomegranates. Actually, Pliny lists three different substances that can make pomegranates sweet: dung of pig mixed with roots of trees, human urine with water, and *laser* with wine[10], whereas Columella cites only the third method. Columella talks about that utilization of the shrub in his other work *De arboribus*, whose only surviving book, the second, appears to be part of a longer original, perhaps consisting of three or four volumes. This treatise deals with the description of wines, olives and various trees and the author in book 23, talking about pomegranates, mentions the silphium plant:

[8] Most of the information about his life and works are taken from the Loeb Classical Edition of his works (Ash 1941-1955).
[9] Pliny, *Naturalis Historia* 18,308.
[10] Pliny, *Naturalis Historia* 17,259.

> We dilute a small quantity of Cyrenaic *laser* in wine and pour it on the tops of the tree; this remedy seems to contrast the acidity of pomegranates.

The same treatment is reported again in the *De re rustica* by Palladium[11], written around the end of the fourth and the beginning of the fifth century AD. In this case the author is just talking about some ancient remedies to underline their vast spreading and efficacy so that they were still quite known at his time.

Therefore, the applications of silphium in agriculture are confirmed by authoritative voices and experts in this field. It seems reasonable to think that it worked as a valid insecticide thank to its strong and pungent smell that perhaps sent the insects away from vegetables and trees. On the other hand, I cannot really find a fair explanation as for its utility to make pomegranates sweeter since I do not have a right and good knowledge of this topic, and actually this statement seems nonsense to me; however, it is probable that in ancient Rome it was believed that there was a particular chemical reaction of the tree if it was treated with some minced *laser* diluted with wine.

In conclusion, all things considered, with this chapter we have learnt something more about the value and helpful function of this shrub, which continued to be appreciated and considered even after its definitive extinction.

[11] Palladium, *De re rustica* 4,1.

OTHER MENTIONS OF THE SILPHIUM PLANT IN GREEK LITERATURE

In this final chapter I would like to talk about the role played by the silphium plant in the life of Cyrene and the general area around it. However, before analysing all of the sources which mention the plant in reference to the history and geography of this Greek colony, it seems to me fair to introduce the settlement itself. Indeed, if we have a look at the history of Cyrene, it is tempting to say that the silphium plant could be one of the main reasons and attractions for the colonization of this area.

Cyrene was one of the most spectacular ancient Greek colonies, certainly the major settlement founded in Africa by Greek people[1]; it is widely believed that it was formed around 630 BC by colonists coming from the island of Thera and reinforced by later groups of settlers who were predominantly Dorian. Many ancient authors refer to this event; however, there are still many variances between all of them, and a big cloud of mystery still surrounds the colony whose life is characterized by an evocative mixture of myth, religion and history.

Herodotus is one of the first who talks about the colonization of Libya, and in particular he faces this question in book 4 of his *Histories*. The work is 'a polycentric narrative that moves easily among the different voices, stories and points of view of many individuals from many different lands'[2]. Herodotus starts his work with the intention to talk about the Persian Empire but he finally tells many other kinds of stories about different Greek communities[3], such as for example Cyrene. Indeed, sections 168-199 of book 4 are a long excursus on Libya and its peoples. For this country Herodotus 'draws more on the reports of others than his own observations and it is clear that his

[1] See definition of Cyrene in OCD.
[2] R. Waterfield 1998: introduction.
[3] In 4.30 Herodotus himself claims that his work 'seeks out digressions'.

information came from a variety of sources. He does not actually say he has been to Cyrene, and he is vague in his description of the surrounding area'[4]. He often reminds us that he owes his *logoi* to others who have told them to him but at the same time he emphasizes that they contain real information. When Herodotus refers to the colonization of this country, he makes clear that he is reporting two different versions of it, on the one hand the account made by the Thereans and on the other hand the story narrated by the Cyreneans.

By looking at the first tale, we learn that Grinnus, at that time king of Thera, went to the oracle of Delphi followed by many other citizens; whereas the king was asking the oracle for other matters, the priestess of Apollo told him that the God ordered him to form a colony in Libya. Grinnus replied that he was too old for that kind of deed, however, there were with him many other young people who could undertake such a task, and he was especially referring to Battus, a descendant of the Minyan clan, who went to Delphi with him. Nevertheless, the company left the sanctuary without taking into account or mentioning the oracle anymore. Once they were back at Thera, a long period of drought affected the island for seven years and its inhabitants were forced to ask the oracle of Delphi again for a solution. Once again the Pithian priestess reported the will of the God to settle a colony in Libya and this time the Thereans could not ignore it. Since they did not know anything about this country, they decided to go to Crete to ask for some information and eventually they found an angler, whose name was Corobius, who affirmed that in the past his boat was driven by the wind to Libya and the island of Platea. Thus, a small bunch of people started sailing to this island, and after a survey of the place, they went back to Thera to inform their fellow-citizens about the actual situation in the island. After that, Herodotus reports the departure from Thera of two fifty-oared ships led by Battus as guide, founder and first king of the new colony.

[4] R. Waterfield 1998: introduction.

The most significant disagreement between the version of the Thereans and the one referred by the Cyreneans consists in the information dealing about the life of this person. According to the people of Cyrene, Battus had a different descent. They said that in Crete there was a woman called Phronime, daughter of the king of that island, Etearchus; her stepmother, envious of the love of the king for her daughter, accused her of dissoluteness and convinced Etearchus of her blame. The king forced by fraud a merchant of Thera to drown Phronime; however, he was not able to do that and brought the lady with him to Thera. With time, she had a son, whose name was Battus, and he was stutter. Once mature, he decided to go to Delphi and to consult the oracle about his voice. The Pithian priestess instead of replying to his question, said: 'O Battus, you came here because of your voice and Apollo sends you to settle a colony in Libya'[5]. However, Battus did not fully understand what the oracle was telling and asking him, and he went back to Thera. In the following months, there were so many disasters and misfortunes in the island that eventually the Thereans decided to go back to Delphi. The response of the priestess was not different this time: they needed to form a colony on the Northern coast of Africa to make the disasters stop. Finally, Battus left the island with two fifty-oared ships and sailed to Libya; however, they were accidentally driven by the wind to the island of Platea and they decided to stay there for two years, thinking that it was part of Libya itself. Unfortunately, the situation in their native land did not seem to get better and Battus wanted to consult the oracle again. This time the response of the God was: 'O Battus, if you think to know Libya better than me, even though you have never been there, I admire your great wisdom'[6]. After these words, Battus realised that he had not been in the correct place for two years and decided to start sailing again. Eventually the colonists arrived in Libya itself and settled a colony on the coast, just in

[5] Herodotus, *Historiae* 4,155.
[6] Herodotus, *Historiae* 4,157.

front of the island of Platea. The name of this first settlement was Aziris and the colonists lived there for about six years.

This is in brief what Herodotus says about the colonization of Libya, and even if we can easily find some variances between the tale of the Thereans and the one given by the Cyreneans, we can still observe some points in common: the two accounts agree in the fact that Cyrene was a settlement from Thera; that its founder and first king was someone called Battus; that the island of Platea was occupied before a colony was effected on the mainland; that the oracle of Delphi was specially invested in the colony and it insisted on the colonization of Cyrene.

Approximately in the same period as Herodotus, in about the first half of the fifth century BC, Pindar gives us three parallel versions of the colonization of Cyrene.

The first tale is in Pythian 4 where Pindar praises Arkesilas IV, king of Cyrene after eight generations from Battus I, the one who led a colony from Thera to the `καρποφόρος' Libya, on the urging of the oracle of Delphi. In truth, Pliny says, Battus had consulted the oracle in hopes of finding a cure to his speech defect but Apollo had taken the occasion to hail him as future king of Cyrene.

The second version is in Pythian 5 that commemorates the same victory as the previous one, won by Arkesilas. It recounts the act of founding Cyrene by Battus I who came from Thera. In this ode Pindar refers to two different names used to designate the founder: Battus and Aristotle. This fact seems an expedient to draw the attention to the real meaning of the first name. Indeed Battus means `the stutterer', and we learn from other sources, besides Pindar himself, that the king had firstly consulted the oracle of Delphi because of his speech problems.

Finally, the third version is in Pythian 9 where the component of the myth is definitely prevalent. Pindar talks about the love of Apollo for Cyrene, eponymous nymph, who was abducted by the god and led to Libya where she herself founded the Greek colony.

The myth played a relevant role in the account that Callimachus gives us about the colonization of Libya too. He[7] was born in Cyrene at about 315-310 BC and came from an aristocratic family headed by his father, whose name was Battus, like the first king of the colony. His copious poetic production includes a hymn addressed to Apollo, where he celebrates the epiphany of the god, and at the same time, rewrites the story of the founding of Cyrene as one in which the god seems to have taken part. Callimachus in this composition combines divine and human versions to make them coincide. Instead of the oracle of Delphi, which played such a crucial part in the versions narrated by Pindar and Herodotus, here Apollo himself takes control of the colonizing operations, by transforming himself into a crow and by leading Battus directly to the Libyan coast. Callimachus, like Herodotus, refers also to a first settlement in Aziris where Battus I raised a temple to celebrate Apollo Carneius and instituted his cult.

In conclusion, if we have a look at all of these three sources, we can easily observe the importance given to Apollo since he participated, either directly or through the oracle, in the colonization of Cyrene. But why the God insisted so much on leading Battus and his fellow-citizens to that country? In the second hymn written by Callimachus, Apollo tells Battus I to lead his men to Libya, 'a country of fertile soil' (βαθύγειον), and Pindar in Pithyan 4 talks about an oracle of Apollo naming Battus as the coloniser of 'fruitful' Libya (καρποφόρος). Moreover, if we consider the area in which the first colonists established themselves, we can clearly note the agriculture inclination of that settlement, which was based quite far from the sea. Moreover, the arrival of other settlers after the time of the two kings seems to be foreseen and organised by the founder who perfectly knew how much rich and fertile the soil of that country was.

But which were the most important agricultural resources of Libya, and especially Cyrenaica? That area was certainly abundant in corn, as it was called 'The granary of

[7] General information about his life and works are mostly taken from Monaco 1991.

Rome' during the Roman Empire. However, this cereal was not the only resource and fortune of this country. The ancient sources are indeed full of references to the silphium plant as the real source of the agriculture and general wealth of Cyrene. In the following paragraph I will analyse these sources, with particular regard to Strabo and Herodotus, and I intend to underline the significant role played by the shrub in the history and life of this region.

3.1) HISTORY AND GEOGRAPHY: The silphium plant in Herodotus and Strabo

In the first century BC there was a remarkable development in studies dealing with history and geography, and one of the most interesting writers and representative authors of these two disciplines was Strabo[1]. He was born around 63 BC, originally from Amasia, city situated in central Pontus, and his death is generally put around AD 23. Strabo considered history and geography two complementary subjects, and particularly because of the main role played by men in both of them; therefore, his work cannot be studied only from a geographical point of view[2]. *De Geographia* has come down to us almost integral; it consists of seventeen books where, besides the first two introductory books in which the author talks about his predecessors, from Homer to Polybius, who in some way discussed about geography, in the remaining books he explains his intention to survey the entire inhabited world, and each of these books is focused on a certain region. 'In the second book he claims to have travelled further than all of other geographers. He emphasizes the extent of his journey and even if his predecessors may have visited other regions and sites where he never set foot, his achievement is the extent of his travels measured by the extreme points in each direction'[3]. However, his work is much more than a simple account of regions and peoples; in it Strabo also reveals his opinions and provides the reader with many details from various fields of knowledge, such as astronomy, geometry, mathematics, physics, medicine, philosophy, theology, history, mythology, poetry, zoology and botany. 'Each of Strabo's predecessors who took an interest in geography, beginning from Herodotus, also dealt with various other matters in addition to their specific focus, but Strabo

[1] Monaco 1991: 723.
[2] Monaco 1991: 723.
[3] Dueck 2000: 15-16.

consciously and deliberately intends to reveal a broader picture and to create an encyclopaedic work[4]'. *De Geographia* is undoubtedly based on Greek ethnographic and geographic traditions, even though it presents a new approach to the theme[5]; Strabo in general accepts the traditional division of the *oikoumene* into three main continents: Europe, Asia and Libya, but the three are not equal in size since Libya is definitely much smaller than the other two. He mentions Libya sporadically in book 2; however, the most detailed description of this country is in book 17 where Strabo completes the survey of the inhabited world in Africa, describing Egypt, Ethiopia and Libya itself. As in the survey of Europe, he illustrates Libya going from west to east, and the description includes countries like Mauretania, Carthage and Cyrene. Strabo makes different allusions to his journey in Libya which is 'similar to the skin of a leopard because it has spots of inhabited settlements surrounded by waterless and desert land' (2,5,33). Most of its coastline, Strabo[6] says, is extremely fertile, and especially Cyrenaica. He singles out three distinct zones in this general area: the coastline which is quite fertile, the country producing only silphium, and the remaining part that is mostly wild and desert.

> The coastline is quite inhabited, whereas the central part produces only *silphium*, and it is mostly barren, rugged and sandy (2.5.33).

> The district that produces *silphium* and what is called the Cyrenaic juice, which the *silphium* itself latter produces, borders on Cyrenaica (17,3,22).

[4] Dueck 2000: 156-157.
[5] Dueck 2000: 165.
[6] The translation of the passages of *De Geographia* is mostly based on Hamilton and Falconer 1903.

Thus, Strabo refers to Cyrenaica and the country producing the silphium plant as two quite fertile zones, compared with the general region, which was mostly sandy and arid. The silphium plant seems to be the only kind of vegetation in the middle of this area.

> αὐτή τε γάρ ἐστιν δίαμμος καὶ σιλφιοφόρος καὶ ξηρά
>
> ...Indeed, the soil is sandy, arid and silphium-producing (2,5,37).
>
> ...It is a sandy and arid zone, and it does not produce anything but *silphium* and other pungent and dry fruits (2,2,3).

Arrian of Nicomedia, 'one of the most distinguished writers of his days, celebrated as philosopher in his life time, and today principally known as a historian'[7], in the first century AD reports the same information in the work entitled *Indica* 43[8]:

> Cyrene, although it is placed in the most desert part of Libya, is grassy and fertile, well-watered and full of thickets and grasslands, and it bears all sorts of fruits and animal up to the region where the *silphium* plant grows; but beyond this region there is only desert and sand.

And the Greek geographer Ptolemy in the second century AD (AD 85-165) mentions the σιλφιοφόρος country, which is only followed by desert[9].

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[7] OCD
[8] The translation is based on Brunt 1983 (The Loeb Classical Library).
[9] Ptolemy, *De Geographia*, 4, 4.

In book 12 then, Strabo tries to define the exact area where the silphium plant used to grow. He says:

> The country which produces *silphium* is narrow, long and quite arid, by extending in length about 1000 stadia towards the east, and in breadth around 300 stadia a or little more (17,3,23).

According to Herodotus, who is the first one to give us information about the size of this area, the country of the silphium plant extended from the island of Platea to the Gulf of Syrtis. In book 4 of his *Histories*[10] he makes a long survey of Libyan peoples and provides us with general observations on the fertility of the region around Cyrene:

> The Giligamae inhabit the western part of the country as far as the island of Aphrodisias. In the middle of this area there is the island of Platea, which was colonized by the Cyreneans, while what is called 'the haven of Menelaus' is on the mainland. Aziris is there as well; it was occupied by the Cyreneans, and from this settlement the country of *silphium* begins. The *silphium* plant extends from the island of Platea to the Gulf of the Syrtes (4,169).

Moreover, Herodotus provides us with another small information concerning fauna of that area, and it can be useful to recognise more specifically the region of the silphium plant:

[10] The translation for *Histories* is mostly based on Godley 1928 (The Loeb Classical Library).

> Εἰσὶ δὲ καὶ γαλαῖ ἐν τῷ σιλφίῳ
> γινόμεναι, τῇσι Ταρτησσίῃσι ὁμοιόταται.
>
> In the area where the *silphium* plant grows, there are also weasels (γαλαῖ) very similar to the ones of Tartessus (4,192).

Moreover, Theophrastus in *Historia Plantarum* 4,3,1 says that the silphium plant grew over a wide tract of Libya for a distance of more than 4000 stadia, and it was particularly abundant near the Gulf of Syrtes; he adds that the shrub started spreading from the Hesperides islands. Clearly there is a quite large disproportion between the information given by Theophrastus and what Strabo said about measurement of the silphium-producing area. Theophrastus in the fourth century BC refers to 4000 stadia, approximately 710 Km, for the area where the silphium plant used to grow. On the contrary, Strabo in the first century BC talks about 1000 stadia in length and 300 stadia in breadth for the same area. This is a clear sign of the reduction of the diffusion of the plant in that region; it grew quite in abundance in the fourth century BC but with time it became definitely rarer. Strabo himself refers to its potential extinction[11] and gives his explanation for that:

> The *silphium* plant was near to the extinction when the barbarians, because of some grudge with local people, invaded the country and destroyed the roots of the plant (17,3,22).

[11] For this particular matter see Conclusions.

At Strabo's time the diffusion of silphium was definitely inferior than the previous ages; it was not the most important product on sale[12] any more, and perhaps the *persicum laser* was starting to get the upper hand over the Cyrenaic silphium. Moreover, Strabo mentions this other kind of plant and underlines its inferiority if compared with the preciousness of the Cyrenaic silphium:

> Media also produces *silphium*, from which the Median-juice is obtained. It is much inferior compared to the Cyrenaic plant (11,3,7).

However, this passage is not completely clear since Strabo talks about the inferiority, and at the same time, the superiority of this other sapling; it is obvious that he wants to underline the differences between these two varieties, although he does not mean to discredit the Asian plant, which was without any doubt more common at his time.

> φέρει δὲ καὶ
> σίλφιον ἡ χώρα, ἀφ' οὗ ὁ Μηδικὸς καλούμενος ὀπός,
> πολὺ λειπόμενος τοῦ Κυρηναικοῦ· ἔστι δ' ὅτε καὶ δια-
> φέρων ἐκείνου, εἴτε παρὰ τὰς τῶν τόπων διαφορὰς
> εἴτε τοῦ φυτοῦ κατ' εἶδος ἐξαλλάττοντος, εἴτε καὶ
> παρὰ τοὺς ὀπίζοντας καὶ σκευάζοντας ὥστε συμμένειν
> πρὸς τὴν ἀπόθεσιν καὶ τὴν χρείαν.
>
> ...Even though sometimes it can be considered superior; it is dissimilar from the *silphium* plant both in the differences of the places where they grew and in the appearance of the plant itself;

[12] See Strabo, *De Geographia* 17,3,20.

> moreover, their juice were extracted and prepared in two different ways (11,3,7).

In conclusion, it is fair to say that the silphium plant was undoubtedly considered an exclusive symbol of Cyrenaica, and not only at the time of its main diffusion but also over the following ages. Indeed, in the second century AD, therefore when the silphium plant was perhaps already extinct, the periegetic writer Pausanias mentions the sapling in a very emblematic way, in his work *Description of Greece*. He is reporting a story according to which the Dioscuri[13], coming from Cyrene, stopped in Sparta and left on a table a stalk of silphium as a trace of their presence:

> ἐς δὲ τὴν ὑστεραίαν παρθένος μὲν ἐκείνη καὶ θεραπεία πᾶσα ἡ περὶ τὴν παῖδα ἠφάνιστο, Διοσκούρων δὲ ἀγάλματα ἐν τῷ οἰκήματι εὑρέθη καὶ τράπεζά τε καὶ σίλφιον ἐπ᾽ αὐτῇ.
>
> [The Dioscuri, in the likeness of strangers, came to the Spartan Phormiones. They said that they were coming from Cyrene and asked to lodge with him, and in particular they requested a chamber they particularly liked in the past when they dwelt among men. He replied that they could stay anywhere but that chamber. Indeed, his maiden daughter lived right there]. By the next day his maiden daughter and all of her girlish clothes disappeared, and images of the Dioscuri and a table with a stalk of *silphium* upon it were found in the room (4,16).

[13] In mythology they are considered sons of Zeus, and on the human place, they are also Tyndaridae, sons of Thyndares.

In this case, the plant clearly stands for Cyrene, from where the travel of the Dioscuri started. In truth, the plant has always been considered an emblem of this country, something to put on its coins as its particular identification mark. The silphium plant was the most important resource of richness for the whole area, and we have several confirmations about that, if we have a look at the ancient texts. We cannot say for sure if the first colonists knew the sapling, even though it seems quite unlikely since Herodotus does not mention it at all, when he tells about the colonization of Libya; actually, he specifies that the settlers were not familiar with that area and had to go to Crete to find some information. However, Herodotus mentions the shrub when he refers to the landscape of Libya, and like the other authors, he is aware of the importance that the plant played in the ancient world.

CONCLUSIONS

The silphium plant has been the main topic of my studies for about two years, and at the end of my research I can fairly say that I have gained most of the results I hoped for before starting. By looking at this paper and the thesis of my first degree together, we can have an extensive and detailed idea about the role and importance played by this sapling in the ancient world. If we combine together these two studies, we can obtain a monograph whose main subject are the silphium plant and its various applications in the past. I have analysed separately in each section the properties of this shrub, starting from medicine and veterinary to cuisine and agriculture. I have seen and underlined how sometimes the textual sources exaggerate by reporting miraculous qualities of the plant, and they are often in contrast to each other, that it is hard to discern between truth and lie. I have singled out the main area in which silphium used to grow and spread. I have illustrated how frequently the plant is mentioned in the ancient sources, both when the sapling was still growing in Libya and not. I have interpreted some passages of well-known Latin works as implicit allusions to the sapling. And finally, I have showed the massive presence of the silphium plant in iconography as well.

To conclude this work, I would like to hint at the extinction of the sapling. By looking at the ancient sources we can easily notice some symptoms of the gradual drop of the spreading of the silphium plant in Libya. For example, the measurement of the silphium-producing area given by Theophrastus in the fourth century BC and that of Strabo between the end of the first century BC and the first century AD is remarkably different[1]. Secondly, the Cyreneans from the first century BC seem to be very careful in their exploitation of this area and in protecting it from livestock, and this seems to

[1] See section History and Geography: The silphium plant in Herodotus and Strabo.

suggest that the fertility of the region was having a reduction. Moreover, at the same time another plant, similar to silphium, at least in the appearance, starts being traded as a sort of substitute of silphium, perhaps because the sapling was becoming quite rare. Finally, another sign of its possible extinction could be the disappearance of the plant on the coins of Cyrene, whereas it was considered its main symbol over the previous years. The extinction of the silphium plant is an open debate since botanists and scholars in general are still trying to understand and explain if it is really fair to talk about its extinction; some of them, who do not believe in its disappearance, are also looking for a plant that grows in Libya yet, and could be associated with silphium.

Usually, the disappearance of plants is explained with some substantial climatic change. It is possible to note that in Libya there was in the last 2,500 years a climatic change that made the climate more arid and dry; however, it is hard to believe that it could be the real, and only, reason for the extinction of the silphium plant[2]. In my opinion, men contributed significantly to the disappearance of the sapling, by exploiting in a immoderate and irrational way the narrow area[3] in which it grew. Strabo[4] and Solinus[5] ascribed the loss of the shrub to the ferocious devastations of the area made by nomad people; however, it is difficult to believe that they could be so violent to destroy the whole zone. Perhaps, the size of the silphium-producing area was already reduced, and the devastations of the nomads led to its final extinction. Therefore, it seems fair to say that the disappearance of the shrub in Libya was caused by a combination of causes rather than a specific reason.

Thus, I think that the plant does not grow in North Africa any more, and it actually died out ages ago. However, it is interesting to note how it still attracts the attention of many

[2] Bonacelli 1922: 386-397.
[3] Silphium was a wild plant growing in a narrow area of Libya. Ancients tried to grow it but without success.
[4] *De Geographia* 17,3.
[5] *Collectanea rerum memorabilium* 27,48.

scholars who are trying to identify it with some vegetable species still growing in Libya[6].

[6] Manunta: 1991-1992: 211-218.

IMPLICIT ALLUSIONS TO THE SILPHIUM PLANT IN LATIN LITERATURE

By studying the silphium plant and analysing the ancient sources that mention this sapling, at some point of my research, I asked myself if the explicit quotations in the Greek and Latin texts were the only kind of reference to this shrub. With time I realised how valuable the silphium plant was considered in the past with regard to its numerous properties, whether they were real or a simple imagining of the ancient people. Therefore, I decided to look for some implicit allusions to this plant, and I chose to start with the analysis of some Latin sources. The first step was the singling out of the works that could refer to the plant, and I used their subject as a criterion to select them. Thus, I decided to make a list of Latin works dealing with geography, history, agriculture, cuisine, medicine, veterinary and culture in general, in which the silphium plant is not explicitly mentioned but there could be some hidden reference to it. However, I have to say since now that during this year I was not able to complete the analysis of all of them, since at the same time I was mostly focused on the Greek texts in which the plant is explicitly, and also quite frequently, mentioned. I am reporting the list I made and I intend to analyse in this section the works I took into account, either if the research was successful or not. The list follows an approximate chronological order:

Caesar, *Bellum Africanum*

Ovid, *De medicamina faciei*

Ovid, *Remedia amoris*

Lucan, *Bellum civile IX*

Pomponius Mela, *De Chorographia*

Sammonicus, *Liber medicinalis*

Nonius Marcellus, *De compendiosa doctrina*

Macrobius, *Saturnalia*

Before talking about the results of my research, I would like to explain briefly why I chose to take into account these books[1]; in particular, I am referring to the works I was not able to analyse because of the time, while I will talk about the books I was able to examine more deeply later on in this section.

Serenus Sammonicus wrote a work in hexameters entitled *Liber medicinalis*, in which he proposes several cures listed in about sixty medical prescriptions. He lived in the third century AD, therefore it is quite unlikely that he saw the silphium plant. However, that does not mean that he did not hear anything about the sapling, and perhaps he mentioned it in his work, probably only for the sake of erudition; moreover, it is fair to think that he had a general idea about the shrub since he surely read *Naturalis Historia* by Pliny and the work of Dioscorides, which seem to be his main source of information. Thus, even if he does not explicitly quote the plant in the medical prescriptions, since it was extinct and could not be used as a remedy in his days, it is still possible that he implicitly refers to this shrub, and especially when he talks about the medical properties of some other plants.

In the fourth century AD, the Numidian Nonius Marcellus wrote an important work of erudition entitled *Compendiosa doctrina*; it is for his son and it is a sort of encyclopaedia addressed to educate him. The work consists of twenty books, and it is clearly divided into two parts: books 1-12 deal with grammar and linguistics; the second part (books 13-20), which is shorter, but more interesting for this study, is a collection of information about several subjects, such as weapons, sailing, clothes, tools and food. This work is particularly important and precious because of the large amount of data

[1] General information about these Latin works are mostly taken from two famous and reliable Latin literature Monaco 1994 and Conte 1989.

gathered in it, and the main scope of Nonius Marcellus is to provide his son with as much information as possible to enrich his culture. Thus, even if he lives in a period of time when the silphium plant was without any doubt extinct, it is fair to think that he possibly heard about the sapling, and perhaps added some rough references to it in his vast work, and possibly in the section devoted to food.

Approximately at the same time, maybe a little bit later, Macrobius, who was from Africa too, wrote another encyclopaedic work, which is dedicated to his son, like that of Nonius Marcellus. *Saturnalia* consists of seven books in which the author imagines and describes a banquet where famous people and scholars came together and discussed about several matters. He reports these conversations that dealt with many different aspects of life, such as religion, law, rhetoric, and many other subjects. The work is lacking in originality[2], and it seems to be a simple listing of information. However, I thought it could be interesting to read it and see if there were also some vague allusions to the silphium plant, which was still quite famous and renown at that time.

Unfortunately, I did not have enough time to read and analyse all of the works I listed, and I cannot add any information about possible implicit references to the sapling in them. For now, I would love to imagine that the silphium plant is mentioned in some way even in these quite late works; however, I will be able to say something more specific only after a meticulous analysis of them.

As for the works I was able to examine, some of them did not give me any hint to think of the silphium plant; however, others had a few allusions that can be associated to it. Firstly, I intend to talk about the works of Caesar and Pomponius Mela, since I did not

[2] Monaco 1994: 586

find in them any allusion, either direct or indirect, to the shrub; secondly, I would like to report some passages of Ovid and Lucan which seem quite interesting for this study.

Gaius Julius Caesar was without any doubt one of the most important figure in Ancient Rome[3]; he was born around 100 BC, and he came from a very famous family that claimed ancient nobility, since Iulius, son of Aeneas, was considered its first member. Besides his renowned descendants, Caesar was characterised by deep culture, remarkable oratorical skills and political ability[4]. His career was extraordinarily quick and he completed the whole *cursus honorum* in about ten years. He was also a versatile author, and his most famous works deal with two important wars; *Gallic War* reports the military campaign in Gaul occurred between 58 and 52 BC, and *Civil War* tells about the campaign against Pompeius during the years 49-48 BC. Aside these two works, Caesar's production includes other books written both in prose and in verse; however, some of them are considered obscure and spurious, and especially because of some stylistic and linguistic features that do not look similar to the usual style of Caesar. Among these works, there is one opus entitled *African War* where Caesar reports the war in Africa against the Pompeians, and his final victory at Thapsus in 46 BC. I decided to read this work with the intention to look for implicit allusion to the silphium plant; indeed, Caesar is describing military actions that took place in Africa, and since it is usually quite common to find in his works information dealing with geography and general matters concerning the place he is talking about, I thought it might be possible to find some allusion to the sapling as well. Moreover, he mentions grain so frequently that I was quite sure to get some references to the silphium plant too, since it was famous at that time, and as easy to find as grain. However, I must admit that there is not any kind of mention of the shrub in this work.

[3] Monaco 1994: 213.
[4] Monaco 1994: 213.

Pomponius Mela was born in Tingentera, costal city of Hispania Baetica, and lived in the first century AD. He is mostly remembered as an author of a pioneering Latin geography[5], entitled *De chorographia*, where in three books he delineates the order of the lands and seas on the globe; he also lists names of places and peoples, and provides a few ethnographic details about the different countries he is talking about. *Chorographia* is a rare term in Latin and it is quite complicated to find an English equivalent. 'In Greek technical literature *khôrographia* typically designates a written description (*graphê*) covering a district or region (*khôros*), perhaps a country, but in any case more than one individual place'[6]. Pomponius Mela, after a proem where he announces his project[7], begins his narrative by treating the continents in the order Asia, Europe, Africa, but then he proceeds in his description around the Mediterranean, through Africa first, then Asia, and Europe last. He devotes so many sections to Africa in general, and Libya as well as Cyrenaica in particular, that I thought useful for my study to read this work. Moreover, his base material clearly resembles that of Strabo[8], and we know that this author explicitly mentions the silphium plant several time in his *De Geographia*[9]. However, Pomponius does not seem to allude to the sapling, and even when he talks about Cyrenaica and provides some more specific details about its features, and mentions some of its symbols such as the oracle of Ammon or the Fountain of the Sun, he does not say anything, either very generally, about the silphium plant and its importance for that country. In any case I have to say that in the whole work the subject is both restricted and restrictive. He needed to describe the same features in each regions he treated, mountains, rivers, seas, peoples, cultural habits,

[5] OCD.
[6] Romer 1998: 4.
[7] *Orbis situm dicere* (1,1).
[8] OCD.
[9] See section History and Geography: The silphium plant in Strabo and Herodotus.

important cities, coasts, and so on. 'Climate, locale, natural resources, or architecture can underline a city's or region's claim to fame, of course, but more typically fame depends on wealth and power, history, or legend. Mela looks for what is worth remembering, without ever forgetting that his descriptions are limited to a brushstroke or two'[10]. All things considered, it seems fair to say that Pomponius Mela did not mention the silphium plant perhaps because it was already extinct at that time, and could not be considered a distinction of that country anymore.

Ovid himself provides some information about his life in one of the elegies in *Tristia* (4, 10). He was born at Sulmona, in Abruzzo, in 43 BC and he came from a wealthy family belonging to the equestrian class. He moved quite early to Rome where he started attending schools of grammar and rhetoric, and went to Greece to improve and finish his studies. He was not attracted at all by politics, whereas he felt a considerable inclination to poetry; he was a member of the circle of Messalla, and later on he took part to the circle of Maecenas, where he met famous poets, such as Horace, Propertius, Tibullus, and many others. His production can be easily divided into three groups[11]: The works written between 25 BC and AD 1 deal with love and eroticism; the compositions written between AD 1-8 are focused on antiquarian matters, and finally, the works written between AD 8-18 are known as the production of the exile. For this study I analysed in particular two works belonging to the first group: *Medicamina faciei femineae* and *Remedia amoris*. The first work is a treatise of cosmetic prescriptions that women can use for the preservation and improvement of their beauty. Only 100 verses survive, and it is fair to think that they were part of a bigger work; these verses are perfectly divided into two parts, and they are written with carefulness and abundance of medical terms. I decided to analyse this opus since the silphium plant was frequently

[10] Romer 1998: 20.
[11] Monaco 1994: 351.

used in medical prescriptions, and added with other substances for several purposes; moreover, Hippocrates refers in general to its utility to women, therefore I though it might be possible to find some references to it in this treatise as well. In v. 53 Ovid says:

Hordea, quae Libyci ratibus misere coloni

The Latin world *hordea* literally means barley. However, we do not have any evidence that this legume was so famous in Libya that it was appreciated in Rome as well. It is possible that Ovid with this word actually meant corn, whose real name in Latin was *frumentum*, since we know that it was copiously exported from Libya to Italy. Moreover, grain has some particular properties for the skin, and it is still used in modern cosmetics, especially to eliminate the signs of old age. This is the only passage in this work where a plant from Libya is mentioned, and it could be the only possible reference to the silphium plant; however, nothing really authorises me to think that Ovid used the world *hordea* meaning that sapling.

There is another allusion to a plant growing in Libya, and it is in the work entitled *Remedia amoris*. It is widely believed that this work was written right after *Ars amatoria*, since it seems a sort of continuation of it. In fact, *Ars amatoria* provides useful advises on how to love and be loved; on the contrary, *Remedia amoris* teaches how to resist love, which is considered here a sort of disease or hurt[12]. The poet gives remedies against this illness as if he was a doctor, and by having a considerable experience in that matter he teaches what is necessary to do to alleviate that pain. The therapy consists of a series of remedies; Ovid suggests the lovers that they should keep themselves busy with different activities, such as sport, hunting, fishing, and gardening.

[12] Ovid talks about *vitium, morbus, vulnus* when he refers to love.

Moreover, at the end of the work, he says that lovers should follow a particular diet, choosing foods that are not aphrodisiac. In verse 796 he says:

> I will tell you: avoid aphrodisiac foods, and drink either to excess
> or not at all.

It follows a list of foods to avoid, and here he mentions Libya:

> *Daunius, an Libycis bulbus tibi missus ab oris,*
> *An veniat Megaris, noxius omnis erit.*

> Bulb, either if it is from Daunia[13], Libya, or Megara, is dangerous.

Bulbus is a generic term, borrowed early from Greek; in general this term used to indicate bulbs or corms that were either eaten as food or used in medicine; by *bulbus* here Ovid refers to different kinds of plants depending on the various geographical races[14], of which the names of *bulbus Africanus, Megaricus* or *Daunius*. It seems fair to me to think that when Ovid refers to the Libyan species of *bulbus* he is actually thinking of the silphium plant, even though he does not mention it with its real name, and perhaps because at that time the sapling was already extinct; although, he could simply used the adjective Libyan to let people understand what he was referring to. Moreover, even if none of the ancient authors we have examined tell that the silphium plant was considered an aphrodisiac food, it is nevertheless possible, since it was a warm agent, and its smell was particularly strong, as were most of the foods with this peculiarity. In addition, the plant was often connected to onion and garlic, and

[13] Other name to designate Puglia, in Italy.
[14] Henderson 1979: 136.

especially in cuisine, and we know that these two bulbs were considered aphrodisiac[15]. Of course, this is just a conjecture, even if it seems quite reasonable and acceptable.

Lucan was born in AD 39 at Cordoba, in Spain, and he died when he was twenty six years old by committing suicide. He is considered the most original poet of the age of Nero, and he was completely immersed in his own world[16]. As a brilliant intellectual, he was a member of the poetic circle of Roman Emperor, and as it was common at that time, he went to Greece to improve his education. Among his vast production, only one work survives, and it is entitled *Bellum civile*. It consists of ten books written in hexameters, and it talks about the civil war between Caesar and Pompeius until their last clash in Pharsalus. The work was started around AD 60, and it is widely believed that it came to us incomplete[17], since it suddenly breaks off at verse 546 so that the tenth book is shorter compared with the others. The work comprehends about 80,000 verses characterised by 'tortuous wanderings and learned digressions, lively topographies, and descriptions of landscapes'[18]. After the first seven books, which are a condemnation of civil wars, the poem starts with the narration of the subject itself. I decided to take into account this work too for the research of implicit allusions to the silphium plant, and in particular book 9, when Lucan talks about the crossing of the Libyan desert by Caesar and his men. The author insists on the poverty of this area, and the lack of every kind of pleasure and amusement in it. Even ancient riches, such as the golden apples of Hesperides[19], disappeared and the area is in general arid and desert. Nevertheless, Lucan himself says:

[15] See also Ovid, *Ars amatoria* 2,421.
[16] Canali 1999: premessa al testo.
[17] See for example Monaco 1994: 406.
[18] Canali 1999: 8-10.
[19] Lucan, *Bellum civile* 357-360.

Hoc tamen segne solum raras tamen exerit herbas,

Quas Nasamon, gens dura, legit, qui proxima ponto

Nudus rura tenet...

Nevertheless, this arid soil produces some rare herbs,

Which are collected by Nasamones, strong people, who naked occupy the field closest to the sea...

(9,438-440).

Lucan is describing the area around the Syrtes and it seems to me a clear allusion to the silphium plant when he refers to rare herbs that used to grow in a region otherwise arid and dry[20]. Moreover, Lucan seems to allude to the sapling once again later on in this book when he says:

Ultima castrorum medicates circumit ignis.

Hic ebulum stridet , peregrinaque galbana sudant,

Et tamarix non laeta comas eoaque costos

Et panacea potens...

The camp's extremities are enclosed by a medicated fire.

Here elder hisses, foreign galbanum sweats moisture;

And tamarisk, not blessed in foliage, and eastern costos

And powerful panacea...(9,915-918)[21].

[20] See information given by Strabo in the section History and Geography: The silphium plant in Herodotus and Strabo.

[21] The translation is based on Braund 1992.

Indeed, when Lucan describes Libya, the expression *potens panacea* seems a clear allusion to the silphium plant, whose qualities in medicine were widely known and appreciated, more than any other plant growing in this land.

However, all of these conclusions are simple conjectures and the study itself needs to be completed with a more specific and detailed analysis.

THE SILPHIUM PLANT IN ANCIENT ICONOGRAPHY

1) The silphium plant on coins

I would like to conclude this work devoted to the silphium plant by analysing the many representations of the shrub in the ancient iconography. I will start taking into account the numerous coins of Cyrene[1], where the sapling appears quite frequently. Indeed, the silphium plant was often impressed on them, as a symbol of that general region, from the start of its monetization, around the sixth century BC, to the end of the autonomous coinage of the cities in Cyrenaica, probably around the second century BC. Thus, it was used as a symbol, deduced from nature, to represent the whole area.

It would appear that in the Archaic Age attention to this plant in iconography and art was mostly addressed to its fruit, and especially because it was easier to represent.

Cyrene starts its coinage, which was predominantly in silver, around 570-560 BC and since that time the silphium plant has been impressed on the coins of this colony[2]. As I said above, it is generally recognised that the fruit was the first part of the shrub to be represented on coins; it was hearth-shaped and could be either alone or with other examples of it, making in this case a sort of garland. However, with time, different objects started appearing on the coins of Cyrene, right next to the fruit of silphium[3]. They all are small things that actually did not have any relation with the plant itself, such as dolphins, lions and other animals and all of them were probably used with the only scope to fill the spaces on the surface of the coins. Later on the fruit was not anymore the main character on the coins of Cyrene but it played a secondary role and

[1] Laronde a.a. 1991-1992./ See also images at the end of this paper.
[2] Menozzi forthcoming.
[3] Robinson 1927.

was represented either next to the whole plant or to a gazelle that seems another frequent emblem of the colony.

More complicated, obviously, is the representation of the plant with all of its parts. According to Robinson[4] it is possible to recognise three main types of it, and perhaps a fourth one, surely more unusual, in which there are three images of silphium combined to make a sort of garland. The classification made by Robinson is essentially based on the degree of realism in the representation of the sapling; the coins gathered in the first type have a quite reliable image of the plant as it has been described in the ancient textual sources, with its thick root, two or three different stages of leaves and a round flower on the top. The second type includes illustrations of the sapling seen from the front and they are definitely more inanimate and rigid. The third one, then, is even more static and stiff; the image of the plant is very stylized in its essential features.

At the same time, it is possible to find some coins on which other parts of the sapling are impressed, like the leaves, the root or the round flower but I have to say that there only a few sporadic examples of them.

The silphium plant was usually represented on observe of the coins while on the other side there could be many other objects, and quite frequently Zeus Ammon or Apollo Carneios. It seems fair to say that only with the last series of coins, dated between 375-350 and 308 BC, the sapling started being impressed on the reverse and that could be a kind of sign of the slow drop in importance of the plant itself since it was becoming more and more difficult to find.

To sum up, it is reasonable to say that the analysis of the coins is quite helpful to reconstruct the fundamental features of the silphium plant; at the time of its highest glory and renown the sapling was represented on the observe of the coins of Cyrene as an undoubted symbol of the colony and the general area around it; it was also associated

[4] Robinson 1927: 251-271.

with other important and significant emblems of that region, such as the gazelle and Zeus Ammon. In the Ptolemaic Age it started being impressed on the reverse, therefore loosing its prestige, and eventually it completely disappeared both on the coins and in general in the whole country.

2) Statuettes with the image of the silphium plant

The renown and appreciation of silphium seems to find another confirmation in what is usually called 'the goddess of the silphium plant', a deity who actually took care of this precious sapling[5].

The first iconographical evidences of it are some very rare coins of Cyrene, dated between 525 and 480 BC, on which a female figure sitting on a throne is represented. She is stretching her hand to a big plant of silphium whose size is completely exaggerated in order to emphasise the plant itself. Looking at these images, it is probably fair to say that the attention of the goddess seems to be particularly addressed to the fruits of the sapling, as in general it happened in the ancient iconography.

However, some earthen statuettes that symbolise a female figure wearing a long, pleated dress and a cloak, such as Libyan women used to be dressed in, represent the most significant illustrations of the divinity. She grasps a stalk of silphium in one hand and in the other one she can have either a gazelle, garland, sickle or a cup. Basically, all of these statuettes have the same attributes, however, there is one figurine that differs from all of the others for one own feature. Indeed, the goddess is represented on her feet, wearing a long dress and having a stalk of silphium in her hand as it happens with the other statuettes but she is also κουροφορός, she holds a baby on her shoulders. This

[5] See images at the end of this paper.

sculpture is dated between the end of the fifth century and the end of the third century BC and it is now kept in France, at the Louvre[6].

It is widely believe that 'the goddess of the silphium plant' is a local divinity with her own features, however, it is also true that archaeologists, and scholars in general, are still arguing about the correct interpretation of this female figure. The Libyans considered her as a local goddess, an autochthonous divinity and a protector of their land. On the contrary, the Greeks respected her as a deity who promoted and aided the development of agriculture, and especially the exploitation of the silphium plant; they probably identified her in one of their goddesses: Aphrodite, Artemis, Athena, Demeter, Hera or Hestia. However, there is not very convincing evidence about the connection between the goddess of the silphium plant and these divinities.

It has also been suggested that she should be considered as the nymph Cyrene even though the general iconography of her does not totally reflect the representations of the goddess; others thought of the nymph Libya, called by Pliny 'εὐρυλείμων πότνια'[7], however, even in this case, there are no clear and convincing proofs. To some extent, it seems temping to say that these statuettes represent in general Cyrene or the whole Cyrenaica whose the most precious good was, without any doubt, the silphium plant.

In my opinion, it is more reasonable to consider her as a local deity who kept the plant which played an important and crucial role in the life and economy of the colony

3) The Arcesilas' Cup

Another very interesting evidence of the value of the silphium plant is what is generally called 'the Arcesilas cup'[8]. It is a Laconian cup, dated to the sixth century BC, one of the most famous vases of that time, now preserved in Paris, at the Cabinet des Medailles

[6] Fabbricotti 1993.
[7] Pind., *Pythian* 4, 464.
[8] See image at the end of this paper.

of the Bibliothèque Nationale[9]. Many scholars who actually interpreted it in different ways have studied it, over the previous years. I am following the version suggested by Francois Chamoux[10] who, in my opinion, gained the definitive solution.

The scene represented on the cup seems to be placed in Africa, and precisely in the colony of Cyrene, perhaps in the ἀγορά or outside the royal palace. In the past, some scholars thought that the event was actually set on a ship by looking at the tapestry which is on the back of the main character and by interpreting it as a sail. In truth, it seems fair to consider it as a kind of *velum* used to shelter that person from the sun. It is easy to recognise Arcesilas in this character thanks to the clear inscription over his head (ΑΡΚΕΣΙΛΑΣ). It is generally accepted that it is Arcesilas the Second whose reign in Cyrene can be set around 560 BC. The king is sitting on a stool, wearing a ceremonial dress and supervising a strange and curious object weighed and stored by some officials, whose function is specified by the inscriptions over their heads. First of all, we can look at "the loads-carrier" ([E]ιπμοφορος) whose body is not totally clear both because of the bad conditions of the cup just in this part of it and since he is almost super imposed on the other officer. He is holding on his shoulders a dark, light sack containing perhaps the obscure object that needs to be weighed. In the middle of the scene there is a huge scale and some small, oblong, white blocks on the floor and next to them "the person in charge of the scale" (E[πι]σταθμος) and "the weight-controller" ([I]σοφορτος) deal with the weighing of that item. Thus, the goods are gathered and weighed and then put in sacks by "the manipulator of silphium" (Σλιφομαχος) with the help of "the digger" (Οπυξ[ο]ς) whose role seems to be the cleaning of it. Therefore, it would appear that the object represented on the cup is actually the silphium plant that

[9] Inv. 189; CVA France 7, Paris Bibliot. Nat., I, pl. 20-2.
[10] Chamoux 1953: 256-263.

was picked up by the local people and given to the king who administered its purchase by having a monopoly of it.

After these processes, the sacks containing the precious plant are brought by two other officers to a storehouse guarded by a "keeper" (Φυλακος) and this scene is represented low on the cup, *in esergo*.

Another thing we have to consider now is the identification of which part of the plant is actually represented on the cup and I have to say there are different opinions about that. For example, Chamoux refers to its root, well cleaned from its black bark, perhaps from "the digger". However, I prefer following another explanation. Indeed, reading some of the ancient sources[11] that talk about silphium, we construe that the juice of the plant (ὀπός) was exported by using a particular trick; in fact, it was mixed either with flour or bran, and by that, it became thick and obtained an oblong shape very similar to the images of the objects impressed on the cup. This expedient was useful to avoid the deterioration of the gum resin during travel and also to defraud purchasers by giving them a product which was not completely pure. Also, the juice could be saved for a longer period of time, with a good circulation of air, in some sacks which were brought and kept in the caves of Cyrene called for that reason "the mines of silphium".

It is hard to determine which of these hypothesis is the right one but it is still quite sure that these images illustrate some part of silphium which played a crucial role in the economy of the colony and that is why it was a royal affair like it is clearly demonstrated on this masterpiece of art.

[11] Theophrastus *Historia Pantarum.* 6,3,2; Pliny *Naturalis Historia.* 19,39-45.

3) Capitals with silphium

To conclude this section devoted to the iconographical sources where the image of the silphium plant is found, I would like to refer to two examples of capitals[12] with the representation of the sapling. They are the last two images we have of the shrub since

both of them are dated to the second century AD when the plant was presumably already extinct; indeed, around the first century AD it started being quite rare and became more and more difficult to find until its definitive extinction.

The first representation I would like to take into account is on a capital of the house of Jason Magnus, placed in the middle of the ἀγορά of Cyrene. This capital is quite interesting since two important and representative symbols of the country are on it: the silphium plant and Battus I, founder and first king of the Greek colony, who was considered the real owner of the plant as well[13]. Thus, silphium and Battus were associated as two emblems of Cyrene, representing on the one hand its settler and on the other hand the plant that gave fortune and renown to the whole country.

The second example I will refer to is a bunch of three capitals in the quadriportico of the *asclepieion* at Balagrae. The first thing we have to consider is the presence of the silphium plant in a sanctuary devoted to the god of medicine, Asclepius; this choice is definitely not accidental since the sapling was supposed to have many efficient medical properties. Moreover, it is probably fair to say that the plant on these capitals, besides being a symbol of medicine, is also an ornamental part of the porch. Indeed, compared with the static and stylized representation of it on the capital of the house of Jason Magnus, this one is definitely more harmonious and the shrub appears on all of the three capitals where there is a big image of silphium in the middle and two small illustrations

[12] See images at the end of this paper.
[13] Hesichius: Βάττου σίλφιον; see also Aristophanes, *Plutus* 925: '...Battus' silphium'.

of it up on the corners. In any case, both of these representation are quite simple and essential since their only intention is to recall what gave so much wealth to a country that was very rich but not any more.

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OED *Oxford English Dictionary*, Clarendon Press Oxford, 1991

CG *Corpus Galenicum*

CMG *Corpus Medicorum Graecorum*

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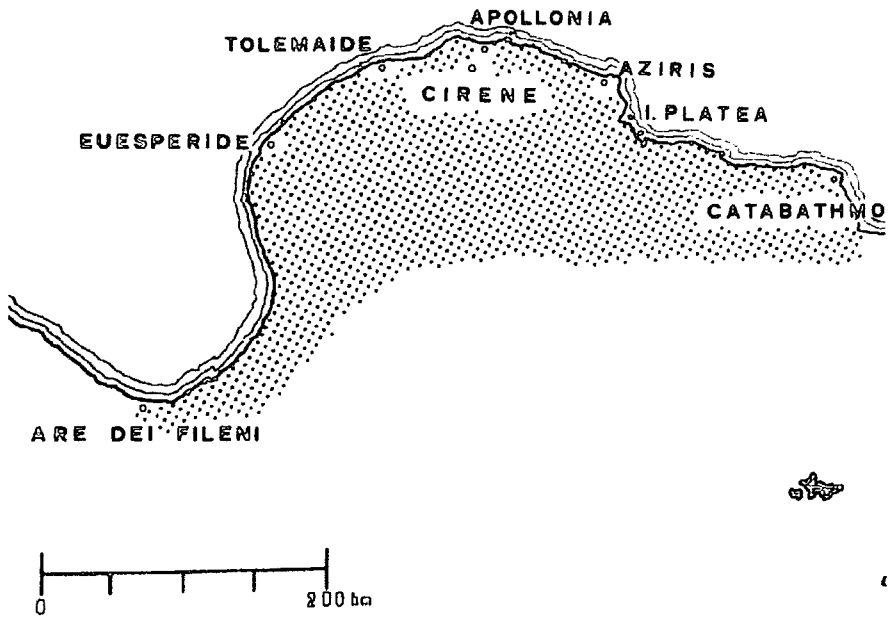
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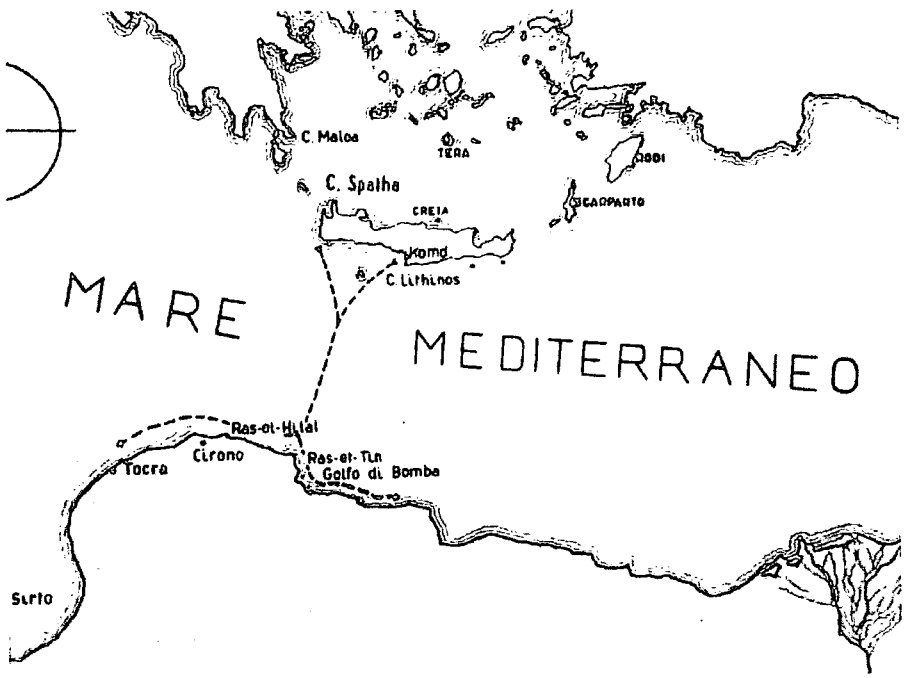
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Coins With The Silphium Plant And Its Heart-Shape Seed

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Statuettes With The Goddess Of The Silphium Plant

Arcesilas Cup

Capitals With The Silphium Plant

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- Capital
  Asclep
  (Balagı