

Piero de' Crescenzi, *Liber ruralium commodorum* (Book on Rural Arts): Book 8 On Pleasure Gardens

STUDIES IN THE HISTORY OF GARDENS AND DESIGNED LANDSCAPES : BAUMAN

Text and translation

De viridariis et rebus delectabilibus ex arboribus, herbis et fructu ipsarum artificiose agendis

On making gardens and delightful things skillfully from trees, plants, and their fruit

Praefatio

1. In superioribus libris tractatum est de arboribus et herbis, secundum quod utilia corpori humano existunt; nunc vero de eisdem dicendum est, secundum quod animae rationali delectationem afferunt et consequenter corporis salutem conservant, quia complexio corporis animi semper adhaeret affectui.

Preface

1. In the previous books, trees and herbaceous plants were discussed according to how they can be useful to the human body; but now the same ones must be discussed according to how they give pleasure to a rational soul and consequently preserve the health of the body, since the humoric state of the body is always closely related to the disposition of the soul.

1. De viridariis herbarum parvis

1. Viridaria quaedam ex herbis tantum, quaedam ex arboribus, quaedam ex utroque fieri possunt; et quae de herbis solummodo fiunt, desiderant terram macram et solidam, ut herbas subtiles et capillares creare possint, quae maxime visum delectant. Oportet igitur locum, qui ad viridarium tale paratur, primo bene liberari ab herbis et radicibus adulterinis et magnis; quod vix fieri poterit, nisi primum effossis radicibus optime planetur locus et ubique fortiter infundatur aqua ferventissima, ut reliquiae radicum et seminum in terra latentium germinare nullatenus valeant. Et deinde caespitem macro subtilis graminis totus locus impleatur et ipsi caespites optime comprimantur ligneis malleis et conculcentur gramina pedibus, donec vix de ipsis aliquid appareat; tunc enim paulatim erumpent capillariter et superficiem ad modum panni viridis operient.

2. Sit autem locus viridarii quadratus tantae mensurae, quod sufficiat his, qui in eo stare debebunt. In circuitu vero eius herbae aromaticae omnium generum plantentur, ut sunt ruta, salvia, basilicon, maiorana, menta et similes, et similiter omnis generis flores, sicut viola, lilium, rosa, gladiolus et similia. Inter quas herbas et caespitem planum sit caespis elevatior et quasi per modum sedilium aptatus, florens et amoenus. In caespite etiam contra vim solis plantandae sunt arbores aut vites decendae, ex quarum frondibus quasi protectus caespis umbram habeat delectabilem et refrigerantem. In arboribus autem illis plus quaeritur umbra quam fructus, et ideo non curetur de earum fossura et fimatione, quae caespiti nocumentum afferret.

1. On small gardens of herbs

1. Certain gardens may be made only of plants, others of trees and yet others of both. When consisting only of plants they require fine and compact soil, so that they may yield fine and delicate plants that greatly please the sight. Therefore, the place which is prepared for such a garden should first be freed of weeds, which is difficult to do, unless first, after the space has been cleared of roots, it is well leveled and then the space is thoroughly soaked with scalding water, so that the remaining roots and seeds lying hidden in the ground will be altogether incapable of sprouting. And then the whole plot should be filled with a fine turf of thin grass, and the turfs themselves completely compressed with wooden mallets and the blades of grass trodden underfoot, until hardly any of them are visible. Then it [the grass] will burst forth gradually like hair and cover the surface like a green cloth.

2. The site of the garden should be of such a measure as may suit those plants that are expected to exist in it. Along the edge of the garden should be planted fragrant herbs of all kinds, such as rue, sage, basil, marjoram, mint, and the like, and also flowers of every type, such as violet, lily, rose, gladiola, and the like. Between these plants and the level turf raise and form [another] turf in the fashion of a seat, flowering and pleasant. Plant trees or train vines on the turf against the heat of the sun; the turf will have a pleasant and cool shade from their leaves, in the manner of an overhang. Shade more than fruit is sought from those trees, and therefore they should not be dug or manured, activities that might harm the turf.

3. Cavendum est autem in his, ne sint arbores nimis spissae aut plurimae secundum numerum, quoniam ablatio aëris sanitatem corrumpit; et ideo viridarium liberum aërem desiderat et superflua umbra infirmitates generat. Amplius non sint arbores malae sicut nux et quaedam aliae, sed sint dulces, aromaticae in flore et iocundae in umbra, sicut sunt vites et piri et mali et mala Punica et lauri et cypressi et huiusmodi. Post caespitem sit magna herbarum medicinalium copia et aromaticarum diversitas, cum non modo delectent ex odore secundum olfactum, sed et flores diversitate reficiunt visum. In quibus ruta pluribus locis admisceatur, eo quod pulchrae est viriditatis et ipsa sua amaritudine fugat extra viridarium animalia venenosa.

4. In medio autem caespitis nihil sit arborum, sed potius ipsa planities libero gaudeat aëre et sincero, quia ille aër salubrior est, et etiam araneorum telae extensae de ramo arboris ad ramum impedirent et inficerent vultus transeuntium, si arbores in medio viridarium sive caespis plantatas haberet. Si autem possibile sit, fons purissimus derivetur in medio, quia ipsius puritas multam affert iocunditatem. Ad aquilonem et orientam viridarium sit patulum propter illorum ventorum sanitatem et puritatem. Ad oppositos autem ventos, scilicet meridionalem et occidentalem, sit clausum propter illorum ventorum turbulentiam, imputitatem et infirmitatem. Quamvis enim aquilonarius impediatur fructus, miro tamen modo conservat spiritus et sanitatem custodit. Delectatio enim quaeritur in viridario et non fructus.

2. *De viridariis mediocrium personarum magnis et mediocribus*

1. Secundum facultates et dignitatem mediocrium personarum mensuretur spatium terrae viridario deputandae, videlicet duo vel tria vel quattuor aut plura iugera sive bubulcae. Cingatur fossatis et sepibus spinorum vel rosarum, et desuper fiat sepi de malis Punicis in locis calidis, et in frigidis de nuzolis seu prunis vel malis citoniis. Item aretur et erpexe vel ligonibus plantetur undique locus; deinde funiculo universus signetur locus, ubi arbores sunt plantandae. Plantentur in eo acies pirorum et malorum et palmarum in locis calidis et citronorum, item mororum, cerasarum et prunorum et similium arborum nobilium, ut ficuum et nuzolorum et amygdalorum et malorum citoniorum et Punicorum, unumquodque videlicet genus in suo ordine sive acie.

3. But care must be taken that the trees are not exceedingly thick or too many in number, which, by removing air, damage health; and this is because a garden needs free air and excessive shade breeds impurities. Furthermore, the trees should not be noxious, such as nut trees and some others, but sweet, fragrant in flower and pleasant in shade, such as vines, pears, apples, pomegranates, laurels, cypresses, and the like. Behind the turf there should be a great number and variety of medicinal and aromatic herbs, since they not only delight by their odor, but their flowers also refresh the sense of sight by their variety. Disperse rue among them in many places, because of its beautiful green color and because its bitterness drives poisonous animals from the garden.

4. There should be no trees in the middle of the turf, but this level place should rather enjoy free and pure air, since that air is healthier, and also since spiders' webs stretched from one branch to another would block the way and contaminate the faces of those passing through, as would be the case if the garden or the turf had trees planted in the middle of it. And, if possible, a very pure spring should be diverted into the middle of the garden, because its purity produces much pleasantness. The garden should be open to the north and the east because of the health and purity of these winds. It should be closed in the direction of the opposing winds, namely the south and west, on account of their violence, impurity, and unhealthy quality. Although the northeast wind may hinder fruit, it marvelously preserves the spirits and ensures health. For delight and not fruit is sought in the garden.

2. *On large and moderate gardens of persons of moderate means*

1. Let the space of the earth set aside for the garden be measured according to the means and rank of persons of moderate means, namely, two or three or four or more *iugera* or *bubulcae*. The space should be surrounded with ditches and hedges of thorns and roses, and moreover, in warm places a hedge of pomegranates should be made and in cold places of nuts or plums and quinces. Again, plough the space and make it flat on all sides with a rake or with hoes; afterwards, mark out the entire space where trees are to be planted with a cord. Plant lines of pears and apples in it, and, in warm places, lines of palms and lemons. Or plant lines of mulberries, cherries, plums, and lines of such noble trees as figs, nuts, almonds, quinces, and pomegranates, each one clearly in its own line or row according to type.

2. Distent autem ordines sive acies viginti pedibus adminus vel quadraginta aut pluribus pro domini voluntate. In acie distent arbores abinvicem magnae viginti pedibus, parvae decem. Inter arbores in aciebus plantari poterunt vites nobiles diversorum generum, quae delectationem et utilitatem afferant. Ligonizentur acies, ut arbores et vites melius convalescant, et universa spatia deputentur pratis atque saepe de ipsis adulterinae sive magnae evellantur herbae. Secentur bis in anno prata viridarii, ut pulcra permaneant. Plantentur et formentur arbores, ut supra libro quinto dictum est, per ordinem de unoquoque genere. Item fiant in eo pergularia in convenientiori parte ad modum domus vel papilonis formata.

3. *De viridariis regum et aliorum illustrium et divitum dominorum*

1. Quoniam tales personae propter eorum divitias et potentiam possunt in mundanis rebus suae satisfacere voluntati nec deest eis plerumque nisi industria ordinandi, sciant, quod viridarium multam delectationem habens hoc modo facere possunt. Eligant igitur locum planum non paludosum neque impeditum ab insufflatione bonorum ventorum, in quo sit fons per loca fluens. Sit autem locus viginti iugerum aut plurium pro domini voluntate. Cingatur muris convenienter altis et plantetur in eo ex parte septentrionis nemus arborum diversarum, in quo fugiant et se occultent animalia silvestria in viridario posita.

2. Ex parte vero meridiei fiat palatium speciosum, in quo rex vel regina morentur, cum voluerint graves cogitationes fugere animamque // gaudiis et solaciis renovare. Ab hac enim parte faciet aestivo tempore viridario umbram et ipsius fenestrae ad viridarium temperatum habebunt aspectum non fervore solis impeditum. In eo fiat in aliqua parte vivarium supradictum; fiat etiam in eodem pisceria, in qua diversa genera piscium nutriantur; et lepores, cervi, cuniculi, caprioli et similia animalia non rapacia ponantur in eo.

3. Et supra quasdam arbusculas prope palatium positas fiat sicut domus quaedam tectum et parietes habens de filo rameo spisse reticulata, in qua ponantur perdices, fasiani, filomenae, meruli, cardilini, faynelli et omnia genera avicularum canentium. Sint autem acies arborum viridarii a palatio ad

2. The lines or rows should be spaced twenty feet apart, more or less, or forty feet or more, according to the will of the master. The large trees should be spaced in a line twenty feet from the other and the small trees should be spaced ten feet from each other. Noble vines of different types that provide delight and utility may be planted between the trees. Hoe the lines of trees so that the trees and vines grow stronger, and treat the intervals as meadows and weed them often. Mow the meadows of the garden twice a year, so that they may remain beautiful. Trees should be planted and shaped, as was stated above in Book v, in rows of each kind. Again, pergolas formed in the manner of a house or a tent should be made in the most suitable part [of the garden].

3. *On gardens of kings and other illustrious and wealthy lords*

1. Because such persons by reason of their riches and power are able to satisfy their own will in all earthly things and almost nothing is wanted by them, except the labor of setting workers to task, they should know they are able to make gardens having many delights in this manner. They should, therefore, choose a flat place, not marshy or screened from the flow of good winds, in which there is a spring flowing through the place. And the spot should be twenty *iugera* or more, according to the will of the master. Suitably high walls should surround it, and in the northern part it should be planted with a grove of various trees, in which wild creatures placed in the garden may flee and hide.

2. In the southern part there should be built a handsome palace, in which the king or queen may linger when they wish to escape from heavy thoughts and to renew the spirit by means of joys and solaces. For from this area it [the palace] will create shade for the garden in the hot season and its windows facing onto the temperate garden will enjoy a view unhindered by the heat of the sun. An enclosure for animals, which is discussed above, should be made in another part of the garden; in this *vivarium* should be made a fish pond in which various types of fish are raised; and hares, stags, roebucks, rabbits, and similar non-predatory beasts should be put in it.

3. And above certain bushes placed near the palace, a kind of house should be made that has a roof and walls densely woven from thick boughs, into which are placed pheasants, partridges, nightingales, blackbirds, goldfinches, linnets, and all other kinds of singing birds. In the garden there

nemus multum distantes, ut facilius de palatio videantur, quaecumque agunt animalia in viridario posita.

4. Fiat etiam in ipso viridario palatium cum caminatis et cameris de solis arboribus, in quo possint rex vel regina cum baronibus vel dominabus esse tempore non pluvioso. Huiusmodi autem palatium fieri poterit commode tali modo: Mensurentur et signentur spatia universa caminatae et camerarum et in locis parietum plantentur arbores fructiferae, si placet, quae facile crescant, ut sunt cerasa et mali vel, quod melius est, plantentur ibi salices vel beduli vel ulmi et tam incisionibus quam palis et perticis et vinculis per plures annos eorum procuretur augmentum in tantum, quod parietes et tectum formentur ex eis.

5. Velocius vero et facilius poterit palatium sive domus praedicta fieri de lignamine et undique circa ipsam plantari vites et universum aedificium operiri. Poterunt etiam in ipso viridario fieri tentoria magna de lignamine sicco vel arboribus viridibus et vitibus operiri. Amplius multam afferet delectationem, si in viridario fiant insitiones mirabiles et diversae in eisdem arboribus, quas diligens viridarii cultor facile scire poterit ex his, quae in secundo maxime libro dicuntur.

6. Praeterea scire oportet, quod omnia genera arborum et herbarum in tali viridario sunt ponenda unumquodque separatim ab alio et distinctum, ne aliquem videatur habere defectum. In tali itaque viridario non semper delectetur rex, sed aliquando, cum seriis et necessariis satisfecerit rebus, renovetur in eo, glorificans deum excelsum, qui omnium bonarum et licitarum delectationum principium est et causa.

4. *De his, quae ad delectationem fieri possunt in munitionibus curiarum et viridariorum*

1. Circa tumbas et curias sive circa viridaria congrue fieri possunt munitiones ex arboribus viridibus similes munitionibus muri sive palancati vel stecatae cum turribus sive bitifredis hoc modo: In summitate riparum cingentium locum liberatarum optime ab omnibus spinis et arboribus vetustis profunde plantentur salices vel populi, si solum competit eis, vel ulmi, si diligunt talem terram, spissae per unum pedem vel minus et linea recta ductae. Hae cum optime convaluerint, incidantur iuxta terram et sequenti anno surculorum proles per loca lineae quaternis digitis inspissentur et cum palis et perticis

should be rows of trees spaced far apart from the palace to the distant grove, so that the animals placed in the garden may be seen easily from the palace.

4. In this garden there should also be a palace with walks and bowers made from nothing but the trunks of trees, in which the king and queen can meet with the barons and lords when it is not the rainy season. And a palace of this type can be made easily in such a manner: the whole space of the walks and bowers should be measured out and demarcated and, if it pleases, fruit trees that grow easily, such as cherries and apples, should be planted in place of walls; or, what is better, willows or elms or birch trees should be planted there, and their growth should be controlled for several years, both by grafting and by stakes, poles, and ties, so that walls and a roof might be formed from them.

5. The aforesaid palace or house may be made more quickly and easily of wood, and vines may be planted around it on all sides and cover the entire structure. Large shelters of dead wood or living trees covered with vines can be made in the garden itself. Furthermore, much pleasure will be provided if marvelous and various grafts are made on the same trees in the garden, which the attentive cultivator of the garden is able to know easily from what is said extensively in the second book.

6. Moreover, it behooves one to know what kinds of trees and plants should be placed in such a garden, each one separate and distinct from the other, so it is not found to have any fault. In such a garden, therefore, the king will not only take pleasure, but sometimes, after he has performed serious and obligatory business, he can be renewed in it, glorifying God on high, who is the origin and cause of all good and legitimate delights.

4. *On those things which are able to be made for the sake of pleasure in the fortifications of estates and gardens*

1. Walls of living trees resembling fortification walls or phalanxes or palisades with towers or defensive towers can be made appropriately around the land and the estate, or around the garden in this way: if the soil agrees with them, plant willows or poplars abundantly on the top of the embankments surrounding the space that has been thoroughly freed from thorns and old trees; or plant elms, if they prefer such soil, at a density of one foot or less and placed in a straight line. When they are fully strengthened, prune them close to the ground and in the following year transplant the offspring of the [original]

et vinculis sursum directe decantur, donec augmentum octo vel decem pedum susceperint. In ea altitudine, cum aliquantulum ingrossatae fuerint, incidantur.

2. Infra vero locum munitionis per quinque pedes vel circa similes plantae tempore priorum plantentur decem pedibus distantes. Quae cum in praedicta fuerint altitudine, incidantur et cum auxilio perticarum versus proximas et versus exteriores plicantur plantas, et exteriores similiter versus eas. Et sic totiens quolibet anno fiat, donec quasi cratis quaedam fortis effecta sit, super quam possint homines secure morari. Deinde pars exterior dimittatur augeri ad modum muri supra cursorium positi, quae in altitudine congrua quolibet anno incidi cum forma merlorum super muris positorum poterit et tali modo teneri.

3. Circa talem munitionem in angulis et alibi, si placuerit, poterunt quattuor arbores plantari et sursum directe conduci et singulis decem pedibus incidi et versus se ipsas plicari cum auxilio perticarum et velut solaria ex se ipsis fieri et iterum in altum extolli et eodem modo formari, et tandem desuper plicari ad modum tecti domorum vel cum merlis formari. Super ianuam vero optime stabit domus et ante ipsam solarium arborum praedictarum. In curiis etiam sive viridariis fieri potest domus cum columnis viridibus ipsis iam grossis optime transplantatis et trabibus super ipsis affixis et tecto cannarum vel palearum opertis, dum tamen aliquis ramus ex singulis columnis emineat supra tectum; quod ipsam columnam semper ab ariditate tuebitur et domum ipsam mirabiliter ab aestivo fervore defendet.

5. *De his, quae in campestribus agris fieri ad delectationem possunt*

In agris plurimum delectat pulcer ipsius situs amplius quod non sint plures deformes agelli, sed magna quantitas in unum sine intervallo redacta directos habens confines. Et ideo procurare debet quilibet diligens pater familias prope suos agros potius quam alibi emere et in aliis partibus agellos vendere et cum vicinis permutare partes superfluas et tortuosas agrorum et sum agrum

shoots in the spaces every four fingers between the lines of trees, and train them directly upwards by means of stakes and props, until they have grown eight or ten feet. At that height, after they have filled out a fair amount, they should be pruned.

2. Below the site of the wall, along a distance of five feet, more or less, plant similar plants standing ten feet apart at the same time as the previous ones. When they have reached the instructed height, prune them and, with the help of props, bend them towards the nearest of the outer plants and likewise the outer ones towards them. And do this so many times in a given year until a kind of sturdy lattice frame has been made, above which people are able to linger safely. Then the outside part should be set out to grow in the fashion of a wall placed above a pasture; this can be pruned at an appropriate height in any year, with the crenellated shape placed atop the wall and maintained in such a manner.

3. Around such a wall, at the corners and elsewhere, if it pleases, four trees can be planted and trained directly upwards, then pruned individually at ten feet and bent toward each other with the help of long props, and something like sunny terraces can be made from them. Again, they can be raised up on high and shaped in the same fashion, and finally bent down from above in the manner of the roofs of a house, or formed with crenellations. A *solarium* of the aforementioned trees stands best above the outside door of the house and in front of the same. In the estate or gardens a house can also be made with living columns, which are themselves already sizable and optimally transplanted at the best size. The beams are fixed above them and covered by a roof of reeds or chaffs, although a tree branch might still project from each of the columns out above the roof; these branches will always keep the column itself from drying out [by keeping it alive] and will protect the house itself marvelously from summer heat.

5. *On those things which are able to be done in agricultural fields for the sake of pleasure*

1. In fields the beauty of the site itself delights most of all, especially when there are not several irregular small fields, but when a great number are gathered into one, without gaps and with straight borders. And therefore any attentive paterfamilias ought to acquire fields near his own [estate], rather than buy them elsewhere. He should also sell small fields in other places and

cum vicino rectificare et omnem locum fossatis et sepibus spinorum viridum cum arboribus convenientibus permixtim aequè distantibus cingere atque fossata parva scolatoria, quae in planis necessaria sunt, intrinseca recta formare, quantum possibile est servata semper utilitate agrorum.

2. Delectationem enim utilitas praecedere debet in agris, licet in viridariis oppositum sit servandum, et ideo quaecumque in eis maiorem frugum pollicentur ubertatem, sunt meliora et magis eligenda. Amplius procuretur, quod pro posse per agros aquarum rivi decurrant, quibus possint, cum opus fuerit, irrigari et ab eis, cum necessarium sit, averti. Per spatiosos agros formentur etiam itinera congrua, quibus pater familias eques et pedes et coloni cum plaustis aut bobus commode accedere possint ad omnes partes // agrorum. Haec enim omnia plurimum cum utilitate delectant.

6. *De his, quae circa vites et fructus ipsarum delectationem praebent*

1. Plurimum delectat habere pulcra vineta sive in planis sive in parvis montibus orienti exposita difersorum generum uvas ferentia; et ideo procuret dominus ea in congruo situ plantare et in locis pinguibus in arboribus et pergulariis ea formare, in exilibus vero iuxta solum in directis aciebus disponere atque plurimum bonorum generum uvas in his conserere insitionesque mirabiles in eisdem experiri, quae ab antiquis sapientibus et praecipue Palladio posse fieri praedicantur.

2. Quarum unus modus est, quod plantetur vitis iuxta cerasum vel aliam arborem, et cum optime apprehenderit et convaluerit, perforetur arbor acuta terebra et per foramen vitis ducatur, et cera sive luto ab utraque parte obturetur foramen, ne sol aut pluvia vel ventus consolidationem impediatur. Deinde cum lignum vitis optime cum ligno arboris unitum fuerit, iuxta corticem arboris incidatur vitis, ut deinceps suco arboris nutriatur. Sic enim uva fertur tempore fructuum arboris maturari.

exchange the superfluous and winding parts of the fields with his neighbor's and make his own field even with his neighbor's. He should surround the entire place with ditches and hedges of living thorns with suitable trees mingled throughout and spaced equally, and dig small drains, which are necessary in the plains, that run straight from within, inasmuch as it is possible, always preserving the utility of the fields.

2. Utility should take precedence over delight in the fields, although in gardens the opposite must be preserved; and therefore whatever activities performed in them promise a greater yield of fruit are better and ought to be practiced more. Further, he should see to it that, as far as possible, streams of water run down through the fields, on which the streams might be able, when there is need, be made to flow, and from the fields, when it is necessary, to be diverted. Suitable paths should also be made through the large fields, by which the paterfamilias on horse and on foot and farmers with wagons or oxen might be able to reach all parts of the fields with ease. All of these things truly delight with utility.

6. *On those things which provide pleasure with respect to vines and their fruits*

1. It delights most of all to have beautiful vineyards bearing grapes of different types laid out toward the east on the plains or on small hills. Therefore the master should take care to plant them in a well suited place and to train them in fertile places on trees and pergolas, but in infertile places to arrange them close to the ground in straight lines, and also to sow in them grapes of many good types and to attempt marvelous graftings on the same ones, which the ancient authorities and especially Palladius, proclaim it is possible to make.

2. One of these methods is to plant a grape vine near a cherry tree or another tree, and when it has wedded itself completely [to the tree] and is thriving, the tree should be bored through with a sharp hover and the vine pushed through the opening, and the opening closed up with wax or dirt on each side, so that the sun or the rain or the wind might not hinder their being joined together. After that, when the wood of the vine has been joined completely with the wood of the tree, the vine should be cut close to the bark of the tree, so that from then on it is fed by the sap of the tree. In this way, the grape is made to ripen at the same time as the fruit of the tree.

3. Est quidam modus faciendi uvam tiriacam et vitem muscatam vel gariofilatam vel laxativam vel alterius qualitatis; qui sic fit: Sarmentum, quod pangendum est, in una parte scindatur, et sublata medulla loco eius tiriaca vel muscus, pulvis gariofilorum vel scamoneae vel alterius rei ponatur et terrae mandetur vinculo diligenter astrictum. Quo facto uva, quae nascetur, virtutem eius, quod in vite positum est, tenebit. Sane si sarmentum de hac vite sumetur et plantetur, materni medicaminis potentiam non tenebit. Oportet autem tiriacae vel alterius rei assidua infusione senescentis suci vim iterare. Sed in hoc idem brevius fieri posse puto, si in initio maturitatis uvarum scindatur sarmentum uvae pendentis et medicamine immisso ligetur.

4. Est quaedam pulcra species uvae, quae granis interioribus caret; quae Graecis auctoribus sic recitante Palladio fit: Sarmentum, quod obruendum est, quantum latebit in terra, tantum findere debemus et omni medulla sublata ac diligenter exsculpta membra interum divisae partis adunare et vinculo divisa constringere et deponere. Vinculum autem de papyro asserunt esse faciendum et sic in humidia terra ponendum.

5. Diligenter quidam sarmentum revinctum, quantum excisum est, intra squillae bulbum demergunt, cuius beneficio asserunt sata omnia comprehendere posse facilius. Alii tempore, quo vites putant, sarmentum frugiferum putatae vitis in ipsa vite, quam possunt de alto sublata medulla, excavant non divisum et calamo affixo alligant, ne possit inverti. Tunc opon Quirenaïcon quod Graeci appellant in excavata parte suffundunt ex aqua prius ad sapae pinguedinem resolutum; et hoc transactis octonis diebus semper renovant, donec vitis germina novella procedant.

6. Ut vitis botriones ferat albos et nigros, sic fieri Graeci iusserunt. Si vicinae sint vites nigra et alba, cum putantur, sarmenta utriusque sic divisa inter se coniunge, ut medios utriusque oculos aequando possis reddere unitati. Tunc papyro stricto ligabis et molli atque humida terra linire curabis et interiectis ternis diebus adaequare, donec germen novae frondis erumpat. Hinc exempto tempore poteris genus efficere per plura sarmenta.

3. There is a certain way of making a theriac grape and a nutmeg vine or a clove or a laxative or a grape of another quality. It is made thus: a shoot that is to be planted is cut in one part and after the pith has been removed, theriac or moss, or a powder of cloves, scammony or of another substance should be put in its place. Then, carefully bound up with a cord, it should be entrusted to the earth. When this is done, the grape that is borne retains the peculiar quality of the substance that has been placed in the vine. Indeed, if a shoot is taken from this vine and planted, it does not retain the potency of the mother plant. It is necessary therefore to renew the strength of the weakened sap by a constant infusion of the theriac or of another substance. But I think that the same thing can be accomplished in a shorter time, if the shoot of the hanging grapes is cut open just as the grapes begin to ripen and it is bound up after the substance has been inserted.

4. There is a certain beautiful type of seedless grape, which is made thus according to the Greek authors, whom Palladius cites. As much of the shoot as is to be planted lies hidden in the earth, the same amount ought to be split open and, after all the pith has been removed, we ought to bring together again carefully the hollowed-out parts of the split section, and to tie together the split parts with a cord and to plant it. And they maintain that the cord ought to be made of papyrus and thus placed in the moist soil.

5. Some carefully embed the bound-up shoot, as much as has been hollowed out, within the bulb of the *squilla*; thanks to which all plants, they maintain, are quite readily able to take root. Others hollow out the fruit-bearing shoot of the pruned vine while still on the vine itself at the same time at which they prune the vines. Without cutting it open, they remove the pith from the top as far down as they can and then tie it to a reed-prop, so that the shoot will not be able to fall over. Then, they pour new wine, what the Greeks call *opos Quirenaicos*, that has been reduced from the consistency of water [to that of reduced new wine] on the hollowed-out part. They repeat this every eight days, until new shoots of the vine appear.

6. In order that vines might bear bunches of black and white grapes, the Greeks order this to be done. If there are white and black vines close to one another, when they are pruned, join together the divided shoots of each thus, so that by lining them up you can unite the middle buds of each. Then you tie them with papyrus drawn tightly and take care to smear them with soft, damp earth, and to water them every fourth day, until a growth of new

7. Quidam expertus mihi asseruit se inseruisse surculum album et nigrum in una vite continuatis summatibus gemmarum, corticula tantum gemmarum de medio sublata, et optime comprehendisse. Vel potest hoc fieri acceptis duobus surculis et divisis et iunctis oculis [divisis] simul et optime ligatis, tamquam sit unus surculus, inseratur, vel duabus gemmis divisus et iunctis cum modica quantitate ligni et in loco gemmae insertis. Plurimum etiam delectat habere vina diversorum colorum et saporum, et ideo diligens pater familias tempestive quasdam colligat uvas, ut vinum habeat acerbum, quasdam bene maturas, ut potens, quasdam nimium maturas, ut dulce.

8. Faciat etiam vina diversorum colorum cum rebus colorantibus et saporem non corrumpentibus; faciat etiam ea diversorum saporum cum rebus odoriferis et saporem novum tribuentibus, in quibus delectetur odor et gustus. Quae in aliqua parte musti in caldario ad ignem mittantur et dimittantur, donec optime vinum illo sapore vel odore infectum fuerit. Et tunc in vas, in quo sit simile vinum vel alterius generis, immitatur.

9. Bonum est etiam habere vina medicinalia, quibus utatur, cuius corpus ad aliquam aegritudinem facile sit declinan. Hoc quidem fiet, cum medicinae simplices vel compositae contra illam aegritudinem expellendam habentes virtutem praedicto modo miscebuntur vino. Procuret etiam habere semper in domo agrestum, sapam, uvas passas, acetum et similia, quae faciat secundum modos supra in quarto libro notatos. Multum enim delectat animum praedicta, cum appetit tam pro se quam pro amicis, facile invenire. Si botrio, postquam defloruit, mittatur in vasculum terreum vel vitreum, parvum tamen, ex tot botrione dicitur fieri unum granum.

7. *De his, quae circa arbores delectationem augent*

1. Ex his, quae patrem familia delectant, est habere in locis suis copiam bonarum arborum et generum diversorum, et ideo procurare debet,

leaf should sprout. Thus with time you will be able to produce this type on many branches.

7. A certain expert told me that he had grafted a white shoot of a vine and black one onto a row of buds on a single vine, only the outer layer of the buds having been removed from around the middle, and that these had taken hold quite well. This can be done in either of two ways. After two shoots have been taken and split open, then the buds have been joined together, and the shoots have been bound up into a single shoot, [then] it [the bound shoots] should be grafted [onto the vine]. Or, it can be done by splitting two buds open, joining them with a small piece of wood, and then grafting them in the place of a bud. It is also very pleasing to have vines of different colors and tastes and therefore the attentive paterfamilias should gather certain grapes at the right time so that he might have sour wine, and other well-ripened ones so that he might have powerful wine, and others barely ripened so that he might have sweet wine.

8. Also, he should make wines of different colors with coloring agents that do not spoil the taste. And he should make those of different tastes with substances that are fragrant and add new flavor. They should be added to some part of the unfermented wine in the cauldron and cooked down over the fire until the wine has been infused thoroughly with that taste and odor. And then it should be poured into a vat, in which there is a similar wine or one of another type.

9. Indeed, it is good to have medicinal wines that a person whose body is susceptible to some illness might use. In fact, this is done when simple or composite medicines that have the power of protecting against that illness are mixed with wine in the aforementioned manner. He should also take care to have always in the country house new wine, raisins, vinegar and similar things, which have been made according to the ways described in book four above. For it greatly pleases the spirit to find readily the aforementioned items, both when one seeks them for oneself and for one's friends. If a bunch of grapes is put into a small vase of clay or glass after it has flowered, it is said that one seed results from the entire bunch.

7. *On those things which enhance pleasure with respect to trees*

1. Among those things which please the paterfamilias, it is to have in his place an abundance and variety of good trees, and therefore he ought to see

ubicumque invenerit arbores nobiles afferentes fructus, inde ad loca sua transferre et plantare sive inserere de eisdem; et non inordinate, ut fere omnes faciunt, eas disponat, sed in congruis ordinibus, scilicet magnarum arborum genera rara, ut in ramis dilatari possint et superfluis umbris non sonsumant fertilitatem agrorum; eas vero, quae // parvae sui natura proviniunt, spissiores ponere potest et unumquodque genus formare secundum naturam ipsius.

2. Amplius maiores a partibus septentrionis et occidentis ponere debet, minores vero ab oriente et meridie; hoc enim modo frumenta, quae patenti campo laetantur, minorem sentiant laesionem. Praetera insitiones faciat mirabiles et diversas in eodem vel diversis truncis, quae valde admirabiles se ostendunt his, qui experimenta in talibus probant; nam infinitorum pirorum et malorum genera et citoniorum et nespuli et sorbarum et similium in eodem trunco inseri possunt.

3. Inseritur etiam malus in salice et populo et vitis in ulmo et moro, ut Palladius ait. Item si persicus inseratur in spinam faginam, provenient escula maiora et meliora, quam sunt alia, ut ait Albertus. Et si amygdalus et persicus coniunctis oculis inserantur in pruno, erunt eorum poma carnem persicorum habentia, et ipsorum ossa immutabuntur in amygdalarum naturam. Morus etiam inseri potest in ulmo, sed magnae parturit infelicitatis augmenta.

4. Asserit Martialis candida grana in malis fieri, si argillae et cretae quartam partem gipsi misceas et tot triennio hoc genus terrae radicibus eius adiungas. Idem dicit mirae magnitudinis eius poma fieri, si olla fictilis obruatur circa arborem Punici et in ea ramus cum flore claudatur, ne resiliat, ligatus ad palum. Tunc coperta olla contra aquae muniatur incursus. Autumno patefacta suae magnitudinis exhibebit poma. Hoc etiam de mense Mai et Iunii posse fieri commodius affirmatur. Varro autem aliter specificat modum dicens: Si mala Punica immatura, cum haerent in sua virga, demerseris in ollam sine fundo eaque sic obieceris in terram et operueris circa ramum, ut extrinsecus spiritus afflet, ea non modo integra eximi, sed etiam maiora, quam in arbore unquam pependerint.

to it that wherever he has found outstanding trees bearing fruit he moves them from that place to his [estate], and plants or makes grafts from the same; and he should not arrange them haphazardly, as nearly all people do, but in harmonious rows, especially for such rare types of large trees, so that their branches may spread out without hindering the fertility of the fields with excessive shade. Those small trees truly which grow naturally, he is able to place more densely and to shape each type according to its own nature.

2. Furthermore, he should put the larger ones in the northern and western parts, but the smaller ones in the east and the south. For in this manner the crops, which flourish in an open field, suffer less harm. Moreover, on the same or on different trunks, he should make marvelous and diverse grafts, which have proven to be quite marvelous to those who experiment in such matters; for many types of pear trees, apple trees, citrus trees, medlar trees, service trees, and the like can be grafted onto the same trunk.

3. Also, the apple is grafted onto the willow and the poplar and the vine onto the elm and the mulberry, as Palladius says. And if the peach is grafted onto the thorny beech, fruits that are larger and better than the others will sprout forth, as Albertus says. And if the almond and peach are grafted onto a plum tree with their buds joined together, their fruits will have the flesh of peaches and their pits will be transformed into the nature of the almond. And the mulberry can be grafted onto the elm, but it will bring forth barren growths.

4. Maritalis claims that white seeds are made in pomegranates if you mix a fourth part of gypsum with potter's clay and chalk and you apply this type of soil to the roots for an entire three-year period. The same writer says that its fruits grow to a marvelous size if a clay jar is buried near the pomegranate tree, which encloses a flowering branch that is still attached to the tree and tied to a stake so that it might not spring back. Then the enclosing pot is protected against the intrusion of water. In autumn, when it has been opened, it will retain the size of the jar. It is asserted that this can also be done quite readily from the month of May or June. Varro, however, outlines the procedure in another way, saying: if you put unripe pomegranates, which are still clinging to the branch, down into a bottomless jar, and if put it thus in the soil and cover it around the branch so that the outside air might not blow on it, then fruits will be taken out which are not only perfect in form, but also bigger than had ever hung on the tree.

5. Ut varios fructus una ficus exhibeat, ramos duos nigrae et albae it inter se vinculo stinges ac torque<bi>s, ut germina miscere cogantur. Sic obruti et stercoreati et humoribus iuti ubi prodire coeperint, germinantes oculos aliqua sibi adnexione conglutina; tunc germen adunatum parturiet duos colores, quos unitate dividat et divisione coniungat.

Rosas nondum patefactas hoc modo servabis: In canna viridi stante scissa recludes ita, ut patiaris coire scissuram; et eo tempore cannam recidas, quo rosas virides habere volueris. Aliqui olla rudi conditas ac bene munitas sub divo obruunt et reservant.

6. Cerasa ut sine ossibus nascantur, sic asserit fieri Martialis: Arborem teneram ad duos pedes recides et eam usque ad radicem findes, medullam partis utrisque abraderes ferro curabis et statim utrasque partes vinculo stringes et oblines fimo summam partem et laterum divisuras. Post annum solidatur dicta cicatrix. Hanc arborem surculis, qui adhuc fructum non attulerint, inseres, et ex his absque ossibus poma nascentur. Si ramus parvus cerasi scindatur et loco medullae ponatur scamonea, fructus illius rami eo anno laxandi virtutem acquirat et si muscus ponatur ibidem, eius acquirat odorem, et sic de aliis rebus et fructibus. Et si + lazarium + azurum ponatur vel alius color, illius colorem acquirat.

7. Affirmantibus Graecis persicus scripta nascetur, si ossa eius abruas et post sex dies, ubi patefieri coeperit, apertis his nucleos tollas et his cinabori quodlibet inscribas, mox ligatos simul cum suis ossibus obruas diligentius adhaerentes. Sine ossibus persica fiunt, si persicus et salix prope plantentur, deinde inclinata salice ad modum arcus perforetur in medio et per foramen persici planta ponatur et cera vel luto perfecte obturetur foramen, et usque supra ipsum tera cumuletur, et cum anno vel biennio transacto persici et salicis lignum unitum fuerit, sub arcu salicis persicus incidatur, ut ex solo salicis humore alatur.

5. In order that one fig tree might bear different fruits, you bind one to another and intertwine two branches of black and white [figs] between each other by means of a rope in such a way that the seeds are compelled to mix. Planted thus, and manured and watered, when they have begun to produce, fasten the developing buds to each other by means of some adhesive; then the unified bud will bring forth two colors of figs, which it divides in their union and joins in their division.

You preserve roses that have not yet bloomed, in this way: you store them away in a tender reed which is still standing, but cut open in such a way that you allow the part to be cut to come back together again. At the same time you should cut back the reed to the point where you wish to enclose the roses. Some cover them over and store them out of doors, buried and well protected in a rough vessel.

6. In order to produce cherries without pits, Martialis says to do the following: you cut the young tree down to two feet and split it open all the way to the root, you then take care to scrape the pith of each part with an iron tool, and immediately you tie each of the parts by means of a string and smear the highest part with dung and also the parts of the side about to be divided. And after a year the pruning mark mentioned above will have healed. Onto this tree you graft the young shoots that have not yet borne fruit and from these fruits without pits are produced. If a small branch of a cherry tree is cut and scammony is put in the place of the pith, the fruit of that branch in that year will loosen, and if moss is put on the same place, it will take on its odor and in the same way with other substances and fruits. And if a blue color or another is put in it, it will take on that color.

7. According to the assertions of the Greeks 'a marked peach' is produced if you bury its pits and if, after six days when they have begun to sprout, you open them and remove the seeds and mark on them with a red pigment soon after, you plant the bound up centers inside the pits. Peaches without pits result if the peach tree and the willow are planted close to one another. Then, after the willow has been bent like a bow, it is bored through in the middle and the peach tree is put through the opening, and the opening is completely sealed with wax or mud. And then the earth should be piled all the way up above it. When a year or two have passed, the wood of the peach and the willow will have been united, and the peach should be cut off under the bow of the willow, so that it is nourished from the sap of the willow alone.

8. *De delectationibus ortorum et herbarum*

1. Quoniam multum delectat ortum bene dispositum et industria convenienti cultum habere, ideo pater familias diligenter procuret habere ortum in solo pingui et soluto, cui fons vel rivus, si fieri potest, per spatia discreta diffluet, ut possit irrigari tempore magni aestus. Ibi omnia genera herbarum bonarum tam comestibilium quam medicinalium nutriat, unumquodque secundum quod requirit natura eis, in areis rectis et cum extenso fune et latitudinis more formatis aequaliter, prout in libro sexto plene traditum est. Fimum in eo habeat abundanter, ne propter macredinem taedio aspicientem afficiat.

2. Et ut plenius delectet, res inusitatas operetur in eo; possunt enim in eis quaedam naturalia fieri, quae quibusdam miraculosa videntur. Nam si caprini stercoreis bacam subtiliter subula excavaveris et in eam semen lactucae, nasturcii, erucae, radicis immiseris et tunc involutam fimo bacam terrae optime cultae brevi scrobe demerseris, raphanus nititur in radicem, cetera semina in summo lactuca pariter emergente prosiliunt singulorum sapore servato.

3. Si plura semina porrorum, id est plures porrinae, in unum ligata deposueris, grandis ex omnibus nascetur porrus. Item si capiti eius rapae semen immittas sine ferro et pangas, multum increescere fertur, vel plura semina in unum parvum foramen posita omnium pullulatio in unum grande porrum concrecet. Si aquam in patenti vasculo sub cucumere vel citrolo aut cucurbita ponas duobus palmis inferiorem, tales fient. Aliqui florem cucumeris cum vitulae suae capite — absciso intelligit Albertus — cannae inserunt, cui prius omnes nodos perforaverunt, ibi cucumer nascetur nimia longitudine tensus. Oleum sic metuit, ut, si iuxta posueris, velut arcus plicetur. Quotiens tonat, velut timore ductus convertitur. Si eius florem, sicut in vite sua est, in forma fictili clauderis ac ligaveris, qualem vultum forma — vel hominis vel animalis — habuerit, talem cucumeris // figura praestabis. Haec omnia Gargilius Martialis asseruit.

4. Rem miram de coimo Martialis affirmat, quod modo purpureos, modo albos flores, modo roseos ostendit; et si ex eo semine frequenter seratur,

8. *On the pleasure of gardens and herbs*

1. Since it delights greatly to have a garden that is well arranged and cultivated by appropriate industry, the paterfamilias should take care to have rich and loose soil in the garden. For which, if it is possible, a spring or a stream should flow down through the separate parts, so that the garden can be watered in time of great heat. There he should raise all types of good plants both for eating and for medicine, each one according to what its nature requires, in regular, square plots made uniformly with a stretched-out line, and of customary width, as is related extensively in the sixth book. He should keep it well manured, so that it might not appear worn out from exhaustion of the soil.

2. And so that it might delight more, unusual things (lit. of no use) are cultivated in it. For certain natural things can be grown in it that seem to some to be miraculous things. For if you hollow out a round ball of goat manure carefully with an awl and put into it the seed of lettuce, nasturtium, colewort, radish and then place the rolled ball of dung into a small hole of well-tilled earth, that the radish puts out its efforts toward the root, while the other seeds emerge on the surface as uniform lettuce, but one preserving the taste of each plant [below the surface].

3. If you plant many seeds of leeks, that is, the seeds of several beds of leeks, tied into one bundle, a huge leek will grow from all of them. Also, if you put the seed of a turnip in the top of this, without using a tool, and plant it, it will grow much, or if many seeds have been placed into one small opening, all of the shoots will grow together into one large leek. If you put less than two palms of water in a small open vase under a small cucumber or a small citrus or a gourd smaller than two palms, the following will happen. Some insert the flower of the cucumber with the top of its little vine stalk — cut off as Albertus understands it — in a reed, having pierced through all of its knots beforehand, and there a very long cucumber will grow. It fears olive oil such that, if you place oil near it, it will bend away just like a bow. Whenever (lit. however many times) it thunders, it shakes from fear. If you enclose its flower in a clay mold and also tie it right on the vine, then whatever face the mold had, whether of a man or an animal, affect the shape of the cucumber that is produced. This is all asserted by Gargilius Martialis.

4. Martialis declares a marvelous thing about basil, which sometimes displays purple flowers, sometimes white ones, and at other times pink ones;

modo in serpyllum, modo in sisymbrium transmutetur. Hermes autem dicit, quod cucurbita in cineribus ossium humanorum plantata et oleo rigata nono die habet fructum. Et quod mirabile est: Semina, quae in vase cucurbitae sunt in sublimi nata, faciunt cucurbitas longas et exiles; quae autem in medio eius nascuntur, faciunt grossas, et quae in fundo iacent, faciunt latas.

and if it is sown often from the same seed, it will be transformed sometimes into wild thyme, at other times into an aromatic herb (mint or watercress). Hermes, however, says that a gourd planted in the ashes of human bone and watered with oil bears fruit on the ninth day. And what is miraculous: the seeds produced in the upper part of the vessel of the gourd make long and slender gourds, but those which are produced in the middle make thick ones, and those which lie at the bottom make wide ones.