Hunt Institute for Botanical Documentation
5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

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The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

Sargle for an orchard ~~9-4~~ 5-3
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Autograph of Ellwanger & Barry

(1)

Sople for an or-
thard

c. 1651

The Sople for an orchard; the best is a deep sound land, either a black, or browne mould; if it be a lighter sort (so it have the yellow) & the ground somewhat sloping, or declining upon the south east sun; in such ground fruit trees will attaine a very great bigness, and consequently will last much longer then the same kinde of trees, upon a shallow grayelly ground; or upon a clay, cold or wet ground. fruit trees where they grow upon a warme ground, & upon the south east sun, at the best grow & bear, & last longer; & also the fruit is greater & better & more Love in quantity, then upon a gravelly, wet cold or clay ground. for the choice of flowers see page 2.

the best Sople

how to mend that land wch the best, must be content to plant upon what they have, & endeavour to amend it as they can. for the profit of fruit trees see Mr Blith, his improvement improved pag 262. 263 &c. Hartlib his legacy pag 23. 24. &c.

Cold and shallow grounds

grounds that are over wet & cold, must be at charge to drain them, for all fruit trees draw the water into the branches & fruit, & therefore if the ground be not dry, the fruit will be ill tasted, & the trees short liv'd; or such like. but where water cannot be had, the best remedy is to plant upon high ground, for in such grounds (if the ground be not too stiff & cold) the trees will grow & bear well, & the fruit will be good & mellow. but if the ground be very cold & wet, the fruit will be crude & unripe, & the trees short liv'd, & subject to the moss, & many diseases.

Hot & dry grounds

fruit trees upon hot, dry, sandy, shallow grounds, have need of some moisture, & water how & then, to run over such grounds, if it be possible to have it so; or else you must dig holes & bring water some other way: water out of ponds or ponds that stink, will kill it, & spoil the fruit, for this purpose; which does not only nourish, but cherish the ground & fruit also.

Cold & stiff grounds

if land whereon fruit trees are, or shall be planted, be very cold, & shallow, apt to produce rushes, & coarse grass, & the best of it sour, & blewish, (& may be known by the blew & clay, between the sole & subsoile (as it often proves) then there is no other remedy, but to trench it well, & to mix among with it sand, & dung, & ashes, & the dross of all kinde, & a considerable quantity of lime, shells, or any thing that is of a hot, & drying nature: how and for what they are to be used, see that head. if land, yet the trees will still be mossie, & but small trees in comparison of the same

kind, stroot upon good sound deepe, fattill soyle. for distinc
of soyle. pag. 37.

Stony grauelly ground

als for grauelly grounds, they are at best at any rate, in
sumptuous for a tree to set or plant roots to any great distance
in such grounds; and if such other shrubs as will be content
to set in such grounds, the grauelly will suit it, & there it
the rather thrives, the grauelly will suit it, & there it
into ill weed nature, in certain yeares. but if the ground
be but somewhat stony, with a mixture of sand between,
& among the stones, the fruit trees will thrive indifferent
well in such grounds, & all that can well be broke, by
digging it, & loosening the stones at such at may be, & to gett
out some of the stones, & cast in sand, & earth, & so
throw stones, & clay &c.

Low bottoms grounds

Land that lyes below, towards the bottoms of a hill, or
near a river, which sometimes overflowes, this generally
is reputed good for fruit trees; it hath many advanta-
ges of some other grounds, for it not only receives & retaines
what rains, & moisture falls upon it from the clouds, but
also moisture descends from the higher grounds to them; &
withall if the river overflow, it will runne to the bottoms
of the ground: but yet this is to be considered, that
may have over much moisture (as before is observed)
that is, when it stands, & rights all the yeare long in,
& upon the ground, & some will spring, & bigge lay grounds
where the superfluity of water cannot descend from it to any
other place. but where such water comes, & rights for a
certaine time only, & then the superfluity runs off, and
leaves only the strength & fatt of the water behind,
there the land is good, & fruitfull & fruit trees will grow
large there, & the fruit great.

Shelter & protection for orchards & gardens

although it be not absolutely necessary that fruit trees be
sheltered, or defended from the cold north, east, & west
winds; yet it will be very convenient & profitable for
to doe for we see by yearely experience how dangerous
the East or north east winds (especially) are in the spring
time, at the setting & first blossoming, fruits & fruit
trees, the roses, bourtrees, & the trees that
slyes; & the west winds are commonly strong towards
Autumne, & there cause abundance of fruit, when ripe
or neere ripe.
therefore it will be very profitable to plant walnut
trees (or some other kinds of trees that naturally grow
great & high) upon those three sides of the orchard.

of the nursery

1. let there be a plot of ground (more or lesse) digged up
about the time when fruit are ripe, & let all the grasse,
weeds, roots, stones &c be cleane pickt out of the ground,
cast into beds about 4 yards broad & yards betweene each
a foot in breadth, to raise betweene them, to sow, set,
weed, &c. and then plant there kernells of plyghts, peares,
crabs, cherry stones, plum stones, & the seeds of di-
vers kinds of fruits, & those may be had & sowed from
the time that the fruits are ripe, untill the spring (or
rather in frost) grows, kind by its selfe
let your nursery consist almost of a three barren ground
for your nursery consist almost of a three barren ground
then your orchards, what ever you meane to remove to your
fruit & graffs. for distinct observ. pag. 15.

2. set forth of any fruits not above two inches deepe,
rather lesse sometimes lesse, & sow or set the seeds one inch
deepe. but for dryest soiles, it is best to keep them (un-
till) till October, or leave the spring before you set them
because if they be set early, when the fruit is ripe they
commonly sprout before winter, & then being very tender
the frost kills them. some speak truth, & other plum stones
will lye in the ground, till the spring come twelve month
& then come up: therefore remember not they will never
spring up, though not the first, yeare. for distinct observ. 2.

3. therefore observe that mice devoure not the seeds in
winter, if you observe it, set traps, & lay salt bake to
destroy them. though you cannot see the mice, yet if they
should be there (for commonly they are) it may be found
by diligent small holes up and downe the seed bed where they
have devoured the seeds, & some husks will be about
ground. there or by downe branches of trees round about
the bed, let there be no rubbish at the roote will be
safe from mice. if any seed or stone be above ground
after raine pricke them down again, else they will be lost.

4. in the spring or summer, let them be weeded from time
to time, & if the weather be dry, let them be
watered now & then, & they will make growth the same
yeare according to the strength & goodnesse of the ground
where they grow. plants removed from beds be better
& better rooted from roots of their, although such
two yeare old are full for stocks also.

5. In Autumne when they have done growing, let them be transplanted into other beds of ground prepared for that purpose; & having prepared the good plants, by cutting off all the side twiggs, & the ends or bottoms of the roots, set them in order in the holes to the top of their roots, & close the mould about them; draw the biggest first, & set them by themselves, & the least by themselves, a convenient space to leave betweene to weed the plants, & to graft & inoculate them. & thus set the nursery throughout, & many of these will be ready after one yeare to inoculate, & after two yeares or three, to graft, yea, many may be fit to graft after the first yeare.

remove seed plants after the first year

Be sure to ~~[illegible]~~ transplant all young seed plants as before, for by that meanes they get good roots, which of themselves thrust downe one single root, for the most part, which is a great hindrance unto them, because they goe beyond the good soyle whereby they receive bad nourishment, & are not so easily transplanted, because they root deepe, for the top of the earth is the best soyle, as having the sun & rain all the yeare. & being growne two or three yeares after inoculating or grafting, they are fit to transplant to make orchards, or into fields or hedges.

By setting or sowing of Acornes, or mast, Ash keys, Sycamore keys, Chestnuts, seed of maple, beech, thorne, and other seeds, men may (if they will be but diligent herein) by the blessing of God, exceedingly advantage themselves, their posterity, & the whole commonwealth. [illegible] 163. 164.

Cut none of the tops of any young tree that you intend for timber, for cutting the top will make it spread too much: & besides, Ashes, Sycamores, & some other kinds, have wide great pithes, & wet getting in, rots some part of the tree, & hinders its growth.

Generall rules in grafting

choice of grafts

In chosing grafts, chose not those that are very small, & slender, they commonly faile, but take the fairest upon the tree, & especially, those that be fullest of buds, & from trees that are good bearers, for the [illegible] ~~[illegible]~~ [illegible] double or treble grafts [illegible] of them [illegible], & those that live grow [illegible], not a fifth or sixt part (it may be) so much as single & short grafts.

[illegible margin note]

the length of grafts

if wee graft stocks about an ell, or yard & halfe high, the grafts upon these should be longe grafts that so (according to the number of the buds) they may spread into many branches, & bee a faire head in a short time. but if the stock be lowe, to be grafted neere the ground, & yet to make standard trees, then the grafts neede to be but short, about 3 or 4 buds, or but 2, because such must shoote up upon one single shoote (the rest being cut off) about an ell high, or as high as men please, before it spread into branches. but if they are for wall trees or for a fruit hedge, then longe grafts (of a quarter of a yard) are better than short.

the time of grafting

ffebruary and march (usually with most) are the 2 cheif months for grafting, but wee may begin sooner, & it is best so to doe, especially with cherry, & plum grafts (because they bud soonest): if the weather be open without frost, in the beginning of January, or in December, be sure to begin with them, as they begin to bud forth, & then with peare trees & Apple trees.

how to keep grafts

Grafts of any kind may be gotten & kept many ~~[illegible]~~ daies, or many weekes, the cut ends, or the one halfe in length being covered with mould, or they may be grafted immediately, so soone as they are gotten. graft none but those of one yeares growth, only the last yeares sprout, the fairest and thickest are best: they may be carried many miles, being bound up close (from end to end) in a hay band, or better in a box of mould, or their ends stuck in clay.

how high to graft

if they be cherry stocks, or plum stocks to make wall trees of, graft them low, within halfe a foot, or lesse of the ground, but if they be for standards, then graft them an ell, or yard & halfe high; if for the fields, such trees should be larger than ordinary, 2 yards high or more at first planting, that so they may spread high out of the reach of cattle, & may not be troublesome to workemen about hay, & corne, in sommer time; & must have 2 or 3 stakes set about each of them, to preserve them from the rubbing of cattle, and other annoyances; or else must have a small hedge of thornes round about them, for some yeares at the first planting.

generall rule for all sorts of grafts

In setting in all grafts into the cleft, observe this for a generall rule, to joyne the inner side of the barke of the graft, to the inner side of the barke of the stock, that the sap may more easily come out of the stock into the graft to feed it, for the maine nourishment of the sap is betweene the barke and wood.

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the bud to be inoculated must not be set upon another bud of the stocke, but upon the smoothest part of the stocke, that they may be sure to close

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breake not off all the buds upon the stocke that are ingrafted, before the graft put forth; if you do it will endanger both stocke & graft.

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for to graft a great boot

grafting a great boot out of the body, 2 yards high (keeping a limb that is vsefull or not may not on the head of the boot, yeare after graft the small shoots) which will in few yeares be a large head to you.
Dispersing pag 10.11.42.

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the clay for grafting

Keepe in the clay a yeare or 2 till the end of the stocke be narrowed & the cleft closed up: the clay is prepared with horse dung & tanners Ooze well incorporated together, as morter, as much of the one as of the other, & it is fitter to grow to.

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this graft that are vnbound when to unbind

Such grafts as are bound (as in the 2 first waies of grafting) must be vnbound after 2 certaine time, when the bands are well closed with the stocke: about midsummer (or before) they will be fast enough upon the stocke that they may without danger be vnbound: but if they be not vnbound the band sometimes hinders their growth: especially in time, where the band rots or breakes, & by that the wind (when the grafts are growne bigger & ripe) will endange the breaking of divers of them, vnles they be vnbound. & also some must be supported, & strengthened through in the 1st after place, which may be done, by tying a small twig to them, a little above, and at such place where it is ingrafted; but before you bind the twig to strengthen the graft, put a little clay round about the ingrafted place (being vnbound) it will cause the sap sooner to cover the head of the stocke.

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this must be done only for the first yeare, after these it need not at all of breaking off the wind: but if the graft be grafted low into the ground, or not above halfe a yeard high, they will not be so much in danger of breaking by the wind; therefore that bring of the graft to strengthen it in the grafted place, may be spared in them.

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how to graft such trees that have no graft

saving grafted or inoculated stocks, make no matter or scruple where the stock belongs the graft or bud (whereby to know the kind of fruit) & if any be stolen, they may likewise be found afterwards: let them with the point of a knife, cutting through the barke, the forme of a letter, or any other figure, or character whereby to know the kind: fruitfull trees are worth 22. d. peice of ordinary fruit trees 2/6.

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graft not for the kinds or kinds

Graft young trees into its owne kind: as all kinds of plums together, and all on wood stocks (which is the wild plum) so preserve them from the worst; & set them to graft on young growne yeares or wood: but they never graft on young trees as those that were of good sort: shall by experience I many are deceived by them, though some may do well: yeare graft on wild yeare stocks, & the like of other kinds: some not vendable, or different kinds, shall grow to perfection: at cheapest grafts on such stocks for the like by experience maked it manifest that the 8o but last labour, they will grow (it may be) a yeare or two, & then dye. for dispersal of trees. pag. 15. 20. 22. 14. 26. 32. 43.

The manner of Grafting

1. chuse stocks that are small, about the bignesse of ones little finger, graft them in this manner.

Slitting or cleaving on

cut off the top of the stock in some smooth streight place, that way or answerable to the straightnesse of the graft, when set on: then slit the stock a little cleft in the midst, downe right, about an inch long, or little above, or lesser from the knot or joynt (if the joynt below it be smooth & streight) or else from a bud or from one joynt: & cut through the barke, at the top of the cut place, and make it like a shoulder, that it may rest just upon the top of the stocke, but not that shoulder to be seen (only through the barke or little more) cut the graft then at the bot-

tons of the rut plant; yet I have on all the barks on the
off side, make this cut smooth and even from the top
of it to the bottome, without fruittt or shoot (which is of
small consequence) that so it may be fitt to joyne close
to the stocke.

the graft being thus prepared, then go on to prepare the
stocke further, by the cut part of the graft, on the
straight side of the stock; & meanewhile of this slought of
the cut part of the graft, and (with a knife) take away
so much of the barke of the stocke, but not all way, of the
back of the stock, that by the cut side of the graft upon
the slit part of the stock, it let the shoulder of the graft
rest directly upon the top of the stock, so that the cut parts
of both may joyne even, & touch all along; & so both them
together close, with some strong matter or shoot: then
tye them, by on every side that no wind get in.

that it a better way of grafting then in the cleft, for
first, by this way of grafting, the twist will be bound, to
board, before they will be ready to graft the other way; it
is more easy to doe, & speedy done, & more sure to take &
grow, is lesse hurt to the graft & stock. for reasons before
pag. 43.

2. Secondly: there is another way of grafting (small stocks)
used at and but inst at the top of the stocke, or meant to
set on. & these stocks are prepared thus: the top being
cut off, even square a smooth straight place as before, the
barke, & it must not only be cut, but also the wood, quite
through to the barke side of it at the top, smooth, like as
the graft is cut (at least such) in length at much as the
cut part of the graft, the manner of cutting the graft before
this is the same like the former; then lay the cut part
of the graft (upon the cut part of the stocke & let the top
of the graft (upon the barke of the side) so directly
over the stocke (from the barke of the side) so directly
under the shoulder of the graft that so the cut parts both
of graft & stock may joyne & answer one another from
the top to the bottome, & so bind & tye them as before.

in the 2 former waies it is best to place the graft on
the west or southwest side of the stock (if it may be)
because if so, those winds, which are most dangerous
commonly to some blowe off the graft, as on the other
side.

3. there is another way of grafting generally practised
though not so sure as the two former: & yet a better way
for some stocks, for none but small stocks are capable

of the two former waies; it is this.

these stocks that are large (3 or 4 inches in compasse)
must be shaven (the top being cut off in a straight
place, as the rest) of the top smooth with a sharp
knife or chisell even down the stock; a very little of
the slit, & a wedge of box, or other hard wood shaped in the
shape of it open, then prepare the graft you mean to set
in, cut both sides of the graft a slope square from the foot
as for wedging it into a circle round about the graft. (single
straight slit from the former) if it be straight, or else
from a bud about an inch, or little more, cut both sides
of the graft, as not sid of one side for the other part of
the grafting & make it thin & like wedge. let the slope of
the graft be somewhat thicker then the inner side (unless
the stock be very big; if it be so grow as to pinch the graft
much, then make the inner side of the graft thicker, a very
little, that so it may prevent the cleft from being pinched
to much.

if it be a small stock and capable but of one graft (for
this way of grafting may be done upon the same from the
one and diameter, as upon greater) then slope your both
sides, you mean to graft on; and 2 slits slit before
you graft them: for the barke will cover the print & the
rain keep both from the stock the better.

the graft being thus placed in the stock & the waste part
cut out, then close that close on every side, on and bound
the top of the stock, to the bottome of the cleft. for the
trouble (Gardiner pag 56.

I shall now speake of the three other workes whereby fruit
trees are propagated. inoculating, or yatting a bud
into a stock, which (as to the effects of it) is the same
with grafting, but differ much in the season, & in the
manner of the worke.

the time for inoculating buds is about midsummer, a fort-
night before, and a fortnight after it the rinde (some
though some plants (full of sap) may be done afterwards
with good success.

that this inserting may be done to good purpose; it must be
considered whether the bud which you mean to get, are
sufficiently grown or not, they must not be too young and
tender: a wise shall find that small buds of their own
bud ready to come that others. but the discreet especially
& those that know strongly. let them the biggest and
strongest & fairest be cut from the tree, that is new grown
since the spring to that time, & out of the top of the
shoote (all but buds that are too small & tender) & not
of the lowest of the other about a quarter of an inch from

the fl, & be that yet left, woo hold the bud, being taken off the branch: but leave not on the whole length of the branch, as some do, for the sap (by reason of the [illegible]) extreamly & drawes out the sap of the bud in a short time, & so spoyles it.

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other sort to the plants or stock to inoculate, which must be like (as to the smoothness of bud) with the bud that you intend to put on; as a Apricock bud on a other Apricock stock, or plum stock that sets with smooth: the plate pears that stock it encreases the sap to inoculate & preserve the bud on, or other choice plants, & being clean & full of sap: & in rainy & drye weather, so bud always to all sorts of stocks that (experience shows) are best from the bud that [illegible] & good stirring sap.

Now in setting on the bud, first make a cross cut upon some smooth place of the stock (but so far a-side that you) from half a foot or a foot, or more above the ground, & from the right side of the cross cut, make another through the rind on the left, or smoother sort, and thereby the barke, with the end of the [illegible] knife, then make both cuts, as much as the bud is thick, & then make a little cut to prepare the bud (for a neat cut to grow at this time) by cutting the bud & the cut end of the stock (but will not hurt: but the barke on each side of the bud, and about a quarter of an inch above, and almost to the bud, and about a quarter of an inch downe under the bud, but that end which is to be downe must be a little hollow, that it may come close downe to the barke, & round off the barke & the bud, then with a knife cut the barke on the opposite side of the bud (made thin for the purpose) like the one half of a [illegible] will take off the barke & wood but with barke & all: & put down the barke & bud close to the stock, & so have there to the stock of the bud in it, if there be a little hole in the side of the bud within, then the wood is not there, throw away that bud, such will not grow, but the bud being well taken off, & the barke of the stock & bud as before not split, & put it carefully between the barke and the wood of the stock (as before at & before) & let the top of the bud come close to the cross cut, then cut over that bud & the bud with a stiff nyle or [illegible] that it strongly, but it close to the stock, & gently, & the nyle is above the rest of the bud but, but not upon the bud. then put upon the bud (and all over the place that it is cut) a little clay to keep out rain, the hot sun, & wind, from drying in, & tainting the bud.

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after a certaine time the bud will be unbound & some soon after then shoot; some [illegible] grow but in a month & some little in a month.

now it that would be done early in the year before mid summer (upon some stocks very tender, those may be budded as soon as [illegible] after) or a month after may do that other a stocks is so grown as that the bud about the bud first will straighten the bud, which may be seen by the [illegible] of the plant above & below the bud, then the bud will be out & taken off, but those that are upon the end of the, or after, will not [illegible] soon. but take heed of making too much haste to bring forth, there is [illegible] danger in suffering them to be long bound, then neither [illegible].

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now they budding in your may see which buds take hold of the stock, & which do not, those that are took, are soft upon the stock, & appears in their naturall colours as when they were set in, those that do not take, will have lost their colour, & (it may be) be without a bud.

Look at the buds, & do as much with them till the spring then cut off the stocks an inch or two above the bud, & the buds will bring out & grow according to the propertie of the stock, & the stunning after they may be taken off, & [illegible] you plough & [illegible] which is the best way yet known. & when those buds have grown some yeare or two, then cut off the stock close to the bud, & they will cover the head all growth.

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it will be not ready at hand; but must be forbid many miles that but time, then scions must be taken in the [illegible] of them. thus [illegible] out from the tree, cut off the top of the branches, & the leaves were the buds are before, then bind them together, & [illegible] in moist leaves or [illegible] & keep them cool, & they will keep for 2 or 3 days, but get more as the last that may do to inoculate them.

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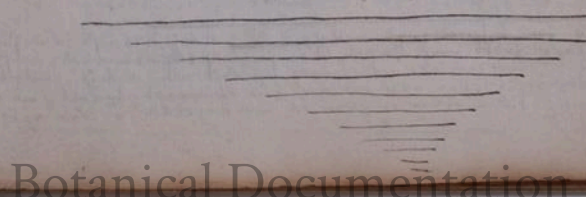
and small twig with a bud, & being full of buds will [illegible] to graft many trees, cut it off as to graft [illegible] of the same tree, if some [illegible] buds of apple trees [illegible] or plum may do inoculated as before & a year old.



Of Transplanting or remo=ving of trees

Let stockes removed grow a yeare or two before you graft them; & those that are inoculated or grafted may be remo=ved after a yeares growth or more.

the best time of removing.

1. The time for this worke (in generall) is in Autumne when trees have done growing, & that is divers weekes be=fore the leaves fall. stay not (as the custome is) till Novem=ber, or after, before you transplant, for the best time is about the latter end of September or beginning of October: yet notwithstanding, those that have many to transplant, and cannot finish (or have no leasure) in this season which is best they may goe on, & be doing all winter, untill the very spring, unlesse frost shut up the ground; & notwithstanding frost, or snow, all the while [illegible] you can get into the ground, & find the mould mellow, so as it will fall well betweene & about the roots, it is then good removing trees, although the best time is to be preferred. see Lawson pag. 23. 24. 25.

how to take up plants.

2. The time of removing being come, & the place prepared for setting them againe, then be carefull in taking up the plants, dig round about them, & take of the mould from their roots, if it be a small plant it may be drawn up easily, the mould being taken away, if it be great, & the roots spread much, then they may be cut about halfe a yard from the body of the plant, & the greater it is, the far=ther off cut the roots, & so draw it up: & bruises of all the other [illegible] the first thing [illegible], if they be not then fallen off, [illegible] for the [illegible] (by meanes of them) subtract the sap of the branches.

small trees removed best [illegible] great ones.

3. I account young grafted trees fit to remove, when they are about 2 inches in compasse in the body, & about a yard & halfe, or 2 yards high: those about this bignesse are better than such as are 5 or 6 inches (or more) in compasse, with a proportionable height; because those cannot possibly be transplanted, but their roots must be cut very much in the taking up, then how can those roots (so much cut) be able to nourish so great a body, with so many branches.

great trees must be cut [illegible] branches.

4. ~~[illegible]~~ but if it be so that such large trees must be set, then some of the branches must be cut, else you are in danger to lose all. but if plants be of lesser size, you need not cut the branches, except such as [illegible] one another or grow to nigh together, or run up to high

how to order the roots.

without spreading: & be sure to cut off the downe right root (if there be any) that so the other roots may fortifie and extend themselves all about to seeke the best mould, but cut off the ends of the roots of all, because, if cut, many small fi=bres or strings, shoot out at the cut place, which [illegible] nourishment for the plant, which without cutting would not. cut away some of the small strings & roots, if there be many. see Austins observ. pag. 142.

[illegible] roots or [illegible] (though but a little) [illegible] to their roots

5. Plant them in as good or better soyle, then that from whence they were removed, otherwise many of them will dye or grow weakely, but if your ground be not so good, you must lay the best soyle you can get next to the roots, which having taken hold, & being well rooted in the ground, they will by degrees thrust their roots, & grow well in that which is worse. [illegible] [illegible] will become good mould in a short time, but such long lying together [illegible] are the speciall helpe for the roots of young trees at their first setting. see Austins observ. pag. 19. 13. [illegible] 2. yeare of planting, but as [illegible] of young [illegible], it makes [illegible] them.

Of setting of trees

Plants being thus prepared, the next thing is to set them againe in the ground: take heed of setting below the good soyle. see Austins observ. pag. 13. 20.

1. The hole for the plant being digged, set in the root prepared as before, & cast in the smallest, & best mould next to the roots & see that the fine mould run betweene all the roots; to that end stir & shake the plant, that there may not be any hollow place where the mould falls not, & with your hand draw up the uppermost roots & part them, that they may spread in the mould every way [illegible] pag. 26.

[illegible] earth to the very wall before you set your trees.

[illegible] wall trees [illegible] foot distant from the wall, the branches somewhat inclining towards it, by bending under the [illegible]

2. The young trees being thus set into the ground, & the holes filled up, it will be very advantagious to them to lay a barrow full of rotten muck, round about each of them halfe a foot thick or more it is the better, close to the body of the plant; the fatnesse whereof will soake in amongst the roots & make the soyle speciall good whereby the trees will thrive the better: or else to lay (in stead thereof) store of weeds, litter, ferne, or the like, 2 or 3 handfuls thick, this will keepe the roots warme all winter, & moist & cool in the summer following, & makes the soyle fatter, & also preserveth the trees from weeds growing about them. see Austins observ. pag. 7.

3. treest that outward (by laying bare about their roots) may be set very shallow, & thereby will be much advantaged, & grow better than if set as they used to be, because in the top of the earth is the best mold, and also quickly flow or drive rain to the roots & feede them.

4. if the plants be of any large plants, in danger to be shaken by the wind, then shall need a prop also to be very sure to lay the plant to it with a bay band, or some other soft band. for distinct offices. pag. 8.

5. Likewise trees are to be carried very nigh to be hill one way, the inside & backward in the side of the bushe, & bind them close from their roots to their tops with a soft rush, or bond, & then stop the roots round about with straw, hay, moss or the like, afterward bind & fasten all over from the roots to the very top with hay or some cloth, or something about to preserve them from bruising, & without doubt about the roots, a thin mat or a cloth will be very profitable, or any thing that will preserve them from the wind & sun & from bruising, & the roots from the wind & sun & from bruising, & then may be carried many hundred miles (if need be) in winter, without hurt.

how to yard trees for carriage

The distance of trees

Set dyke trees 8 or 10 yards asunder is ordinary, & but in very good ground 14 or 16 yards is not, if the side of it stand 30 or 40 yards distance in ground that the shoo for, for strait; & standard trees may not be planted nigher than 20 yards at the least, 24 feet is many. Hartlib's Legacy pag. 20. 21. 22. Lawson pag. 28.

standards, chery, tree, plum trees, & the like 5 or 6, and 8 in distance is usually enough, & 4 or 6 yards if the ground be very small, for all these grow much larger in some soyles, than in other.

wall trees at 4 yards & some other kind of plant in good soyle will spread 7 or 8 yards wide, or more if the may thereby have 25 yards wide, or scarce above three.

if dyke trees & vines trees are planted at a large distance and yet it may be made the ground, under and about the trees. all may plant you, & variety of pease, strawberries, roses, flowers, & all sort of garden stuffe commodious as well for sale, as for household, which cannot be if trees be planted nearer together, as the ground it is not planted, the ground lying cold and bad, & the trees. besides the trees would have advantage by frequent digging & stirring the earth about their roots from time to time in setting the things in a more graceful way & to their best (as cherry trees &c.) planted between two rows of trees, which may (when they begin to want one another) be taken away, & dispersed off from the best advantage. but those that have the ground & two purposes together will be trees enough for them for ever, & all that time a man may have the fruits of them first, & all that time a man may have the fruits of them & then when they must be cut (it will be best to cut down one at a time, or (if that be not to great) two may then be set their place.

for distinct offices pag. 12 Hartlib 20. Lawson 30.

of pruning and ordering of trees

after grafts have had their full growth the first year they be 18 yards, cut at most, growing as for tall plants it is natural if how many branches they spread, more the better but trim off that are crooked low, & set up & make handsome, & have only one stem, & straight & clear of shoots & out of all the right, & let that straight shoot by in to spread, till it be as tall as at last, rather more, and then let the branches spread.

pruning of trees in young stocks

but herein observe that unless those young grafts put forth a strong & lusty shoot & as young as they grow tall, left the body of the plant be too small, and hinder to spread his head, as it often seen in a nursery, where plants grow rise & near together: if the body be very slender, then after some of the side shoots to grow until the body be as sufficient strength to bear the top. for distinct offices pag. 8.

dead from leaves to leaves, prune off those shoots and branches as are superfluous & grow too near one another, purpose only such as may fit to make the tree of a comely

forme. Also if any spire up & shoot too strongly upwards in the midst of the tree only, & spread not sufficiently (as is often seen in peare trees & some other trees) cut off from time to time those strong shoots in the midle, & still preserve the out branches, for all fruit trees, ought to spread as much as may be; so that the branches hang not too neer the ground.

See much concerning pruning while they are younge plants. see Austins observ. pag. 17. 34.

pruning & ordering of old trees

As for great trees in orchards, fields, hedges, &c. they must be pruned from yeare to yeare, as need is, in October, November, or thereabouts: observe to cut off the superfluous branches, such as cross one another, & such as grow too close, so that the sun cannot well come about the bearing branches: leave no dead twigs or branches; & scrape of the mosse that is upon the body & great branches. Hartlib's legacy. pag. 20.

ordering the roots of old trees

Opening the roots once in 2 or 3 yeares is profitable to some trees, especially such as grow upon dry and barren grounds. In October (or thereabouts) take away the earth round about the roots, a yard broad, or more, & so leave the roots bare and open all the ~~[illegible]~~ winter; that the raine, snow, beames of the sun, &c. may refresh the bottome roots, & make the ground better: at spring fill up the holes againe with some good fresh mould, & rotten muck, to feed & refresh the trees.

Also, to lay pigeons dunge, hens dunge (or the like stuffe that is very hot, & fertill) to the roots will much helpe the trees, & make them beare store of fruits; vines, or other fruit trees.

So also, lees of wine, the washing of brewing beere barrels, blood of cattle, dead dogs, carrion, or the like, laid or put too the roots of trees, when opened (as before) is found very profitable unto fruit bearing, & accordingly revives old decaying trees. It may be perceived when they have need by the greennesse of their shoots & fruits. see Austin observ. pag. 3. 14.

But in case the soyle about the roots be over fat, & fertill, this may hinder bearing, for it will cause trees to shoot forth great large shoots, & so to send forth broad leaves, & but little fruit: if so then take away some of the fertill soyle, & put in stead, sand or rubble, ashes, or any stuff that is barren, that it may

dry up & abate some of the too full feeding that the trees had, & so cause fruitfullnesse. though meat & drink be never so good, & wholesome, yet excesse hurts the body. Austin 12. 17. 21. 41.

pruning & ordering of wall trees

Concerning wall trees: the Apricock, peare, Nectarine, vine tree, &c. these & such choyce fruit trees, must be planted upon a south wall, if it may be; the best next that I account the east wall, & the west not so good: on the north wall fruits ~~[illegible]~~ will be late ripe, that they may be got when others are gone, so that it is good to plant the north wall, not only to have fruit there when late ripe, but also for the beauty, & comelinesse of the garden, all the walls being covered with fruit trees. see Austins observ. pag. 3. 10. 20. 46.

These trees being set (as before is said) they must be plashed or spread upon the wall, being young (& so from yeare to yeare till they grow greater) with nailes & leathers. & as they grow larger, cut not the utmost sides or top branches untill they be spread as large as they should spread; & be sure to lead the maine, & biggest branches along the sides of the wall, both wayes, & suffer them not to rise straight up, as naturally they will, but correct nature by art.

pruning wall trees — I. in Sommer.

Wall trees must be pruned from yeare to yeare ~~in winter~~ twice: first in sommer, secondly in winter. about the end of June or midle of July, the Apricock (especially) will have put out many large shoots, some of which must be cut off, & others spread up to the wall, where there is roome for them, tye up as many as you can conveniently with leathers & nailes; & cut the rest off, which will not so well spread to the wall, & spread the branches so that the fruits (which by that time will be grown towards their bignesse) may have the sun to refresh, & ripen them; but yet pluck not off the leaves at some tree: for if a hot time come after, the sun may even scorch the fruits. see Austin observ. pag.

2. in winter.

Secondly, towards the beginning of October (or so soone as the leaves are fallen off) the branches that cross one another or are not well placed, must be rectified; cutting off the great boughs, which are growen old, & have but few small branches upon them may be cut off; which must not be cut off in sommer time, least that too great, & sudden obstruction of sap, kill the whole tree. but the cutting off the small branches in sommer, is some small check, & stop to the sap, & hinders the excessive rising of it at that time,

which else will sende it selfe in large superfluous branches & so rob the fruite.

this winter pruning is chiefly for the well ordering of the branches that reede not be ill placed (by reason of the fruit & leaves) in summer time; & for the cutting off of greater branches, when need is.

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error in pruning

It is a great error amongst some, who suffer all the young & large shoots to grow at ... mark as they will, till som ... without cutting, & then in winter they shall, not only, or most of them gete off from the height & toppes of the old stemme, or biggest branches of the head; & by this meanes the fruite will part of the tree, & more the root, there are few, or no young branches to be seen: whereas they should preserve all the young branches to succeed the old, & cut the old, till it be full of small branches, & then some young shoots (rather yeares) may be cut off as before.

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order in cutting

And in cutting away branches, be sure to take those away that grow too straight out, & will not so easily be bowed to the wall nor the other, & preserve branches at low, and as neere the ground, as may be; & rather those to bend, & grow straight along the wall both ways; & (for not the biggest branches to use straight upwards (as commonly is done) but nailed them downwards. so Austin obser. pag. 40.

The choyce of graffs and Stocks

The great & generall rule is this to take graffs from those trees which are knowne by experiment to beare store of fruite, & good, & to multiply those as much as may be. so Austin obser. pag. 40. 41.

Apples

Rules for particular kinds of Apples & commonly the summer pearemaine, & the winter pearemaine, not only for speriall fruite but also for good bearing kinds.

So likewise the small spire pippin a good apple & great bearer, the hagh, ayleff is a very choice fruit, & the best beare well. the Queene apple is a great bearing fruit, & good: so the Gildeflower, the golden pippin, a very speciall Apple, & great bearer, great likewise the Doctor pippin Hillard pippin at some call it ... kinds may be named, that are speciall good fruit, and great bearing kinds, & some pleasures and kind, & some mothers.

Stocks.

All for stocks fit for apple graffs, & account Crabb trees better than wildest apple trees to graft on, for ... they are small, free from the canker, & will bring small large trees, & ... extensive will last longer, & be fruitfull of sweeter apples trees, & will make fruits more strong, & hardy to endure frosts, & cold weather in the spring; yet it is good to chuse stocks of some place that yields to graft some choyce fruit upon; & bring that fruit to the stock but some shall influence upon the fruits to the stock but some shall influence upon the fruits to make them more delicate; if graffs upon choyce stocks notwithstanding the graft may be said to degenerate. although not with standing. so Austin obser. pag. 15. 26.

Pearees.

As for pearees there are multitudes of kinds, as well as of apples, some preferring one kind & some another, & of all sorts fruit it is called by generall names, & one & the same fruit is called by generall names, & several names. & late Author saith he is ... that there are 500 or 600 generall kinds of pearees. & then therefore it is a point of wisdome to take graffs from the best bearing kinds, although it may not so please the eate as the others. I know more but they are very fruitfull & profitable. so Hartlib agric. pag. 22.

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this Winter peare it accounted one of the best with us; some kinds beare not well, but shun & ... therefore observe the former rules. the summer pearemaine & ... choyce fruit, & the beare well & so also the winter pearemaine. but for a constant bearing fruit I know none better than the Katherine peare both the wardon and the rede: but they must be gently cut for they are no lasting fruits. a man has ... great stock, may make excellent peare, of them for they hang a pleasant wire. the winter Bonrettin is an excellent fruit, & the summer, but beares not to an excellent fruit, & the Crosnoe fils peare it an excellent peare & a great bearer.

I count it a peare that all a choice peare, & ... which is accounted a speciall kinds for peare,

although the peare to eat; it stocks naught; therefore upon any aduenture to plant the trees in the fields and forget, & neede not feare stealing of the fruit. if aduise (for that reason) to plant many of the trees, at first, to grind the fruits for peares. Mr Parkinson saith the peare of this plant is of a rare distinct from wild, neither by taste or colour after it hath some kept certaine months.

Stocks for peares

the best kinds of stocks to graft peares graffts upon are held at present of the white thorne to be standerd, & plant. & blew no difference amongst these but all good to graft upon.

that tree which is grafted upon a Quince it to be preferred before all other, because it not only beares bigger, but plentifull large & lovely fruit and is flushing where it stands the — sun, & blew on the other part where it more tender by all likelihood: that which are on the free stock are esteemed to have better relished fruit but that are nothing so large; nor so much coloured as are the Quince graffts upon the Quince stock. vide Gardiner 2 pt. pa. 61. pt. 2 pa. 15. 19.

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there are many kind of cherrys: the flanders cherry is most generally planted here in England & is a great bearing fruit. (but all these (if planted against a south wall) are almost ripe as the very worst, the yellow cherry after: tis very strange we finde the best must be set in a warme place) upon some south wall, or nothing at all sun, but the flanders beare well in orchards & fields at large.

Cherries

the blacke heart cherry is a very speciall fruit & a great bearing fruit, & soe the cherry to presse for wine, either to drink of it selfe, or mixe it with other to give it a colour, as claret wine. it being of a deepe red, but a small quantity of it, will colour a gallon of cider or white wine. vide pa. 39.

there is a cherry we call the great bearing cherry, of M. Millers, it may very well be called the great bearing for the truth, it beare fruite of great size & fruit, although in a cold, & sharp soile. it is one of the fruits of a very deepe red, almost blacke, when full ripe. this is a very proper one, to colour cider, sherry, white wine, or the like.

kinds are not ripe so soon as they are red, as the flanders are, but should grow tender, & rot, or a fortnight after until they become a very deepe red, then (& much sooner) they will hange upon the tree until october or after; especially if the trees grow in the shade, & then they are heavier & more delicate fruit, there are many more kinds of cherrys I have seene twenty (overall) kinds of cherrys in my garden at Sythe

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Stocks for cherrys

the cherry stocks fit for cherry trees, of account the blacke cherry, but the best the great bearing cherry, upon. yet some hold the red cherry stock is best for May cherries. but the black cherry stocks are goodly straight plants & full of sap, and become greater trees then the red cherry stocks.

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there are very many kinds of plums, many more then of cherries. of them the white plum one of the best, being a faire large plant plum, and of an excellent relish, but the tree beares abundantly, the amazeene also is an excellent fruit. the violet and pomeroy plum trees are very great bearing plum trees, and the fruits plentifull & good. the damasco plum is a good fruit, & the trees beare well. many more other kinds may be named, very good plums: some approve one kind, some another, but the — plums before mentioned, are accounted best. for plums vide pa. 37. for how to make wine of plums vide pa. 46. [illegible]

Plums.

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plum stocks for plums

plum graffts must be grafted upon plum stocks, not upon cherry stocks, or any other kind of stocks, that I know. the white peare stocks are accounted the best, and the damson stocks the worst being dry, forest: that grafted & must do well table, nor thrive upon them. these stocks of plums which have large leaves, & full sap, & account the best, as being thing fullest of sap.

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though dyocorides and (in general all) ancients plants set by moone, & the generality of the fruit trees now set by moone, & from stocks. I know but few kinds of them I found it to be so far better to set some two days before the full moone then other. all good for them. there is some kinds of fruit trees one kind that is a very great bearer, & a fruit have large fruit, & some then these trees that usually

Precocks

boares well, & got buds from them, at the season to inoculate; for these must be propagated only by the bud, not by grafting.

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stocks for Apricocks

If account the white pearo plum stocks the best to inoculate Apricocks upon, though they may also do upon other plum stocks with good success, if they be good living stocks, able to give a large nourishment.

Nectarins.

I shall ioyne the Nectarins with the Apricocks although another kind of fruit. the best sort that I do know is the Roman red Nectarine. but it is very hard to be propagated: as for grafting, none take that way, & but few with inoculating, which I conceive is the reason why it is the dearest of all plants with us. the yellow and green Nectarines are much plenty of it in goodness.

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stocks for Nectarines

the white pearo plum stock (though accounted the best for any plum yet I find) it bears good enough, for the fruit to be inoculated upon it, though some do dislike it not well.

but I hold it best to inoculate the Roman red nectarine upon the branch of an Apricock, which before hand I inoculated upon a good plum stock, that it may grow not only a larger, but a finer nourishment than ordinary plum stocks can do: upon these stocks they take and hold of bearing well.

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peaches.

If you list there are divers kinds: of these by experience the nutmeg & Newington peaches to be excellent tasted fruits, & very good bearers, especially the nutmeg peach, which indeed exceeds for the smallness of the fruit: but the Newington peach is a very large & gallant fruit.

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those require choice plum stocks running of peach stocks. (as I shall show after, page 14.)

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figgs.

I know but one kind of figg that comes to ripeness with us in England, the great blew figg, at large all a-table nine pearo. the trees grow in the best gardens in Kent & Essex, & bear their fruit to perfect ripeness. the trees must be set against a south wall, & be preserved up with nailed, & heathed. (as I shall show after, page 14.)

∴ those trees are increased from the root of the old tree. Draw up the small scions, & plant them or the cuttings of it will grow, as of a vine tree. these root rather inoculating, not grafting. also bend the young (that are low set) trees to the earth, & they will take root, as I said, which may be cut off & transplanted.

Grapes.

there are many kinds of vines, but I know not so good, & fit for our climate as the Muscadine grape, partly for bearing & partly for operations, partly it bears abundance of fruit & late season. & whosoever would plant vines in England, let him not meddle with a better kind both for bearing and goodness. (as Hartlib's Legacy, pag. 32.

The fig tree is a fruit large fruit, & very great bearer, though not so much esteemed as divers others.

the Frontiniack grape is of great account with many & is a speciall fruit, where it comes to good ripeness: where it hardly does, except the vine be set upon the south wall, where it may have much shelter.

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the red, and white muscadine grape are speciall fruits & bears very well, & come to great ripeness, if the vines grow upon the south wall, or upon the east wall, which is best next.

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there is the currant grape, (the for grape) & many other kinds of good grapes; the fruit also better or worse, according to the place they grow in: if they have much sun, & be well ordered, the fruit will be better, & sooner ripe. how to make wine (as Hartlib 37.

(and to keep grapes (as Bacon 28 sect. pag. 38.

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vines how to be propagated

vines are increased by laying downe branches into the earth, in the winter, or spring, letting them grow till upon the trees, until perceiving time the grape be blown, & then they may be cut off, & the roots taken up, and planted elsewhere: also the cuttings will grow likewise in the ground in the winter, or spring, though they grow but weakly & slowly, for a year or two.

Quinces.

not known in these parts the English, & the Portugall Quinces) the Portugall grows to the bigness of a bottle, & for bearing, & first they are increased by suckers from the roots of the stocks, & the roughest also cut off, & set in ground a yard long, or more, or less, and laid — the ground will grow (as pines & mulberry cuttings) & so are the same

fruit, the[se] kinds of trees are commonly low and the fruit fruitful: & truly no better manner to make them bear, then to inoculate them with buds taken from young old trees, that is a small bearer; also to inoculate such [illegible] upon old grafted trees, which I must [illegible] also, upon old grafted trees, which I take either from grafting, but fruit, this must be done out of the top or head of a good tree (or some of the boughs) & the yet [illegible] inoculate the young stocks: & find the bud thus set upon good trees.

It is observed that Quince trees grow much better in fat moist grounds, then in dry grounds, as it seems by [illegible] & Kentish [illegible] about London. Vide to keep Quince[s] for defect of [illegible] pag. 30.

Mulberries. There are 2 kinds of Mulberries known in England the black & the white. As for the white I saw very little fruit to them, only with us. Of the black mulberry there grew great store of fruit, after it is grown to a tree, it must not be transplanted by grafting, or inoculating, but be raised from the stone of the fruit, or sets of the branches: & I take the best time to set it in [illegible] time of March, & after or April, & yard or less, but these small sets or yards, yard high or less, but these small sets must be [illegible] the ground a little, only the end out of the ground, & [illegible] or two, or thereabouts at the first [illegible] ground, what more, and after a year, or two, [illegible] young [illegible] be reared for the [illegible] where you [illegible] & the old roots will yearly send out more, also the branches may be bowed down & laid in the earth, & [illegible] & so [illegible] which will take root & multiply abundantly, & be fit to be transplanted.

Medlars. Medlars may be grafted (and they take well upon white thorn, but I much rather approve the grafting or inoculating of them upon pear, stock, & that fruit will be much better, & the tree longer then upon white thorns.

Walnuts. Walnut trees are propagated from the nuts, which may be set from the time of ripening, until the spring in earth boxes or little vessels, but the best time to set the best nuts is to set the fairest nuts, & thinnest shells, & good bearers.

Set them in the Nursery when they are fully ripe, and preserve them three, three or four years, & still [illegible] be a constant bearer to the removing: if they be set with the green husk on, it is so much the better to preserve them from worms &c. See Hartlibs Legacy pag. 129.

The walnut tree grows well in all places, and is a very profitable tree, many other kinds of trees, & fit to plant for the sheltering of the orchard, & regard of the ground in great height, & [illegible] that these trees allowing, & the days time they last.

Set them 24 or 30 yards asunder, for they are very large spreading trees: but if they are planted on the North side of the [illegible] set them nearer.

Diseases incident to fruit trees

Barrenness of trees. See Austin of Trees. pag. 21. Hartlibs Legacy 20. There are 4 [illegible] that sometimes happen to fruit trees.

1. [illegible] which is caused by [illegible] drought, [illegible] watrish and clayey ground, likewise by [illegible] the roots of the tree [illegible] Austin pag. 37.

Moss. If it be moss [illegible] through moisture, then you must take away it by drying the ground: which if you cannot help, to [illegible] ground, then bring in some warmer soil to it, with it, at each [illegible] or the like, if the tree be not [illegible] or [illegible] neighbours [illegible] round about the roots, but with [illegible] take away the moss that is about upon the trees [illegible] then rub it off with a hairy cloth: [illegible] scrape it off with a piece of hard wood in form of a [illegible].

Barrenness. 2. Another is the barrenness [illegible] this proceedeth [illegible] the growth of trees: it [illegible] them live lingringly & poorely: this happens when there is but a small [illegible] of earth [illegible] & [illegible] small quantity, either by reason of [illegible] or want of [illegible] the roots to [illegible] of barrenness [illegible] cycle, [illegible] or want of [illegible] the roots to [illegible] of barrenness it must be [illegible], therefore if the [illegible] be barren it must be [illegible]

wounds, & licorish some of the branches cut off, & the rest strewed thicke all along to the root, through to the [illegible] on each side, with some rotten dung and moist in the barke: let this be done in the spring time, and the sap will arise more plentifully. Ps. 104. 16. Deut. 11. 15.

Cankor. Another disease in the cankor, naturall to some but accidentall, happning to others by bruises, &c. this hurts many, & is not soone to cure it, but it, if it be upon the body, let great boughs of trees, & cut the place with new hedge and wing light & clean over the place with clay mingled with horse dung, & cut off the small branches that are dead, & cut ends above to stop the fountains, & scrape off (being sharpe & pickhat for) the hard crust or scurfe & [illegible] of decayed wood, nettles, thorns, & such like vile stuff to the roote, but if the cankor proceed from a grub that hardly be known, without loosening the earth that is in a great measure.

Wormes. Some trees are hurt with small wormes that breed betweene the barke & the wood, which rotte the barke (in that part) to rise & swell sometimes: this being perceived the worme must be cut out, & the place wash'd with spring and rainewater.

2. concerning misfortunes incident to fruits: by caterpillers, snailes, earthworms, snailes, wasps, birds, & crowes & strong winds.

Caterpillers & worms. In the spring time caterpillers breed & devour many buds, flowers & young fruits, specially in a dry season & the cold & frosty (as one saith) when the east wind blows much, which growth that cold & stiffe matter to nourish. they breed also (as is observed) of the leaves of cabbages. Now how to destroy them. I know no better way than to shake off those leaves which have the wormes lurking in them (in which they breed) & tread them underfoot, for one of them contains millions.

Snailes. & for those that creepe, being upon the trees, some and for those that are fixed to, make water to make them wet & they will presently fall off. they may be destroyed also by sprinkling water by night among the boughs, while wasps & them off.

Earwigs. Earwigs, dote & pierce most fruits, multitudes creepe into a flower, and eat the fruits. therefore scatter all there heads where they breed, & lye, and poure in scalding water among them till they be killed.

Earth. Earth sometimes they be under, or among the roots of trees, & doe very great hurt (and almost kill some trees) therefore must be sought out, and destroyed by, hot water, or some other way. trees may not thrive, nor bears well, if some hurt full creatures do breed & lye about them roots: all pismires, beetles, flies, and such like. therefore once in 3 or 4 years, its good to dig the ground about the roots of trees, especially of old trees, and withall, to put in some dung & throughly rotten, or fresh earth.

Earwigs. Earwigs, fruits (growing ripe) are sometimes eaten with earwigs. one way to destroy them is by setting up hollow roots or any hollow thing neere the roots of the trees among the boughs, upon the ends of sticks, & they creepe in, & lye there, then take off the roots & throughly, and shake them into a bowle of water, or trample them with your foot upon the ground.

Snailes. those creatures do most mischiefe to wall trees, especially upon old walls, pick them off betimes in the morning & destroy them, but if you loose the wall worms & destroy them, but if you loose the wall worms will come like, that they have no harbour there, and the roots alone from woods, you not be much troubled with them.

to keepe them from some choice trees and fruits, or flowers straw round about some sticks, the snailes cannot creepe over it, especially when the after dew hath lately fallen.

Wasps. Another mischiefe incident to fruit, it by wasps and hornets sometimes, some find out their nests, and use to boile his to destroy, that there is scalding water, or some other way. Another way to destroy them it by hanging a cotton pott half full of water in trees, the wasps in the mornings will come, and having tasted of it they fall into the water, & perish. this way destroys multitudes.

Birds also feild both of fruit: the 28th June & July in the Middle time of ripening, are multitudes of Birds of Blackbirds, and Throstles, which are very great destroyers of fruit, flying into the Orchard and Garden, you may discover them by getting Limetwigs (with Bats) in the trees & Bill hooks like a Sickle on Crossbow, & hange them in the trees: also Glass Mills may be placed in the Orchard which will affright them.

Birds.

If young sets or trees are in danger to be burnt, or eaten by Conies, then stick round about the bottom of the plants, some Furze, Thorns, (3 or 4 branches) at first at a day or two distance, & they can never touch the young trees.

Conies.

Mix green sowdung and urine together, work the trees with a bunch of hay at your trees root, turn in two or 3 mouthfuls and it will keep the trees from Conies, with boards, rough &c. and the same also doth destroy the number of Mice.

Mice.

But the greatest misfortune incident to fruits is by reason of frosts in the spring time, & by strong winds in summer & autumn: which shake off fruit: against the first of cold winds, & frost, what trees may be covered for a small time while they are fruiting, (being exceeding tender) by hanging a sheet or piece of canvas over them every morning and opening it at great frosts trees may be preserved. In fruiting time of setting or fire some moist straw, Cow any thing that will make smoake) under and among the trees.

Winds.

Likewise: plant such trees at will grow high, upon the North, & east, that may be a good shelter against those cold winds, which is the best remedy for the orchards must be defended (if it be possible) with some high trees, on the North, East and West side, for so planted that they may hang loose by their, or something or other, to break off those winds from the fruit trees, for that orchard showing the greatest profits, it very likely to prove fruitfull of there be not no other impediment in the soile. see pag. 2.

~~Birds also feild both of fruit: the 28th June & July~~

# of Cider and Perry

Cider & Perry is both alimentall and physicall, & it profitable not only for health, but also for long life, & that under 100 best kinds of apples and pearels, is generall cordiall, cleansing and refreshing the spirits making the heart glad, & mind of prayer, yea by a patient sparing diet preserved before mist of prayer, & late bed: observed that those who drink Cider & Perry daily, or frequently at their meat drink, and ordinary health, refresh, & heal it will better a physician to those where Cider & Perry are of generall use.

Cider & Perry is more enduring to health, & long life, then beer and ale (though there are also good liquors of both) for Cider it is a strong liquor especially for some kinds of it, & silk of it, not leave any dregs in the bottle, & that doth preserve it, & the full taste of the fruit, and their virtues & qualities, & the fruit is in the body, which other liquors & meates have not, & left in the body, which are the best of the fruit, it not only healthy, but very cordiall; it cools the reins & heart & cherishes and revives the spirits, it is cordiall good against melancholy, dizziness, heart & stone and bloody flux of the water, purging down stones, & blowing stones out in the body, it lengthens the stomach & procures a good appetite to meat, & makes a good digestion, which is fundamentall to health & long life, & is of great use in long voyages at sea.

The liquor pressed in many gentlemens houses, & others, in frosty seasons (such is not inferior to the best strong wines if it be) of the best sorts of fruit) & spoke them many pounds & more, & there they would sound & wine, and it is much the better if it be burnt with some sugar, spices, rosemary &c. see more of this pag. 39.

Neither let any complaint of the winding sheet for it only want of use, for so will boote, also &c. to those which

had not been accustomed to them, which afterwards ceaseth. see Hartlib's Legacy pag. 26.

Apples must be laid in a heap to mellow

Cider is usually made of such apples as are moist fruits, some pleasant fruits are fit to make Cider so soone as they are gathered, others (as) by a certaine time to mellow, as they use in some places, whereof most excellent Cider is made, if the apples are taken when they are just ready & fit to eat, being the crude, or raw spirit is then digested.

Apples must be sorted to make Cider

You must sort your apples by themselves for Cider & make the best kinds into Cider by themselves, for the Cider will be in strength and goodnesse, according to the tast, & goodnesse of the apples whereof it is made: and make the common sorts of apples into Cider by themselves, for more ordinary uses.

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the best apples for Cider

The pearmaine apple makes very excellent Cider, being of a pleasant vinous tast: so also divers kinds of pippins make especiall good Cider: but the Gennet Moyle is accounted better then either, for Cider, & makes a more pleasant liquor: & as others say, the red streake makes best of all, but this is certaine, there is much difference betweene some Cider, & some other, made even of the same kind of apples, in respect of the different ordering of it: if the fruit be not full ripe, & the liquor tund with all speed, and kept from air, the Cider will speed the worse for it.

how to colour Cider

Therefore let the greatest number of fruit trees, not only in the Orchards, but also in the feilds, be of pearmaines, pippins, gennet moyles, red streaks, & such kinds as are knowne by much experience to be especiall good for Cider, & then the hedges and outmost bounds may be of some courser, & harder kinds, which yet will make good Cider, though not so good as those kinds afore mentioned.

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the manner of making of Cider

Now the apples being ripe, gather them, & being cleane picked from stalks & leaves, & ready for all, then grind them in the mill, or pound them small in troughs of wood, & let them stand: then straine them, & tun up the liquor immediatly & let it not stand as some doe, it looseth spirits: & having filled a vessell great or small, take clay, and lay it round about the tun holes, as to stop it up, but make it

how to lay up apples

hollow round about, to containe so much Cider as that (when it hath done working) the vessell may yet be full, put in a small quantity of honey to make it worke the better, & when it hath done working then stop it up presently very close, & it will keepe better then if the vessell were not full: or else though no clay be so laid you put in more liquor as it workes, to keepe the vessell full.

If you hang divers kinds of spices (bruised) in the midle of the vessell in a thin linnen bagge (having a stone within to sinke it) they give the liquor an excellent relish: put it not in till the Cider have done working.

The other way is to boyle the juice with some good spices by which the rawnesse is taken away, & then to ferment it with some yest, if it worke not of it selfe, this is the best way, & I have tasted Cider thus made of an excellent delicate tast. see Hartlib's Legacy pag. 26.

You may colour Cider with juice of mulberries or rasberries, or of the great bearing cherry, & make it like claret wine, a spoonefull or two of this will colour a quart of white wine or Cider.

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how to keep Cider longest

Cider may be kept a great many yeares if (being settled) it be drawne out into bottles, & well stopt with corks, & hard wax melted thereon, & bound downe with a packthread, & then sunke downe into a well or poole, or buried in the ground, or sand laid in a sellar. put into each bottle a lumpe or two of hard sugar, or sugar bruised. see Austin's observ. pag. 44. 45.

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how to draw Cider

In drawing of Cider, take heed of giving it too much aire, if much aire get in, it will very much deaden the liquor. therefore make a small hole in the uppermost part of the end of the vessell, & keepe it stopt with a peg, & when you are to draw, pull it out, & having done, stop it againe with the peg.

Before you gather Apples to keepe, let them be ripe which may be knowne by the colour ~~of the kernell~~, or by the seed when cut, which will be turned browne, or somewhat black.

Carry them into a loft or upper chamber, & lay them on matts or boards, not on plaister, or clay floores, they will be moist. lay them thin, not in heapes as some doe, let the windowes & holes be open especially

upon the north side, in dry dayes, that the aire, and winds may dry up their superfluous moisture, lay every kind by themselves, & picke out all the leaves, and such as ~~not~~ rott, from time to time.

turne them sometimes, & in frost cover them with matts, straw, or the like.

gather them in a dry day, pull them one by one, & put them into baskets lined with wollen cloath, that they bruise not.

order in setting trees

Concerning order in setting trees, though it be not essentiall to a good orchard, yet if we stand upon it, they may measure out a square plot of ground (more or lesse) by a line, & then measure the distance that must be betweene every tree, according to the kinds that are to be planted, and according to the goodnesse, or nature of the soyle as hath beene said. And having measured exactly the square plot, & the distance of the trees, set a stake, or pole in the place where every tree must stand, & dig the hole round about it, a foot deepe, and 2 or 3 foot broad, then set the 4 corners first, then fill up the square plot, or all the 4 sides, with plants, ordered as before, & so goe on to fill up all the other places in the plot, exactly by line or by the eye, if there be 4 or 5 persons to assist in the worke. and by this meanes the trees will stand in rowes every way. this square once planted, though but small at first may be enlarged every way, as the ground permitts, or else the orchard may be drawne out in length, and yet the trees stand in a right line every way by this meanes.

of mowing & pasturing where fruit trees do grow

Mowing of grounds yearely, where fruit trees grow, is exceeding prejudiciall to trees (unlesse the soyle be very ~~[illegible]~~ fertill) but pasturing of Orchards, & grounds where fruit trees grow, is esteemed to be of great advantage to their prospering & bearing fruitt, by their warmth in lying & by their soyle, which falls downe among the roots, [illegible] of their rubbing against them till they are strong and out of their reach, & it were better they did not [illegible] against them at all

the garden of flowers Herbs, shrubbs &c.

c.1651

E. A. Willmott

The soyle for a garden

The naturall blacke mould is not only the fattest and richest, but far exceedeth any other, either naturall or artificiall, as well in goodnesse as durability. and next thereunto, the sandy loame (which is light and yet firme, but not so loose as sand, nor stiffe like unto clay) to be little inferior for this our garden of pleasure; for that it doth cause all bulbous & tuberous rooted plants to thrive sufficiently therein; as likewise all other flower plants, roses, trees &c. which if it shall decay, by much turning & working out the heart of it, may soone be holpen with old stable manure of horses, being well turned in, when it is old & almost converted to mould.

other grounds as chalke, sand, gravell, or clay, are every of them one more or lesse fertill or barren then other; & therefore do require such helps as is most fit for them: but of all other sorts of grounds, the stiffe clay is the very worst for this purpose. see the soyle for an orchard which I have written pag. 11.

therefore the soyle for a garden must not be stiffe like unto clay, because it will be over moist & cold in the winter, & will chap & cleave in summer, & in regard of the coldnesse thereof, it killeth for the most part all tender and daynty things therein; & in regard of its stiffnesse in summer it doth choke & stifle many seeds that are sowne in it so that they ~~they~~ cannot ~~[illegible]~~ spring out of the ground. if the ground be overmoist by springs that lye too neer the upper face of the earth, it is likewise very hurtfull, & must be holpen by laying the beds high & draining of it by low allies, & by [illegible] it with marle &c. [illegible]. if it be of very loose sand it is likewise very hurtfull to flowers & herbs by reason of drought in summer & heat: & therefore those grounds that are over dry, loose and dustie, the manure of stall fed beasts & cattell being buried or trenched into the earth, & when it is through rotten (which will require twise the time that the stable soyle of horses will) well

turned and mixed with the earth, is the best soyle
to temper both the heat & drynesse of them; so the
contrarywise the stable dunge of horses is the best for
cold grounds, to give them heat & life.

Swines & pidgeons dunge are good for potherbes, and
sifted ashes laid about them, [illegible] [illegible]

the time to soyle a garden

The ordinary time to soyle a garden is to bring in
manure or dunge before Christmas, & either bury it
some small depth (not too deepe) or else to lay it upon
the ground that the winter frosts may pierce it, & then
turne it shallow into the ground, to sow your seeds in
the spring. the manure or dunge must be old & almost consumed
[illegible] for dunge not melted is to hot even for trees.

your ground likewise for this garden had need to be well
cleansed from all annoyances, as stones, weeds, roots of trees,
bushes &c. & therefore the earth being not naturally fine
enough of its selfe, is used to be sifted to make it the finer
& that either through a hurdle made of stickes, or lathes, or
through square or round sieves platted with fine & strong [illegible]
stickes, or with wyres in the bottom.

The ~~[illegible]~~ recover & meliorate ill
ground, so that the trees will be more beautifull,
without mosse or galls, & the their fruitt abundantly
more fairer. Also Artichokes, leekes & other roots
grow there to a monstrous bignesse. see the french
Gardiner page 2.10.

The garden of flowers

The doublenesse of flowers

1. All double flowers were so found being the worke
of nature alone, & not the art of any man, by planting
or transplanting, at or before the new or full moone
or any other observation of time that hath caused the
flower to grow double, that naturally was single.
I do confesse that the unskillfullnesse of the ground
as [illegible] that they are planted in, or the neglect or
little care had of them, or the growing of them
too thick or too longe, are oftentimes a cause
of the diminishing of the flowers doublenesse; that
withall you shall observe that the same roots that did
beare double flowers (& not any other that never
were double before) have returned to their former
doublenesse againe, by good ordering & looking
unto. single flowers have also bene made somewhat
fairer or larger, by being planted in richer & more
fruitfull ground of the garden, then they were found
wild by nature: but never made to grow double, as
that which is naturally so found of it selfe. observ. 32. 33.
28. 34.

2. the rules & directions to cause flowers to be of
contrary or different colours or sents, from that
they were or would be naturally, are meer fancies of men, without any ground of reason or
truth. observ. page 25.

3. there is no power or art in man to cause flowers
to shew their beauty divers months before their
naturall time, nor to abide in their beauty longer
then the appointed naturall time, which they doe
stantly observe & keepe, according to the temperature
of the yeare or the temper of the climate, except that

by change some one or other extraordinarily may be hindred in their due season of flowring, & their flowers out of frost, or set to give their flowers twice in the year, & the first be moderate flowers of the like nature of the second, sometimes happeth with raine &c. all it sometimes also sometimes happeth with fruits, which things as it is seldome, and but rarely so wee towne it but by first nature: or also by frost, so wee towne them in hot houses, which then will cause them to give their flowers or fruits.

4. the sowing, or planting of bulbs one deeper then other, will not make them to be in flower one after another, yeare by yeare in the yeare the things of that nature be ordered in planting, that proceed thereby order of time which is appointed in their generation, they shall flow forth their flowers, & their seeds in their appointed time, which thing is needfull to mind on either side for after plants.

5. there are three waies sufficient for the preservation of flowers, by seed, by bulbs, & by flowers, (set but for sowing, not for the flowers of flowers (set but for bulbs flowers, or any other kind, not to be set) & but all other kinds) that every one may not be ignorant to make use of them, bulbs or better then they were before, for all other particulars, rules & reasons of their ordre nature, &c so referre you to page 32.

6. the great variety of some flowers as of tulips, double & bulbflowers & time sowing the seed for the seed & the same that varieties of flowers that proceed, & the same that varieties of flowers another time, that it must and ground be where according to the variety of soil and ground nature in in they are ordering them aright. page 30. 31.

how to plant and replant all sorts flowers

1. whereas it is the usuall custome of most in this land to leave up their flowers, & to plant them againe in the spring of the yeare, which is the best time that may be for the setting of English flowers, yet it is not so for your outlandish flowers.

2. you may take this for a generall rule, that all things that are like bulbs called or orient, are to be taken up in the month of July or August, or unto the middle or end of September at the furthest, & so will have them to be planted, or set againe at their first coming up in the spring of the yeare, when other gardening is done. Some of these you may let stand, that if they be suffered to grow, & to bring forth seed, & so increase, & also other that are bigger then bulbs, & not bulbed, or round, that is to say, that are fibrous rooted, & their first root will abide all winter, & the ground will christmas flow, & then wax dry, may be set in the spring, (before they begin to grow) & then they will be set (however being well at the former, but smaller roots but let alone) other so well as the former, bulbed roots are, either from the seed or from their flowers having seed, but their flower roots are best for bulbs, or flowers they be in flower at their first coming up, or before they be many other bulbs, & by their offsets, & bulbs, & many other bulbs into other places, & they be not kept too long out of the ground) remove, & set again, & not suffered to lie long out of the ground, & how-soever you remove them either bulbs, flowers, roots, or seed, & in what season of the yeare, & to be hindred from bearing out their flowers, for they would have them, for 2 or 3 yeares after from bearing flowers at all.

3. that those roots that are bulbed, or round like unto bulbs, be set at the first, & not suffered to stand long out of the ground, & that have stood out, & dryed with the sun flower shall not be set, but the other may be suffered.

4. it may be desired to know how to preserve the root of the flower de luce, & many other roots that are tender, & will not abide the cold of winter, as the tuberous rooted that are bulbed, & the great bulbs white & red flowered Dragons of Constantinople, & other like Dragons, that come

from hot Countries; let them keepe this rule: let
either the root be planted in a large pot, or tub of
earth, & housed all the winter, & so it may be defended
from the frosts; or else (which is the easier way) keepe
the root out of the ground every yeare, from Septem=
ber, after the leaves and stalkes are past, untill Febru=
ary, in some dry, but not hot or windy place; & then plant
it in the ground under a south wall, or such like defen=
ded place, which will spring, & no doubt prosper well there,
in regard the greatest & sharpest frosts are past after
february; so that seldome any great frosts come after,
to pierce so deepe as the root is to be set.

[which ought to be set upwards in planting]
5. Lillies, Daffodils, hyacinthes, & Tulips & all other
sorts of round roots, which [illegible] to be smaller than
bulbes are to be set with the broad end of the root down=
wards, & the small end upwards; except Colchicum or
meadow saffron which must be planted with the small
end downwards.

[how deepe to plant them]
6. Daffodils if they be great roots will require (as
must be observed in all other great plants) to be planted
somewhat deeper than the smaller of the same kind,
about 2 or 3 fingers breadth hid under the ground: the
Tulips likewise if you set them deeper, they will be the
safer from frosts if your ground be cold, which will also
[illegible] them to be a little later before they be in flower,
[illegible] they go to be set a foot
yet usually if the mold be good, [illegible] that there may
be a hand breadth deepe within the ground, above the head
be 3 or 4 inches of earth at the least. hyacinthes whe=
after the same order and manner must [illegible] be plan
ther great or small, and other such great roots, or Co
ted. your greater roots as Martagons, Lillies,
rownes Imperiall, must be set much deeper than
any other bulbous roots, & by themselves also; [illegible] as
in some yeares [illegible] in other small part in
the garden, because they spread & take up a very great
deale of ground.

[how to plant stringie rooted plants]
7. To plant stringie rooted plants, make a hole in the
ground large enough, where you meane to set his root,
& raise the earth within the hole a little higher in the
middle than on the sides, & set the root thereon, spreading
the strings all abroad about the middle, that they may as
it were cover the middle, & then put the earth gently round
about it, pressing it a little close, & afterwards water it

well, if it be in summer, or in a dry time, or otherwise
moderately: thus shall every severall string of the
root have earth enough to nourish it, the best [illegible], &
thereby to encrease far better than by the usuall
way, which is without any great care & respect to
thrust the roots together into the ground.

8. Divers other flower plants are but annuall, to be
new sowne every yeare; as the Marvail of the world, the
Indian Cresses, or yellow larkes heeles, the flower of the
Sun, & divers others; they therefore that will take upon
them, & [illegible], that they may enjoy their flowers the
sooner in the yeare, & thereby keepe ripe seed of them
earlier in the yeare, & [illegible] their
while warme weather lasteth, must sowe [illegible] as Melons and Cowcumbers
seeds in a bed of hot dung; but your bed must be provided earlier for these
seeds, than for Melons &c. that they may have the more
comfort of the summer, which are to be carefully tran[illegible]
[illegible] after they are transplanted from the hot bed, & [illegible]
[illegible] with straw [illegible], whereby you shall not faile
to gaine ripe seed every yeare, which otherwise if you
[illegible] kindly & hot summer, you should
hardly [illegible] these seeds [illegible] likewise to be
transplanted from the bed [illegible] under a warme
wall, as the flower of the Sun & the marvaile of the
world, & some others, & that for a while after their
transplanting, as also in the heat of summer, you
water them at the root with water that hath stood
a day or two in the sun, having first laid about the root
[illegible] such other thing [illegible] giving of ripe seed
[illegible] all helps [illegible]

~~[illegible]~~ to water those flowers

1. Use not carefull to water any of your bulbous or tuberous rooted plants at any time, for they all of them do better prosper in a dry ground then in a wett, only all sorts of [illegible] rooted flowers delight upon their [illegible] had need of a little water & some [illegible] do also to such tulips and other ~~[illegible]~~ bulbous roots as they transplant, when they are in flower, and this I grant in some sort tollerable, if it be not too much, & done only to cause the stalk & flower to abide sometime the longer before they wither, or else in no other ways to be permitted.

2. water none of your dainty flowers or herbs with any water that hath presently been drawn out of a well or pump, but only with such water that hath stood open in the sun in some cistern, tub, or pot for a day at least, if more the better: for that water which is presently drawn out of a well or pit is so cold, that it presently chilleth & killeth any dainty plant, be it younger or elder grown. except in June or July, & then you may water [illegible] in a morning, or about 4 of the clock in the afternoon.

Herbs & other materials for knots, flowers for beds & borders, ~~and for [illegible]~~

Materials for knots — Some make knots with thrift, Germander, Hissop, marioram, Savory, thyme, Lavender Cotton, slips of Juniper or yew: but French or Dutch box is the best. yet the roots of box do so much spread themselves into the ground of the knot, & do draw from thence so much nourishment, that it robbeth all the herbs that grow near it of their sap and substance, thereby making the earth about it barren, or at least less fertile. wherefore to remedy it, you shall take a broad pointed iron like unto a chisel, which thrust down right into the ground a good depth all alonge the inside of the border of box somewhat close thereunto, you may

thereby cut away the spreading roots thereof, & by this means both preserve your herbs & flowers in the knot, & your box also; for that the box will be nourished sufficiently from the rest of the roots it shooteth on all the other side.

now for dead materials for knots they are also divers, as lead, oaken inch boards, shanke bones of sheep, tiles not whole but halfe tiles, [illegible] according to the works, round whitish or bluish pebble stones &c.

the shanke bones of [illegible] will stand a longe time, may be had of the dairie women, & may be painted with whiting & oyle when they are discoloured.

flowers for beds & borders. As

outlandish flowers — 1. for outlandish flowers giving the beauty & bravery of their colours so early before many of our own bred flowers, that they seem to make a garden of delight flowers, that they seem to make a garden of delight even in the winter time, & do so give their flowers one after another, that all their bravery is not fully spent, untill that English flowers, the pride of our English garden do show themselves: so that whosoever would have of every sort of these flowers, may have for every month severall colours & varieties, even from Christmas untill Midsommer, or after, & then, after some little respite, with untill Christmas againe, & that in some plenty, without forcing, so that every man great content and may have them in every place, if they will take any care of them.

daffodils — of daffodils there are almost an hundred sorts. of fritillaria [illegible] there are 10 severall sorts, both [illegible] white & red, both yellow and black. of hyacinths there are about halfe a hundred sorts some like unto little bells or others like unto little bottles or pearles, both white, [illegible] others like stars, of many colours, blew, sky coloured, & blush, & some starr like of many [illegible] of crocus or saffron flowers there are also 20 sorts; some of the spring time, others flowering only in autumn or fall, earlier or later then another, some whereof abide but a while, others [illegible] the Colchicum about 20 sorts [illegible] in their glorious beauty, [illegible] some call the son before the father, [illegible] meadow saffron, while [illegible] of lilies [illegible] & [illegible] Martagons [illegible] the Crowne imperiall, [illegible]

both white and red, both blush & yellow, that requires
to be set by themselves apart by reason of their tall-
nesse. although they be so many (as I may say) almost
infinite, some flowring earlier & others later, enduring
about 3 weeks together from the first unto the last.
the Anemonies likewise or Windflowers, are so full of
variety, & so variable in colours, & so plentifull in bearing
flowers, & so durable in lasting, & also [illegible] so gay both
to preserve & to increase, that of it selfe alone almost suffi-
cient to furnish a garden with their flowers for almost
half the yeare. the beares eare or French Cowslip
must not want their deserved commendations, for-
asmuch that their flowers, being many set together upon a
stalke, do seeme every one a nosegay of it selfe, & besides
the many differing colours that are to be seene in them,
as white, yellow, blush, purple, red, tawny, murrey, haire
colour & [illegible] flowerdeluces also are of many sorts, but divi-
ded into two especiall kinds, the one bearing a leafe like
a flag, whose rootes are tuberous, thicke and short, somewhat
of them being the Orris roote that we sell at the Apothecaries,
used, where of sweet powders are made to lye among
garments. the other having round rootes, like unto Onions,
& narrow long leaves somewhat like grasse, of both these
kinds there is much variety, especially in their colours.
the Hepatica or noble liverwort is another flower of ac-
count whereof some are white, others red, or blew, or purple,
somewhat resembling violets, but that there are white threads
in the midst of their flowers, which are the more graceful to
them, & one kind of them is so double, that it resembleth a
double thicke daysy or Marygold, but being small & seene
resembles a button. but that which com-
mendeth the flower as much as the beauty, is the earlinesse in
flowring, that is one of the very first flowers that open them-
selves after Christmasse, even in the midst of winter. the
Cyclamen or Sowbread is a flower of much respect, because
it is naturally hard to encrease, & that the flowers are like
unto red or blush coloured violets, flowring in the end of
summer or beginning of Autumne, & the leaves likewise have
no small delight in their pleasant colour, being fed
with a circled white upon greene, & that which most prefer
it, is the physicall properties thereof for women.
many other sorts of flowers there are fit to furnish this
garden, as Leucoium or bulbous violet, both early & late
flowring, Muscari or Muske Grape flower. Star flowers
of divers sorts. Phalangium or Spiderwort, the chiefest
of many is that sort whose flowers be like unto a white lilly.
winter Crowfoot or Wolfes bane. the Christmas
flower like unto a single white rose. Bell flowers of
many [illegible] kinds. yellow larkes spur, the prettiest flower

of a score in a Garden. flower gentle or floramour.
flower of the Sun. the Marvell of Peru of the world.
double Marsh marigold or double yellow buttons, much
differing & far exceeding your double yellow Crowfoot
which some call Batchellors buttons. double french
Marigolds that smell well, & is a greater kind then the
ordinary, & far surpasseth it. the double red Ranuncu-
lus or Crowfoot, farre exceeding the most glorious
~~double~~ Anemone } and is like unto your yellow double
Crowfoot.

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2. of those that are called usually English flowers, al-
though the most of them were never naturall of this our
land, but brought in from other Countries in former
times, & by their endureing have beene distributed over
the whole land: but [illegible] many other sorts, now
knowen to us have beene brought, which have perished
by their negligence or want of skill that brought them,
or else because they could not abide our cold winters,
those only remaining with us that have endured of
themselves. as

English flowers

Primroses and Cowslips of divers sorts, all which
desire rather to be planted under some hedge, or
fence or in the shade, then in the sun. single rose
Campions both white, red, and blush, & double red
rose Campion, will abide moderate sun as well as the
shade. the single flower of Bristow or Nonsuch require
moderate sun but not the shade. but the orange
colour Nonsuch with double flowers deserve care to
keepe it, & preserve it. Batchelors buttons both white
& red will conformably well like the sun but not the
shade. wall flowers are common in every garden
as well the ordinary double as the single. but the great
kinds both double & single must have the same care. Stock
Gilloflowers that are single are common, but the double
kinds are much more rare, they will all require the
comfort of the sun. winter Gilloflowers, which some
call Dames violets or Queenes Gilloflowers serve for
want of better things. violets are the springs chiefe
flowers for beauty smell and use, both single & double,
the more shaded & moist they stand the better. Snapdra-
gon will hardly endure the ~~[illegible]~~ sharpe winters,
unlesse they stand well defended. Columbines single and
double, of many sorts, fashions, & colours, very vari-
able both speckled & party coloured, ~~[illegible]~~
~~[illegible]~~. larkes heeles or spurs or [illegible] in the
variety of colours, both single & double all of them arise

from the seed & must be sowne every yeare, the double
as well as the single. Pansies or Harts ease of divers
colours. double Poppies, are flowers of a great &
goodly proportion, & of variable colours, suffer them
not to grow within lesse then halfe a yards distance,
or more one from another, least they turne single.
doubled daysies being both white & red, both blush &
speckled, or party coloured, besides that which is called
Jack an Apes on horse back, they require a moist &
shadowy place, for they are scorched away, if they stand
in the sun in any dry place. double Marigolds
also are the most common in all gardens. And so are
the French Marigolds that have a strange heady sent,
both single & double. Carnations & Gilloflowers the
Queene of delight & of flowers. pinks both single and
double are of much variety. Sweet Williams & Sweet
Johns, both single & double, both white & red, & spot=
ted are kinds of wild pinkes, desire not to stand so
open to the sun as the former. double & single, & be very
fit flowers to furnish a garden, & give out fresh pleasure every
season of their durability, without any further trouble of sowing.
every yeare. And lastly, Hollihocks both single & double, of many &
sundry colours, yeeld at their flowers like roses on
their tall branches, like trees, to sute you with
flowers, when almost you have no other, to grace
out your garden; the single & double do both yeeld seed
& yet do after their seeding abide many yeares. but the
Roses (the sorts or kinds whereof are many, but the most
white rose, the red, & the damaske, are planted in the
ancient standards in England) are planted in the
outer borders of the quarters, & sometimes by them=
selves.

To keepe up borders

To keepe up the outside of borders Thrift & daysies
are good, & doth also beare prettie flowers, so like=
wise pinkes

Pomum Amoris, love Apples, the root perisheth every
yeare, therefore must be new sowen every spring,
the seed is white, flat & somewhat rough.

Mandrakes,

Maracoc sive Clematis Virginiana, the Virginian Cli=
mer, it ariseth from the seed, which is small, flat,
somewhat rough, & black, or from suckers growing
from the root, a rare flower

African Marigolds

Flos Africanus maior. the great double French or
African Marigold. this goodly double flower is the
grace & glory of a Garden in the time of his beauty;
when it is full blowne open, it spreadeth it selfe lar=
ger then any ordinary rose, or equall unto it at the
least, if it be in good earth; it standeth in his full
beauty a month & often times more, & being ga=
thered, may be preserved in his full beauty for 2
monthes after, if it be set in water; it is of the
smell of new wax, or of an hony combe, & not of that
poysonfull sent of the smaller kinds. they are sowne
for the most part every yeare, unlesse in some mild win=
ters. there is a single great single African Marigold also.

Iris Calcedonica sive Susiana maior. the great
turky flowerdeluce is of excellent beauty & rarity
of the flower almost of a Ginneas skin.

Outlandish flowers for every month of the yeare.

January if frosts be not extreame, you shall have
Rose, the Christmas flower or Helleborus niger, winter
wolves bane or Aconitum hyemale, Hepatica or noble
liverwort blew & red, & of shrubs, the Laurus Tinus or
wild bay tree, & Mezereon of the dwarfe bay; February
will appeare divers sorts of Crocus or Saffron flowers with Vernum bulbo=
the little earlier Summer foole or Leucoium bulbosum
sum, & towards the latter end thereof the vernall Cyclamen,
the dogs tooth violet or Dens Caninus, & some
Anemones both single & double, which in some places
will flower all the winter longe. March will
yeeld more varieties; for besides that it holdeth some of
the flowers of the former month, it will yeeld you both the
double blew Hepatica, & the white & blush single,
also divers other sorts of Crocus or Saffron flowers,
double yellow daffodils, Oriental Jacinths & others,
the Crowne Imperiall, divers sorts of early Tulipas,
some sorts of French Cowslips, both tawny, Murrey,
bellows, & blush, the early Fritillaria or checkered daffo=
dill, & some other sorts of early daffodils, & many sorts of
Anemonies.

April, then commeth on the pride of the spring gard, for herein you may behold all the sorts of Anemonies or bonyets, many sorts of Fritillaria, or checkered flowers, both single & double, both the sorts of Tulipa, the earlier & later, the mids of the month, is the chief time of their beginning, which are of so many different colours, that it is almost impossible to write them, the white, red, black, and yellow, variously mingled, the Muscary or Muscadine flowers of yellow & blue, both single & double, the smaller sorts of flowerdelices, the tallest flowerdelice & double kind of Gladiolus, with divers others. May likewise at the beginning of April, although towards the middle & later end, the Garlick, Dores, are the season of the beginning the middle flowering of Lilly, the day Lillies, the great white single & double, the lesser sorts of single flowers, the white Star flowers, the flowerdelices of the sorts of flowers on the mounting Scarlet flower Crowfoot, single & double. single & double white Crowfoot, the early & double red Crowfoot, the glory of a Gardon, the yellow Martagon or Martagon, the Persian Fritillo, the yellow Martagon the Gladiolo or Corne flag, with white & flesh: the double yellow Dore, & other sorts of Fritillo. in June the flowers of the white and black Martagon, the Martagon minor, the mountaine Lillies, & the other sorts of white and red Lillies, the bulbous flowerdelices of white and red flowers, Ladies Bowers, the single & double purple flowered Ladies Bowers, the white Spring or Alpine Stoes, for the blew rise tree flow the yellow parlor, the white and yellow Jasmine. July the Indian flower, some of the Ladies bowers, the Indian Cresse, the white & blush in the female Balsame, the Indian Cresse, or Yellow Ladies smock, the purple flower gentle of the Rose Campion. August begin sends of the Autumn Lillies about flowered to ripen seeds, as the white & the purple Colchicum or Meadow Saffron, the purple mountaine Crocus or Saffron flowers, the Lilly Autumn Leucoium, and Autumn Daffodill, the Italian Starwort, called of some the purple Marigold, the Marvaile of Peru, or of the world, the flower of the Sun, the great yellow Lilly flower, the great double Turkish Marigold or Indian Marigold. September flourisheth with the flower of the Sun, the Marvaile of the world, the tuberous Marigold, & other flowers spoken of before

& likewise the other sorts of Meadow Saffron, & the double kind likewise, the silver Crocus, the Autumn yellow Daffodill, Narcissus also or Sea broad flow, their flowers in the end of this month. October also will show the flower of Narcissus, & sorts of the Meadow Saffron. in November is also found, time in the month before, the party colour'd Meadow Saffron may be seen that will longest hold his flower, because it is the latest that showeth it selfe, & the all coloured mentioned Crocus. and December it selfe will not want the true black Hellebor or Christmas flower, and the Persicum flow of the Sowbread Cicla or wild Bay tree

Arbours

All remaining arbours, plat, &c. in Orchard & Garden, & days men to take them all fruit trees rather then of privet, or other vain shrubs, which yeeldeth no profit, if you make them of fruit trees, then trees of the like, there will be the same covering for shade, and all the fruits for use & delight last long.

Tulips

Tulips the pride of delight, both for the stately aspect, & for the admirable variety of colours that dayly do arise from them by sowing of the seed, farr beyond all other plants that grow.

They are of 2 especiall sorts, some flowering earlier, called Praecoces, & others later then their fellowes, called Serotine, & that naturally in all [illegible] & others will have another sort called Me=dias or dubia, that is, which flower in the middle time betweene them both.

The choyce of seed

The choyce of your seed to sow, the praecoce Tulips that beareth whitish flowers, is the best to give the greatest variety of colours, especially if it have some mixture of red or purple in it, purple is the best, next thereunto is the purple with white edges.

The choyce of the best Medias is the white & purple: but those agree to be spotted is the best, & the more the better, but withall (or above all in these) respect the ground or bottom of the flower (which in the Praecoce Tulipa cannot, because you shall seldome see any other ground in them but yellow) for if the flower be white, & the bottom blew or whitish, spotted, or edged & straked, & the bottom cloth or purple (such as is found in the Holias, & in the cloth of silver, this is beyond all other the most excellent, & out of question the choysest of an hundred, to have the greatest & most pleasant variety & rarity: & so in degree, the meaner in beauty you sow, the lesser shall your pleasure in rarities be.

Bestow not your time in sowing red or yellow Tulipa seed, or the divers mixtures of them, for they will (as I have found by experience) seldome be worth your paines.

The Serotine, or late flowering Tulipa, because it is seldome seen with any especiall beautifull variety, you may easily your selfe guesse that it can bring forth (except also the [illegible]) no rarity, & little or no diversity at all.

the time & manner to sowe these seeds

The time and manner to sowe these seeds. you must sowe them in the Autumne, or presently after they be thorow ripe & dry; yet if you sowe them not untill the end of October, they will come forward never the worse, but rather the better; for it is often seen that over early sowing causeth them to spring out of the ground over early, so that if a sharpe spring chance to follow, it may go neer to spoyle all, or most of your seed. wee usually sowe the same yeares seed, yet if they be 2 yeares old they will thrive and do well enough, especially if they were ripe and well gathered. Sow them not too thick, for so doing hath lost much good seed.

the ground to sowe them in

The ground also must be respected, for the finer, softer, & richer the mould is, wherein you sowe your seed, the greater shall be your increase and variety; sift it therefore from all stones and rubbish, & let it be either fat naturall ground of it selfe, or being mended, that it be throughly rotten.

After the seed is thus sown, the first yeares springing bringeth forth leaves, little bigger then the ordinary grasse leaves; the 2 yeare bigger, & so by degrees every yeare bigger then others. The leaves of the Praecoces while they are young may be discerned from the Medias by this note: the leaves of them [illegible] stand up above the ground, shewing the small foot stalkes, whereby every leafe doth stand, but the leaves of the Medias or Serotines do never wholy appeare out of the ground, but the lower part which is broad, abideth under the upper part of the earth.

you must take them up while their leafe or stalke is fresh & not withered, for following the stalke downe to the root, else you will hardly find them; they go so deep

These Tulips being growing to be 3 yeares old, are to be taken up out of the ground, whereby you shall find they have run deeper, & to be anew planted, after they have bene a little dryed and cleansed, either in the same, or another ground againe, placing them reasonable neare one another, according to their greatnesse, which being planted and covered with earth againe, of about 1 inch or 2 thicke, may be left untaken up againe for 2 yeares longer, if you will, or else removed every yeare after, as you please; & thus by transplanting them in their due season (which is still in the end of July, or beginning of August, or thereabouts) you shall according to your seed and soyle, have some come to bearing in the fift yeare after sowing (I have had them in the fourth, but have seen but few, & none of the best) or in [illegible] ground, some in the sixt, seventh, & some [illegible] not untill the 8 or 10th yeare: but still remember, that as your

roots grow greater, that in replanting you give them the more room to be distant one from another, or else the one will hinder, if not the other.

The Gardners Almanack

The flower Garden in February

Sow Auricula seed in mellow earth, & ~~cover~~ but sow the same but thin; plant the best Auricula in pots in the Sun; ~~water~~ your roots flowers in seed with tiles, if they appear above ground; plant some Anemonies the beginner open; later flowers; plant your roots; sow with thirds & seed, free from sharp winds, & preserved from too much wet.

January

In your Orchard & Kitchen Garden.

Lay bare the roots of your fruit trees, if the weather open, lay well dig't mould to them, transplant young trees, planting the last, & nail up your Wall fruit; but your Winds close from your trees of frost, digging it off with haunch of Kolting Wheat off the roots that standing to the South, first taking your Choice for graft: Mow & first take your Box & other edgings in your Kitchin Garden: set them also your Rhoards & Sage in open weather to hand early; sow Lettice, Radish, Chervil, Spinage, & other Salleting plants in Pots, which you are taught to make.

In your flower Garden

Prosper your best Gilliflowers & Auricula's from too much Water or Snow, by laying down the pots they are planted in; or if in Beds, by Inverted Tops ring at a distance a foot or more: also what Jasmine bulb or Blue mould are appearing, but find them as often as you can in suitable weather, airing them by taking off the coverings, but when sun sets, on with them again. Keep your Greenhouse close when the Frost & Snow are down: if it freeze very hard, put the plants are from it: if it thaw, set open the middle of the Room & lighted Charcoal in the middle of the Room & little set into the ground, & the sun shine set open the windows or doors then to let in the Noon beams, but be sure to shut them close again as soon as the sun is set & shut the doors.

February

In your Orchard or Kitchin garden.

Cover the roots of your fruit trees that were be-
fore bared, & yet plant those trees you could not the
last Month; still be cleansing trees from moss, & the
webs of Catterpillars from the tops of twigs. Begin to
graft Apples, some Peares, Plums, Cherries, &c.
The best way of grafting old Stocks, known to few:
cut the body of the tree off 4 or 5 foot above the ground
when the head pared, take a small Gouge such as [illegible]
workers use, with which strike out a small scollop out of the
[illegible] stalk where you intend to place each
graft, then with a suitable wimble bore a hole in the
scollop into the wood of the stock, then make your
grafts with the same going through the rind, & fit
the lower parts of them to the holes, so as that your
scollops of grafts & stock may joyne together, then
clay them according to the rule of grafting.

\+ Stocks thus grafted shall be covered in 3 yeares, &
bear plentifully; the Cions will grow most inward
therefore prune the inward parts, leaving the out-
most sprouts for spreaders, this way preserves old
trees the longer in being, that otherwise would have de-
cayed: place earth a foot length about boughs for circum-
position.

Sow Beanes, Peaze, Asparagus, Radish, Parsnips, Potatoes,
Carrots, onions, Garlick, plant Cabbish plants, transplant your
Parsly, Spinage, & other hardy potherbs, transplant your
winter Colliflowers, to have early, into rich Soil. Now be
making hot beds to sow your Muskmelion seeds, & Cowcum-
bers, at the full moon in this month, which must be steeped
in new Cowes milk 24 houres, then place them in a hole
of the bed covered till they peepe, which will in 7 dayes,
then uncovered in the Sunshine or clear aire, but covered
againe at night. still keep close your conservatory, water
the orange trees, Lemons, &c. with water wherein sheeps
dung hath been steeped 2 or 3 dayes in the aire or Sun, but
let it not touch the leaves of your plants, for it will rot them.

In the flower Garden as page 18.

March

In the Orchard or Kitchin Garden.

Bestir your selfe now in Grafting, early on good Plum
stocks graft Apricocks, Nectarines, & Peares; many may
miss, but never all yet with me: raise up setts of Earth to
convenient branches, which so bowed therein, first sli-
cing the underside where you lay them; they shall by the
following yeare, being after watered, put forth roots or
[illegible] roots, & both grow where cut off & well set in with Earth; &
[illegible] trees so taking, is worth ten others, because each
sprout yet shoot from the root is the same kind, when those
inoculated or grafted, are only the plumb grafted or
inoculated. Stake & bind up weak Shrubs & plants; slip &
set Sage, Rosemary, Lavender, Time (except Majoram,
being too early); sow endive, Succory, Leeks, Radish,
Beets, Parsnips, Skirrets, Parsly, Sorrell, Buglosse,
Burrage, Chervil, &c. sow Lettuce, onions, Garlick,
Purslaine, Turnip, Peas, Carrots, Cabbages, Cresses,
Fennell, Marjoram, &c. Transplant Medicinall
herbs; [illegible] your Strawberry beds; cover your Musmelons
on plants on your hotbed with beer glasses till you re-
move them.

In your flower garden.

Sow Auricula seeds as directed, at Michalmas; also
sweet Williams, Wall flower, Stock July flowers, [illegible]
[illegible] Looking glasse, Candy Tufts, French Honisuckles, Rose Cam-
pion, Primrose, [illegible] seeds, Larkspurs, Rose Cam-
pions, [illegible] Campanula, Indian Scabious, &c.
[illegible] or rather July flower seeds; on your hot
beds sow Africans or French Marigolds, Amaranthus,
Nasturtium Indicum or Indian Cresses, Mi-
rabilia Peruviana or marvel of the World, &c. [illegible]
[illegible] plants. Transplant July flowers, Auricu-
las [illegible], & all other fibrous rooted plants, now
[illegible] occasion, [illegible] uncovered Auriculas, July flow-
ers, &c. [illegible] up weeds whilst young, after a
gentle shower.

Aprill

In the Kitchin Garden

Sow Marjoram, Hissop, Basil, Time, winter Sa[vory]
[Mar]y gromigrall, Lettice, Parsley, Radish, Mari
[gol]d, Charlatbud, &c. Slips of Artichokes
Lavander, Time, Rosemary, Slips of Rosmarin branch[es],
rosmonds under shrubs, Slips of after flowred,

In the flower Garden.

Continue hotbed for Cotiledons that are not to
[be] [re]moved, & remove those that are to them;
kill the Mice & Commonearth &c. nailed will [be]
ready warmth to preserve them about. Take out
your Auricula Tubbs, parting their offsetts not the
[bro]ading their farina, & put them in natural Earth
(Cottoned) in a pot, & hang a pitch mould round
about it to nourish the root, but not touch the bulb
then plunge your pott in a hotbed temperately warm
[&] [gi]ving them no water till they spring, & then put them
[in] where no South wall, in dry weather water them fre
[que]ntly & carry in during a rainy flower. Thus treat
the Martisso of Spain, or Batty Billy, for a later
flower. Till over your borders, & slips, which are
commonly set to forth to be so served.

Begin to open the doors & windows of your Green
house, & set the inhabitants by degrees to the shine,
shelter your young seedling auriculas from
hot beams of the Sun, or set them all to be
field: what auriculas that are stripped, that any
part of them turned of a pale colour, mark that
it may, if not properly, be parted from the root;
for otherwise twill infect the whole, & after turn
all of a pale colour, & never returned again.
Let not weeding be forbourne.

May

In your Kitchin Garden

You may in this Month begin to inoculate arbor
ing as you find your buds ready, which take off
the middle of your sprouts.

In your flower Garden

Transplant Amaranthus, flos Africanus,
Martinus Anticum, Mirabilis, Viriana, &c
from off your hotbed into good earth, gab mark
ab may be in the Sun, where they may stand, shade
them & bring out your Orange &c. Tubs, and
other Greens, out of the Conservatory, & so may
now begin to plant & remove into the open Ground
with good natural Earth taken from the Surface
the Ground in good Store, & mingled
with one part of rotted Cowdung, cutting Sticks,
Briers, Bush, or any rubbish that will
make the Earth lie light, & make passage for
the water at the bottom; but the bottom roots
especially a little; set your plant thereon, but not too
deep, rather let some of the roots appear above the ground;
then refresh them with temperate water, but not too much
set them in the shade for 10 or 12 days, then expose
them to the Sun. & in all your removing plants from
Earth at the top, in place of some of the old, & hard
& cold taken away; with a sharp knife on the right, with
out hurting or wounding the roots, & to what you
add be sea coal, soil, well consumed, & well sifted,
that the Nourishment thereof may warm & comfort
the plant: when you unbind set them plump & them
from their contracted dust. Gather the seeds of
your Auriculas as they do ripen, or you will lose
it by the wind: Sow them in earthen pots, & in the full
mould, plant them & flowered in beds; plant up
roots before they seed.

June

In your Orchard or Kitchin Garden

Inoculate Apricots, Peaches, Nectarines, Cherries, Plums, Apples, Pears, Filberds, Walnuts to keep, in the full Moon, & dry them in the Sun. water new planted trees, & put fresh Mould about the stocks. Take off Grasshoppers or Caterpillars from your Trees, topping the Boughs. Sow Lettice, Chervill, Radish, &c. Dill Fennel Coriander Parsley Chervil, Lettice, Endive now still the Salleting plants.

In the Flower Garden

Transplant Autumnal Cyclamen bulbs. Gather the ripe seeds of their flowers. Inoculate Jasmines, Roses & Honeysuckles. Take up Auriculas, Tulips & Hyacinth bulbs, keeping them so as they do not grow till you plant them again. Lay Tulip mould, which will have rotted 6 weeks, to be ready for transplanting into a light loamy Earth. Or it will be well rotted soil sifted. Plant bulbs 3 in a pot to save room in winter, & keep them well from too much rain. What Tulip flowers are now blown, of good kinds, keep for seed, letting them hang but few days to the Sun least they rot. But few buds, you will find the seed to be filled with fairer seed, & to hold the more certainly. Prepare pots for this purpose that bear but few buds; be sure to keep your earliest flowers for this end, that the seed may have Sun enough to ripen them, preserving them as much as may be from wet.

July

In your Orchard or Kitchin Garden.

Water young planted trees & Layers; prune of Apricots & Peaches, leaving the most likely of Vines Shoots wall plants. stop the exorbitant Shoots of vines at the first joint about the fruit. Let slatory Herbs that you would save, run to seed; sow Lettice, Radish, Cherpil &c. for young Sallating.

In the Flower Garden

Slip Stocks, Gather ligneous plants & flowers, lay Jessamine, & other Exotics: make trial of the same by Orange trees; if they take, they will certainly be more hardy. Lay also Early flowers, that were not fit to lay before, & cut off withered stalks of flowers. Slip Box. out of order & straight. Sow Annuals seeds in find sift pots with Earth in Pots or Boxes. Take up early Autumnall Cyclamen bulbs, & transplant them as soon as may be; gather early Cyclamen seeds, & sow it in Pots presently.

The end of this Month sift your Seeds & offsets of Tulips, & for Anemonies, Ranunculus, &c. it will prepare it for re-planting with such things as you have ready in Pots, or to sift in rabbit ground till the next season; & Amaranthus, Mirabilia Peruviana, Nasturtium Indicum &c. that the Pots not lye board & rabbit, or pea furnished.

August

In your Orchard or Kitchin Garden.

Trench off suckers, branches & shoots of the ground & spring plants & herbs. in mild days & set all in this month. Sow Gilliflowers & Cabbages for winter plants. Sow Worm seed, marigolds, Thistle, Carduus roots, Parsnips, Spinage, Onions, Carrots & Turnips, Asparagus, Scorzonera, Carrot Root, Columbines, Saxifrage, Colewort & Coleflower, Hollihocks, & such plants as do grow Winter, transplant & set them your Parsley beds all Winter, gather up ripe onions before the full moon or Rainy high. Stow thyme, Savory, Hyssop, &c. gather olitory seeds, such Herbs before the full moon or Rainy high. Stow thyme, Savory, Hyssop, &c. make or mend your Hurdles & Espaliers.

In the Flower Garden.

Take up bulb roots of Lilies, &c. Bartholomew tide, the only time & season for removing & laying them Hyacinth, Crocus, Iris roots, Jonquils, Martagons, Spanish Narcissus, Orange, Jonquil, Martagon, Spanish Narcissus, Oleanders, Asphodils, Carduus, Colchicums, Anemonies, Ranunculus, Persian Iris roots, as Homer grafted, Tulip, & what else you are most about this month of frosts, cutting the shoots & branches of the last spring, & digging them down with a Root spit. Rake & earth & sow, & forthy rowl, water them on all occasions in Summers dry time. 12 month they will be ready to remove into good earth set in the shade, keep moderately moist, 3 weeks boat, set them some more aired place, but not in the sun till 15 days more. Now plow earth your Holly, Spanish last, transplant & pinch their roots into a light rich Earth. Also your best Primroses & Cyclips: Also your Stamineas & Kitchin Balsamines. Tarragon plant, sowing Chamomile; set Goldilocks, Daisy plant, sowing Scabious, Spiderwort, Fritillaries, &c.

September

In your Orchard or Kitchin Garden.

Gather your ripe winter fruits & sow in dry weather. you may yet sow Lettice, Radish, Spinage, &c. & winter herbs, Lettice, & Spanish roots, & Strawberries, &c.

In the Flower Garden

As the weather directs you, about Miraluchin fair weather, begin to avoid a foggy day, getting your choice Ground & rare Plants (being dry) into your Orangery; as Orange, Lemon, Myrtle, Spanish Jasmine, Oleander, Barbadoes, Jamaica Jessamine, Cherry, Citron & Lemon, Pomegranate, Indian Distus Leaden Cherry, Cloves, Spanish, &c. ordering them with fresh mould, as taught in May, to nourish them all winter, opening about the roots & windows (not large, nor weather foggy) till the weather more cold & sharp, & as that increased, the more close & them, till wholly shut up as the weather give occasion: Myrtles will endure abroad under a mouth longer. The cold running on, set such plants as will not endure the house, into the earth, the pots 2 or 3 inches lower than the surface of the earth under a Southern exposure, covering them with Glass & cloathes with Boot & dry Moss, but upon all faire days & in sunny & west flowers take off. Thus prepare your Marum Syriacum, Distus, Geranium, Mortolo, Cloves, Cardinalis, Marvel of Peru, Sparling, Carduus, choice Tamaricus, Amomum, & thus cover them till April.

Plant Tulips, & all bulbs roots, but your choice of Hark & after till the latter end of the next month. Sow Auricula, Crocus, Hyacinths & Cowslips roots, Fritillary, & Tulip seeds, &c.

October

In your Orchard or Kitchin Garden

trench ground for both; plant or transplant all sorts of fruit trees, having first their roots; wall trees & cover a yard or grafting. lay bare the roots of all suckering or other hasty flowering trees; gather fruit dry, the moon decreasing. Now is the time for setting fruit trees; which if they set soon ripe, keep them in earth till now; set them 3 inches deep, the sharps end uppermost, & cover them with fern or straw to keep them warm in the winter; but at spring take it off. you may sow Lettice, &c. for tender Salating.

In your Flower Garden.

Set your choice Tulips; you may now also sow their seeds. Plant sorts Anemonies & Ranunculus's in prepared earth, as directed in the Gardiners manual; but they must be covered, when they appear from the frosts, that will otherwise kill them all: the before your best, set not till December: remove your best & tenderest Tulips to shelter from much rain or wet, & where snow may not be apt to fall on them, & brush it off gently, when fallen on those that are not capable of shelter. And this month trim them all up with fresh mould.

November

In your Orchard or Kitchin Garden

Furnish your Nursery with stocks for grafting, turn your Melon ground, & mure it with your turn with earth, that of a lasty yard Hot bed, & lay it in rigs for the spring. Trench & fit ground for dutch beds. Set plant trees that are hardy, or dutch beds. Set plant trees that are hardy, or for the wall. Trench Asparagus, & cover it with long dung, & make beds to plant in the spring: Sow and set for early beans & peas. lay in collards to be transplanted in Spring, for seed, Parsnips, Carrots, Parsnips, Cabages, & Collisflowers.

In the Flower Garden.

Sow Auricula seeds; cover peeping Ranunculus, &c. Plant fibrous rooted, &c. as, Althea frutex, &c. Plant Lilac, Sixingas, Honeysuckle, &c. if they weather require it, quite out of your tender plants, & perennial fibrous rooted, Shrubs, &c. in your Greenhouse or Conservatory, stopping all entrance of cold, especially dry, & sharp winds: if the plants be dry, & it do not freeze, refresh them sparingly with qualified water & (if) mingled with a little sheeps dung, or Cowdung: if it freeze in your Greenhouse, which you may know by a pail of water standing there, break some charcoal, & put them in a hole sunk a little in the floor, the middle thereof: At all other times, the Air warm'd by the Sun beams, if a fair day, & darting full on the house, throw them the light, but quite close them up air tight for the sun be quite gone off. Give not a drop of water to your Seedlings or Plants all Winter.

December

In your Orchard or Kitchin Garden.

Plant young & Stocks for grafting. Prune Standard trees, prune & nail Wall fruit, set early Beans & Peas. Trench ground, & dung it for borders, planting fruit trees, &c.

In your Flower Garden.

Prune your Primrosis, & Ranunculus's & cast July flowers from Rain, Hail, & Winds, & Frost. Let the doors & windows of your Green house be well matted, & guarded against cold. Now set in open weather, your cast Ranunculus's in a bed of old rotten Thatch or Straw that is not turned to Earth, with good mould about & above them: Also you cast out in moist in a light, & rich loamy Earth, sifted through a wyre Riddle: those now set give you no other trouble, being out of danger of frosts, they being past & they come up.

Mr Evelin gives good advice in this Month, viz: Look to your fountains pipes & troughs with fresh & warm litter out of the Stables, a good thing against, least the frosts crack them. Do it in time.

To know the particular flowers that will alter for the best

Experience gives us this Truth, that such flowers that differ in number of leaves, in shape, in colours; the seeds of such will produce flowers much different from the ordinary kind of flowers, the produce all of one flower with a yard or two before: Many, a particular flower among many others of one plant, shall bring more double ones, than 20 others that are not qualified as it; viz, or ought to be known to all that raise flowers.

As for example, the Stock Gill Gillyflower that hath 5, 6 or more leaves, the seed of such a particular flower or flowers, will produce more of flowers, than the plant that bring forth but 4 leaves, & a quality for quantity of seed, 20 for one.

This flower indeed shows it more than any other I know; for having no thrum in the middle as many others have, nature hath this sign to inform us, that those that have a leaf or leaves to add to it more than ordinary, will bring forth those with many leaves & make a fine double flower, which when it hath attained to, it then turns to the bounds of nature, it never bears seed more, but by budding, blows it self to death.

If you be curious, as flowers ought to be, you may observe the same kinds of single ones of all other flowers that have no thrum in the middle, as Auricula's, Primroses, Wall flowers, Campions, &c. where you find one or more leaves than your ordinary number you may conclude, that nature hath set out

stop forward in altering from the ordinary kind.

Those flowers also which bear Seed when doubly, as the Lilly flowers, Afrian &c. sowing the Seed of such double flowers, they will bring you more & better flowers, a hundred to one than single ones; in sowing the Seed of such you shall have generall variation, but most mixed with the colour of the mother plant; & some of those will run as it were by ordinary the skill of nature, & then they will bear a fair hand stock in the middle, & then never bear Seed more.

Fully flowers have also their sign, which will bear Seed & which will not. Those that will bring Seed (if you gather & other accidents thereof not) have their leaves in the middle of the flowers, that the Seeds of the sit is observed also in the marking of flowers, that the Seed of those that be stripes shall bring the most stripes out, & some of different colours & stripes their Seed all alike.

Observations

1. when you sow, ~~or plant~~ to have double flowers do it in the full of the moon; & when the plants grown to a bigness fit to be removed do it also in a full moon, & as often as you transplant them.

2. Set or put any tree or shrub that you would have growth retarded, in decrease of the moon in Cancer

3. Set, put or sow what you would have speedily shoot out again, or spring & grow, in the ~~increase~~ increase of the moon.