

Plain and full instructions to raise all sorts of fruit-trees that prosper in England. ... together with all necessary directions about those several ways of making plantations ... and also the best directions are given for making liquors of several sorts of fruit... / By T. Langford, gent.

Contributors

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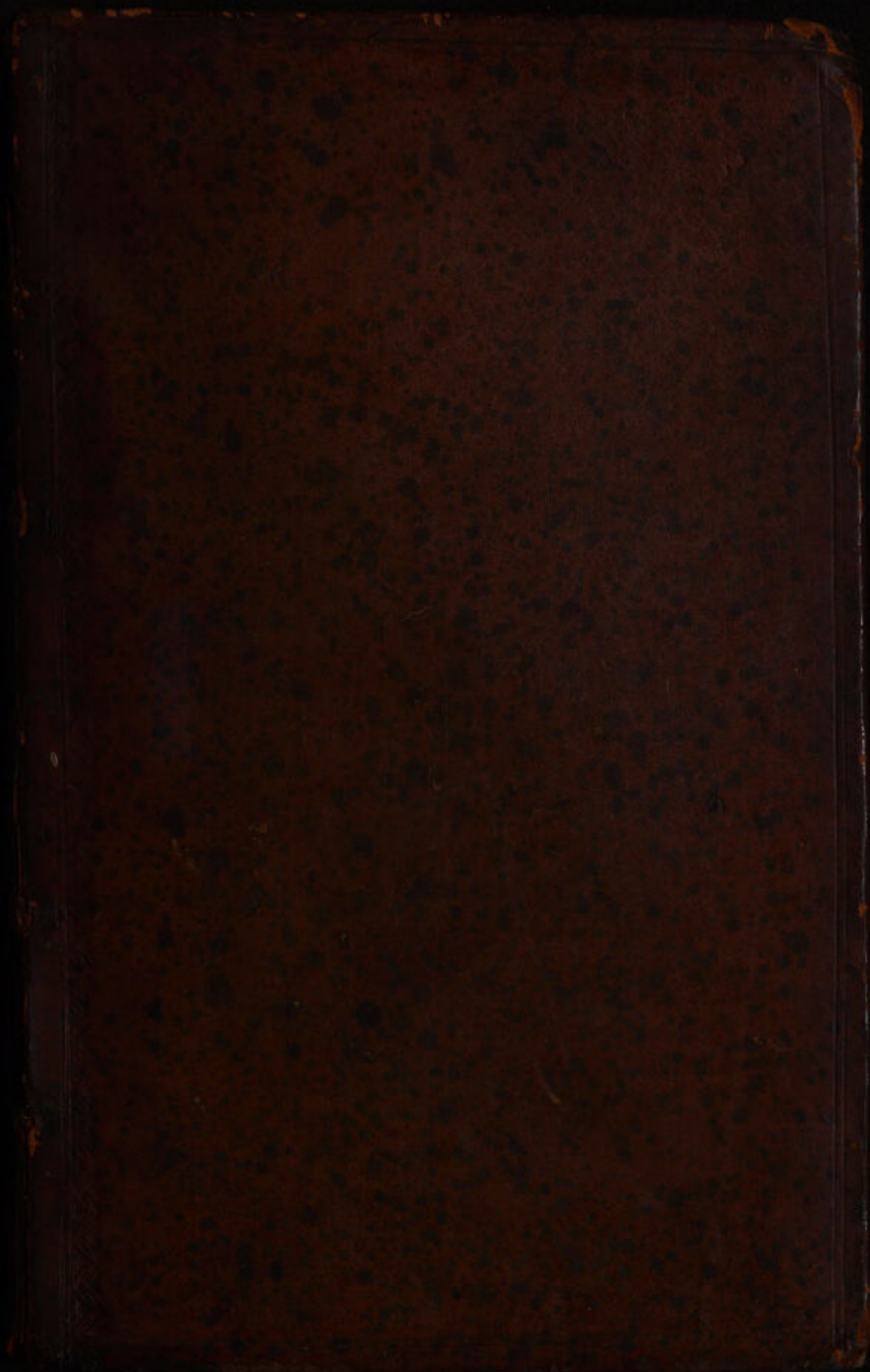
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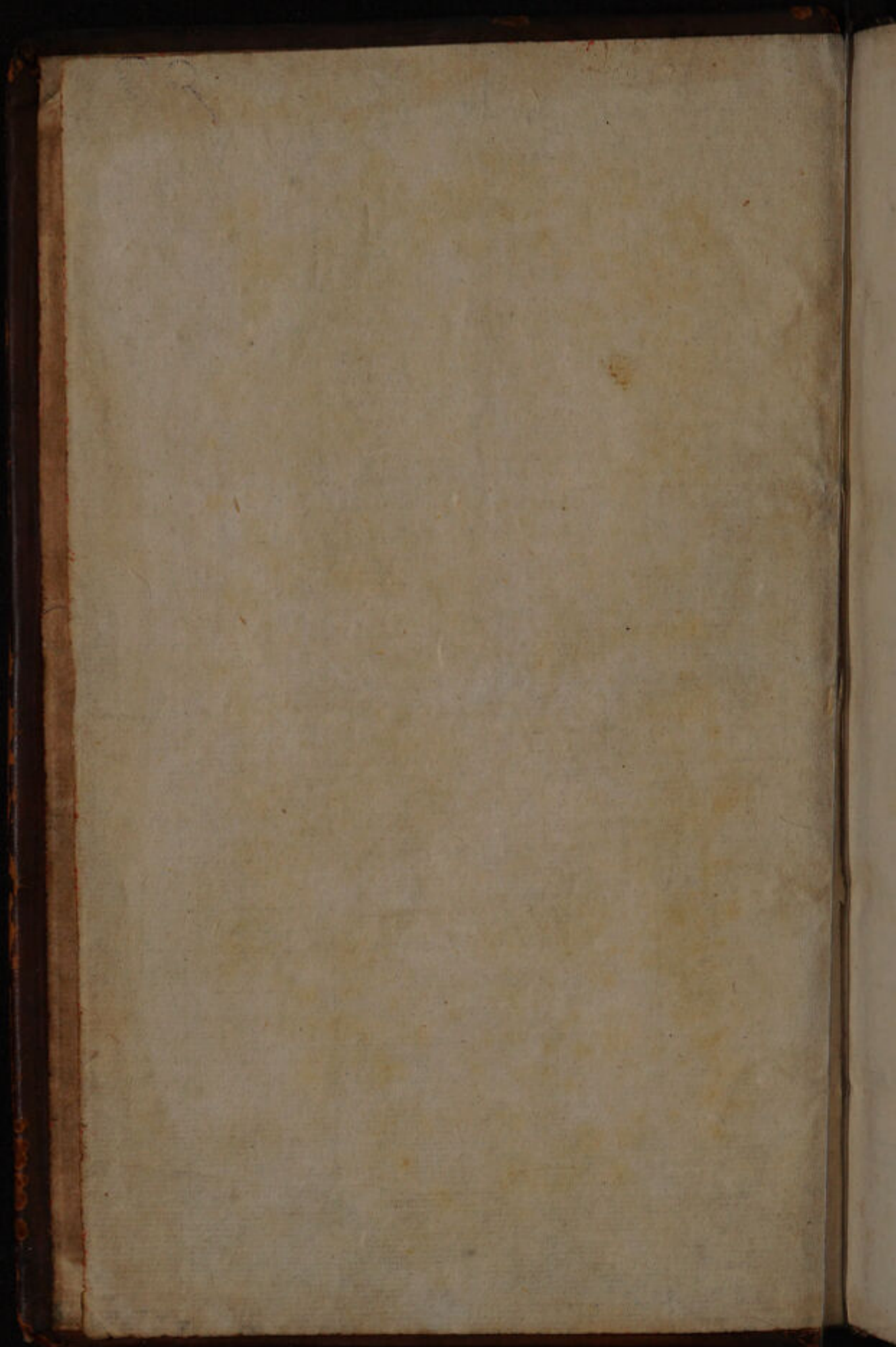


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THE HISTORY OF

THE CITY OF

NEW-YORK

FROM THE FIRST SETTLEMENT

TO THE PRESENT TIME

BY

J. C. CALVERT

ESQ.

OF THE

BAR AT NEW-YORK

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PLAIN and FULL
INSTRUCTIONS
To raise all sorts of
FRUIT-TREES
That prosper in
ENGLAND;

In that Method and Order, that every thing must be done in, to give all the advantage, may be, to every Tree as it is rising from its Seed, till it comes to its full growth

TOGETHER

With all necessary directions about those several ways of making *Plantations*, either of *Wall-Fruit*, or *Dwarf-Trees* in *Gardens*, or large *Standard-Trees* in *Orchards* or *Fields*.

TOUCHING

Which last, because it's so vast an Improvement of Land, all the profitable and practical ways are here directed to with all exactness.

AND ALSO

The best directions are given for making *liquors* of several sorts of *Fruit*.

The *Second Edition* revised and enlarged in many places: Together with an Addition of two intire Chapters of *Greens* and *Green-houses*. By the Author.

T. LANGFORD, Gent.

LONDON,
Printed for Richard Chiswell at the *Rose* and *Crown*
in *St. Paul's Church-Yard*, 1696.

16148

WELCOME

[illegible]

1875

Epistle Dedicatory
~~well offered that to employ~~
~~the spare-hours your business~~
TO HIS
Honoured Master,
Sir Samuel Grimston, Bar.

S I R,
Since the Nation hath
thought the following
Treatise worthy their
acceptance by taking off a
large Impression, I presume
to present this (with what
Additions it hath) to you.
It is your Right, for in your
time I compos'd it, so I ac-
count all mine, And though I
spent some of it in this, I was
A 2 well

Epistle Dedicatory.

*well assured that to employ
the spare-hours your business
allow'd me in such Exercises,
was not disagreeable to you,
which did encourage therein,*

Honoured Sir,

Your most Dutiful
and Obedient Servant.

T. Langford.

T O

TO THE
READER.

IF the obsecurity of the Author shall frighten any Man, that takes this Book up in his hands, I scarce look he should read over the Title before he reject it; but then he must be content to be told the truth, that he doth not do well in it, because he doth he knows not what, and may do himself a greater discourtesie than he is aware.

I think there are few Books of this kind extant, and of note, but I have read them, and been the better for it, and named

To the Reader.

some of them sometimes in what follows, and will not detract from them any further, than to say, I see no reason why for any of them, or all of them together, this may not be acceptable, but much reason why it should; and that's the chief thing I desire the Reader may understand.

I am not so fondly conceited of what I have here done, as to think there may not be some that may know as much as is here said of Planting without my telling them; but they must then know more than is to be found in Books already; and I fancy too, some (even amongst them) may meet with some things here of use, that they may never have taken notice of, though the Tract be calculated chiefly for young beginners, and such as are unperfect.

I should

To the Reader.

I should not mention the convenience of the smallness of the *Volume*, being thereby the more cheap and profitable, and of readier use ; but that it may be noted, that some of the most excellent Books of this kind are in *Folio*, and therefore both dear and tedious: *And I will affirm* that *there is more choice Observations in Mr. Evelins Calendarium Hortense, and Mr. Gilberts Tract of Flowers, than in several large Books of this Nature.* There are others indeed not much bigger than this, but the one half of them, and sometimes more, rather an hindrance than a furtherance to a man that would set himself to work by them ; for the Rules and Directions he is then to go by, are almost lost and smothered among *Moral, Mystical, and Philosophical Discourses, Quotations*

To the Reader.

ous, and sometimes *Whimsies*,
Crotchets, and *Legendary Tales*, so
that he that enquires into them
finds himself in a *Wood* before ever
he hath raised one *Tree*: And yet it
seems most of these Writers could
not for their hearts forbear, (for
some opinion of fineness and gay-
ety in them) but out they must
come; and they did not amiss,
if they intended their Books on-
ly for the delight of reading;
but certainly unadvisedly, if
they designed them only for
use.

I have therefore pruned off all
such superfluous branches, and
here shewed the plain *Dunstable*
way to the propagating of all
manner of *Fruit-trees*, without
leading the learner through *bushes*,
and a *wilderneſs* of Words, to tire
and loose himself with a little di-
version.

To the Reader.

I have been long acquainted with raising *Fruit-trees*, and I think have left out nothing conducive to this end, that is any where else to be met with, and have added much more, and yet nothing but what is necessary to carry on this Art further, if not fully to perfection; having had it all along in my design, to guide the Planter in every the most *minute* particular, and in that *order*, that if he should have some old experienced Master always at his Elbow when any thing is to be done, he could not do it better, and be less at a loss.

And I verily believe, nothing hath hindered *Planting* more among us than this, That Books are no more curious to acquaint People in every *circumstance* that is needful to a due conduct of this business; and therefore for want
of

To the Reader.

Of some *slight* observations in appearance, but of *great consequence* in reality, some very much disposed this way, meeting with unexpected and frequent *disappointments*, have knockt off before they have well begun, and then fallen to thinking that the vast improvement of Land by *Planting*, is but such a kind of talk, as that of the *Philosophers Stone*, goodly Words but no Wooll.

The manner of expression I have used is plain, I have abstained carefully from all hard words, as judging it to much more purpose to be understood by a Plow-man, than commended by a Scholar.

And because I find *Greens* to be not only very *ornamental* in Gardens and Avenues, but affected by the Curious, I have in this Edition added a *compleat*
Track

To the Reader.

Tract of them, I am sure such
as hath not yet appeared in
Print.

And so shall say no more, but
that if this be not enough to dis-
pose him that knows of it, to
read this Book, it will be to as
little purpose to say ten times
more. Farewell.

T. L.

Mr.

To the Reader.

Two of them, I am sure, such
as hath not yet appeared in
Print.

And so shall say no more, but
that if this be not enough to dis-
pose him that knows of it, to
read this Book, it will be to as
little purpose to say ten times
more. A. C. Well.

T. A.

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Mr. Chiswell.

I Have read the Treatise of Fruit-trees, &c. which you lately put into my hand, and find the intire Mystery so generously discover'd from its very Rudiments, to its full perfection; that (with the ingenious and experienced Author) as I know of nothing extant which exceeds it, so nor do I of any thing which needs be added to it. The Gentleman will by this free communication much oblige the whole Nation, and therefore needs not the suffrage of

Your humble Servant,

J. EVELIN.

TO

To his Worthy Friend
Mr. Langford, &c.

Happy the Time, wherein the fertile Earth
Uncultivated and untild, brought forth
All that would please our Palate or our sight,
And gratifie each curious Appetite.
No antecedent labour giv'd her Womb
But freely did the easie issue come,
Till for man's sake she did receive a Curse
And since wants both a Midwife and a Nurse.
Now Art must first the barren soil prepare,
And the well chosen seed, dispose with care,
This done, 'tis hard to bring the Seed to Birth
If Midwives skill help not the labouring Earth,
And if the Issue be brought forth alive,
We scarce can make the tender product thrive,
But you my Friend by kind instructions shew
A method easie and succesful too;
How with some little care to meliorate
Our very unhappy, but deserved fate;
I don't pretend and therefore would not seem
To pre-engage the Readers good Esteem,
That task is needless, for your labours claim
And have already acquir'd a worthy name.

I am

I am told the thing's well done, believe it too
For't has before appear'd to publick view :
I have nothing more to add but only this
To thank you for your profitable piece,
Whereby I am taught to improve a future spote
Of Earth, when ever it shall be my Lot.
The best of Poets should sing forth your praise ;
For you it is that give to them their Bays :
The Crowns they wear you teach 'em how to raise.
However I thank you, Sir, who am no Poet,
And take this opportunity to shew it.

J. S.

THE

I am told the things well done believe it too
For I have before appeared to your view:
I have nothing more to add but only this
To think you for your profitable piece
If possibly I am taught to improve a future piece
Of Earth, when ever it shall be my lot
The best of Foes should be your friend;
For you it is that give to them their Days:
The Church that you teach how to raise
However I thank you for your good
And take this opportunity to say so

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INTRODUCTION.

HAVING undertaken in this *Book* to publish all necessary Directions concerning *Planting*, the first step I am to take, (to proceed in due *order*) is to give instructions about *Seminaries*, and *Nurseries*, wherein young *Plants* are to be raised and cherished in their Infancy.

And because men are generally (through ignorance) so indifferent whether they have these of their own or no; because for a little Money they can have *Plants* from others ready brought up to their hands; therefore I shall here in the first place present such with reasons, that I suppose cannot but make them of the same mind, that I am my self, That it's far better to have them of their own bringing up, and to have *Seminaries* and *Nurseries* of their own for this purpose.

1. Because this way a Man shall be sure to meet with no failure, either in the kind or goodness of his *Trees*, and *Fruit*; in both which he shall be often disap-

disappointed, if he have his *Trees* upon *trust* from others, who make a *Trade* of felling them, and are therefore many times incurious in *raising* them, and instead of the *right* kind (if they can get any thing by it) will not stick to put him off with another.

2. The *trouble* and *expence* of buying young *Plants*, and getting them home, (many times from places very *remote*) and the *prejudice* they often receive in the *carriage*, will be wholly prevented.

3. This way a Man shall with almost the same labour and charge, both furnish himself sufficiently, and have so many more as to defray the charge he may be at about it, if he will sell them, or to gratifie his Friends if he had rather bestow them.

4. He will this way be provided with *Stocks* for *Apples*, *Pears*, *Plums*, *Cherries*, and all choice *Wall-fruit* raised from *Kernels* and *Stones* of *Fruit*: which are incomparably better than *Stocks* procured any other way.

The means some use to furnish themselves with *Stocks* for *Apple-trees* is, by getting young *Crab-trees* out of *Hedges*, *rough Grounds* and *Woods*; and with *Stocks* for *Pears*, *Plums*, and *Cherries* by

Suckers

The Introduction.

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Suckers springing from the Roots of old *Trees* of those kinds; but there is much to be said against both courses.

Against using those *Crab-trees* got out of *Woods*, &c. there lie these Objections.

1. The workmen in getting them break some, and hurt others of the principal Roots; and it sometimes falls out that they have been cut down, and sprung up again out of the remaining stump, or otherwise hurt, which though not easily discerned because skinned over, yet will be a prejudice to them for ever.

2. Many of the *Stocks* so got out of *Woods*, and *Hedges*, have for want of room, and by reason of shades, and the dropping of other trees about them, been check't and baffled in their growth, and so become crooked, scabby, ill grown, rough, and unkindly, and never like to make good *Trees*.

3. Some that furnish themselves this way with *Stocks*, choose such as are largest, and those having for the most part thick and hard *bark*, and old *roots*, come on but slowly when they are removed to make *Apple-trees*.

4. If these *Stocks* be not *grafted* very low (and if they are, a years growth or

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two will be lost) they will put forth branches of their own every year in such abundance, that without constant pruning of them off, the *graffs* will be in danger of being starved.

5. A better advantage may be made of *Crab-trees* in Hedge-rows and rough grounds, by grafting them where they are, (as you shall be hereafter directed) where they will thrive better.

There is but one scruple (that I can foresee) that can here be started; and that is, that a man cannot be furnished with *Trees* of a good largeness to bear so soon by *stocks* raised by *Kernels* and *Stones*, as by either those gotten out of Woods, &c. or those raised by *Suckers*, that may be of several years growth before they are made use of.

To this I answer, That if at the same time that you get *Crab-tree-stocks*, (of six or seven years growth) out of the *Wood*, or *Suckers*, and set them in order to be grafted, you sow *Kernels* and *Stones*, the *Stocks* and *Suckers* you so graft, for six or eight years may continue larger and bigger than the *Trees* that come of *Kernels* and *Stones*; but yet these lesser *Trees* shall so get ground of the other, that by the *tenth* or *twelfth* year

year the *Apple-trees* and *Pear-trees*, and much sooner *Stone-fruit-trees* shall have overtaken them.

And as to the way of raising *Stocks* for *Pears*, *Plums*, and *Cherries* by *Suckers*, it is to be noted, that Trees so raised will be ever apt to cast up such *Suckers* themselves; and such as do, are seldom found to be good bearing *Trees*, by reason they expend their *Sap* so much that way.

Nevertheless they may be useful for *Wall-fruit* and *Dwarf-trees*, as you will see hereafter in a peculiar Chapter.

And lastly against both these ways of furnishing a mans self with the aforementioned *Stocks* there is this to be said, That a man shall not without great charge and difficulty store himself with as many as he may desire, and many of them will prove bad and miscarry, whereas from *Kernels* the charge is inconsiderable, and plenty may be had, that will almost all be fit for use.

Yet this I ought to say in favour of buying out of *Nurseries*.

1. Thereby a great deal of *time* is gain'd by the Planter (*viz.*) seven or eight years in *Standard-trees*, and four or five in *Wall* and *Dwarf-trees*; which is very considerable.

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2. It will be very difficult for a Planter to be furnisht with many good sorts of *Fruit*; and of what kind he may desire any where else, so easie and fully as there. And I think no one can be better furnish'd than they may by their Majesties Gard'ner and Mr. *Wise*, who have a Nursery at *Brampton Park* near *Kensington*, the Soil whereof is not over *enricht* with the Fat of *London*, situate in a *Sharp Air*, they are careful in furnishing the Buyers with *true Kinds*; and I verily believe have already the best *Collection* in *England*, and it will still be improv'd by new and *unknown Plants*, &c. as to us, from that famous *Garden* (for variety of *Kinds* in the known World) at the *Cape of good Hope*.

CHAP. I.

Of the Seminary.

SECT. 1. Against the beginning of ^{Of ordering}
October prepare Ground by digging ^{the Ground.}
 and cleansing it from *weeds* and *roots*, making the *mold* very fine, choose not a *wet* or very *stiff-Clay-land*, nor over *rich* with *Dung*, but such as being of it self good, you may make better only with a little mixture of very *rotten dung*, let it be fenced from the cold, as well as you can, so that it be free from shade, and dropings of Trees.

Sect. 2. When you set *Stones*, (which ^{Of setting}
 if they be *Stones* of Fruit soon ripe, you ^{Stones.}
 must keep in sand till *October*) do it by
 a Line, pricking holes about a hands
 breadth distance one from another, and
 then put in the *Stones*, about three in-
 ches deep with the sharp end uppermost;
 when one *row* is finished remove your
 Line a *foot* further, and set another *row*
 in the same manner; but let your third
row be about *two foot* distant from the *se-*
cond, that you may have liberty to go be-
 twixt every *two rows* to weed, &c. and

so proceed to set as many as you have a mind; possibly some of these Stones may not come uptill the second spring after they are set, and may not deceive you if you then expect them.

Of setting
Nuts.

Sect. 3. After the same manner you are to set all kind of *Nuts*: but because it's necessary that your young *Walnut-trees* and *Chestnut-trees* should grow longer in your Seed-plot than *Stone-fruit*, before they will be fit to be removed to the place they are to spend their lives in, you must set them at much further distance, that they may have more room to grow big without hurting one another.

Of Seeds or
Kernels.

Sect. 4. To raise *Stocks* from *Seeds* or *Kernels* of *Apples*, *Crabs*, or *Pears* (each of which sorts are to be sowed by themselves) you must thus go to work.

Of providing
them.

When either you, or any Neighbour hath made *Syder*, *Verjuice*, or *Perry*, take the *Must* (or as some call it the *Pouze*) which is the substance of the *Fruit* after the *juice* is pressed out, the same day or the next day after, before it heats, and with a *riddle* sift out the *Seeds* on a clean floor or cloth, and these you must sow (as soon as you can conveniently) upon beds of very fine Earth, very thick, for
some

Of sowing
them.

some being bruised in the grinding, or pounding the *Fruit*, and others, not being ripe, many never come up; then sift *mold* upon them about *two* fingers breadth in thickness: this way is much better than to sow the seeds with the *Must* or *Pouz* together, (as some do) because the *Must* will heat them, and many of the Seeds will *putresce*, and others will not be able to *root*, or *shoot up*, because they are so imprisoned in that dry and rough stuff clinging about them.

The *Beds* of Earth you sow them on may be made about *two foot* in breadth, with a good distance between the beds that you may the better come at to *weed* them, and draw them up as you have occasion.

Sett. 5. To keep *Fowls* or *Birds* from scraping them up, lay some *white-thorn* on the beds till the Ground be well settled.

Of securing
them from
prejudice.

Some cover the beds with *Fern* or *Straw* to keep them warm in the Winter, which may not do amiss; but then it ought to be take off when the Spring approacheth.

If *Moles* or *Mice* get in, (which you will discover easily, (the *Mice* leaving shells of the Seeds on the top of the

beds) they must be destroyed. For *Mice* therefore lay Poyson, or Oatmeal mixt with pounded Glass, and Butter, and cast bits of it upon the beds: or set traps for the *Mice* and *Moles*, better known than described.

Ordering the
Seed beds.

Sect. 6. The next spring you will see these Stones and Seeds come up plentifully; first the dissimilar leaves, almost of the shape of the Kernel split in two, and from betwixt them will the stem put forth; keep them clean from weeds all the year, which must be plucked up while they are young, lest if they get root, in drawing them up you root up the seedlings with them.

Weeds.

These weeds and such as are pluckt up any where else, thrown up into a heap will rot, and become very good Manure, but this should be before they are seeded, for then the Manure made of them will be apt to make the ground it is cast upon more subject to weeds.

Watering.

If a *dry time* happen, you may sometimes in the Summer water the beds.

The proper
Seeds for
Stocks.

Sect. 7. To furnish your self with a competent variety of Stocks for the several sorts of Fruit-trees, your *Seminary* is to be stored with these following; such as come of *Peach-stones*, *Plum-stones*, *Cherry-*

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Inoculating
in Roots.

And I have heard an Ingenious person speak of *inoculating Buds* on the small *roots* of great *trees* that grow at farthest distance from the *Bodies*, and after a years growth to cut off the *root*, about a foot in length, with the new *shoot* growing upon it, and transplant it; because a *Tree* will be sooner raised thus than from a *Seed* or *Stone*.

In case of an exigent for a *Stock* or two, this way may be practised, but it would be found too troublesome for general use.

Sect. 9. But if you desire to raise some *Wall-fruit-trees* speedily, for furnishing some vacancies in the *Wall*, and would be so sure of the kind of *Fruit*, that you will not trust to a *Nursery Mans* selling, you may set some *Peach-stones* in some old basket fill'd with Earth 4 or 5 in a basket, and where several come up (when very young) draw up all but one that is likely to grow best: Some of these you may possibly *Inoculate* the same year, or at farthest the year after all of them: when you see the *bud* taken, in the *Winter* following cut off the head, and set the basket with the *Tree* in it, in the vacant places, by opening the ground and letting in the basket, and set-

setting in Earth about it; The basket will rot, and roots get through it, so that it will be no hindrance to the Tree's growth, and the chief advantage is that the Tree hath not the lett and hindrance as others have by removing, never being taken out of the Earth it was set in. Lest any casualty hit off the Bud in removing, or against the Wall, you may if you please not set the basket till the year after the Bud that was *inoculated* is shot forth.

Or to hasten the furnishing the Wall (if you have none ready grown in a Nursery nor are willing to buy, and that no impediment hinder) you may set *Stones* by the Wall side in the Borders, and there inoculate them, and after let stand what you please, and remove the rest; In both those you will find directions of inoculating and more fully ordering them in the 4th and fifth Chapters.

CHAP.

C H A P. II.

Observations concerning the raising of Stocks in the Seminary, or elsewhere.

Seeds produce
not their own
Fruit.

SECT. I. *Seeds or Stones of Fruits* gathered from *Trees* that have been *grafted* or *inoculated* on *Stocks* of different kinds from the *Scions*, produce of themselves, (not being *grafted* or *inoculated*) not the same *Fruit* as that was from whence the *Seed* or *Stone* came, but a different, and most commonly a worse.

The *Stones* of *Peaches* produce *Trees* that will bear *Peaches*, sometimes better than the *Peaches* out of which the *Stones* were taken, although those *Peaches* grew upon a *Tree* that was *inoculated* on a *Plum*: And therefore some *Gardeners* by setting many *Stones* of the *Nevington Peach*, have found some among the *Trees* come up from them, to bear a *fruit* rather improved than worse; and by giving it a new *Name*, and *inoculating* from it, have made good gain of it. But this is not a practice for every private

vate person ; because *Peach-trees* so raised, will be longer before they bear fruit, than those which are *inoculated* ; and because he must run the hazard of filling great part of his *wall* with these *Peach-trees* thus raised from *Stones*, and not one it may be in many prove any thing extraordinary, and the rest of no use unless for *Stocks*, after he hath waited several years to see what Fruit they will bear.

Señ. 2. It is controverted amongst men of this *Profession*, whether *Stocks* from *Peach-stones* are best to *inoculate* *Peaches* upon : both sides have their peculiar advantages, which I shall here set down, and leave every man to his choice.

Stocks from *Peach-stones* will be sooner ready to *inoculate*, and the buds will take very sure, that are *inoculated* into them ; but they must be carefully and tenderly used in the removal, and must not be expected to make long lasting *Trees*.

Stocks from *Plum-stones* and *budded* with a *Peach* will make a more firm and lasting *Peach-tree* ; and such as will bear Fruit well.

There-

Wheat Plum-
stones.

White-pear-
plum-stones.

Other Plum-
stones.

Apricock-tree

Suckers.

Cherry Stocks

Therefore rather raise *Stocks* for *Peaches*, *Nectarines*, *Apricocks*, and *Plums* from *Stones* of the *Wheat plum*, which is a *White-plum* ripe in *August* (if you can have them,) or in want of them from the *Stones* of the *White-pear-plum*, which is generally commended and used, or of other good *White-plum*, whose *Tree* puts forth large *shoots* or *branches*. If you are not sufficiently furnished with *Stones* of these *White-plums*, you may for *Apricocks* and *Plums* raise *Stocks* from the *Stones* of the *Muscle-plum*, the *Black-pear-plum*, *Primordian*, or any other *Black* or *Red-plum* of free growth.

And it's a way much commended, first to *inoculate* an *Apricock* very low on such *Plum stocks*, and then after a years growth, *inoculate* a *Peach* or a *Nectarine* on it; only this way there will be two years loss of time, and take notice that the *Red-Roman Nectarine* will hardly take on a *Plum-stock* any other way.

The *Suckers* likewise from the *roots* of the *White-plum* before mentioned make *Stocks* for the *Fruit* spoken of in this *Section*.

Seç. 3. *Stocks* for *Cherry-trees* are raised from *Cherry-stones*, set or sowed, or young wild *Cherry trees* got out of *Woods*,

Woods, &c. or *Suckers* from the common harsh *red Cherry*. The wild *Stocks* make large handsome *Standard-trees*, but though *grafted* with a good kind, do not bear *Fruit* so plentifully in many Countries, as the *Suckers* of the *red* being *grafted* do, which last also are fittest to *graft Cherries* on for *Wall* or *Dwarf-trees* being of much smaller growth than those of the wild kind are.

Sect. 4. It's plain all *Stocks* and *Scions* (that will prosper when they are joyned together) are *congenerous*, and related in some degree of affinity; I have tryed a *Nectarine* on a *Horse-Plum* and it failed; on the very same *Stock* an *Apricock* grew very fast. I have also *inoculated* a *Apricock* on a coarse *Black-plum* (known in some Countries by the name of the *Lammas-plum*) and it took well, and bore a good *Fruit*. I have *inoculated Pears* upon a *Hawthorn* or *White-thorn*, and it hath taken very well, but the growth was so small, it's not worth the practice. A *Pear* *grafted* on a *Wicky-berry-tree* grew very well, but on the *Hazel* or *Nut-tree* it fail'd. I have tryed the *inoculating buds* of *Walnut-trees* upon *Ash-trees* to hasten the raising *Trees*, but not one of many (that I tryed) came to any thing.

Scion and
Stock must
agree.

N.r.

Mr. Evelyn reports it from one, that said, he had it to shew, that a *white Apple grafted* upon an *Elm* did grow and bear a *read Apple*.

Cherries grafted on *Plum-trees* will not prosper long, nor *Plums* on *Cherries*; neither do *Apples* on *Pears*, nor *Pears* upon *Apples*.

Stocks may
meliorate
the Fruit.

Señ. 5. It is an Assertion of my Lord Bacon in his *Natural History*, cent. 5. Exper. 452. That *Grafting* doth *meliorate Fruit*; and I have heard that the *Golden-renating* was the *Fruit* of a *Scion* of an *Apple-tree grafted* by his direction on an *Apple-tree*, and thence had its name as being in a manner *born again*.

But mere *Grafting* doth not better the *Fruit* at all, as if you *graft* a *Scion* upon the same *Tree* you took it from, the *Fruit* will be the same, without any the least alteration from what the *Tree* bore before it was so grafted.

But it is a harder question to resolve, if you *graft* a *Scion* on a *Stock* differing from it in kind, whether the *Fruit* of this *new Tree* will be any thing better than the *Fruit* of the *Tree* from whence the *Scion* was taken.

This

This is by many held in the *negative*; because (say they) the *Stock* only conveys food and nourishment to the *Scion*, and then when the *Scion* hath received it, it converts it perfectly into its own Nature; so that the *Fruit* which this *Scion* shall bear, must be the very same that the *Tree* bore from which the *Scion* was taken, and neither better nor worse. But that the *Scion* doth thus perfectly transmute the *juice* it receives from the *Stock* into its own kind is not proved, neither (as I verily believe) ever will; and it may therefore prove for all that's said to the contrary, that the *Fruit* may participate something of the Nature of the *Stock*, and may so far be made by it either better or worse; for such an union as that of the *Stock* and the *Graff* in natural bodies is hardly conceivable without some commixture of their Natures, and there are some reasons from Experience that make this probable; as,

1. The Seeds of a grafted Tree take much after the *Stock*, and it is hard to conceive the *Kernel* should participate so much of the *Stock*, and the *Fruit* be nothing influenced by it.

D

2. Those

2. Those that produce the best Fruit by their *Stones* or *Seeds*, yet vary from the Fruit the *seed* or *stone* was taken out of which in all likelihood proceeds from the mixture of the *quality* of the *stock* and *Scion* in that *Tree* the *stone* came from.

3. It's manifest that amongst *Trees* of one kind, in the same *Orchard*, you shall have some one of them bear better Fruit than any of the rest sometimes; and I know not what to impute this excellency to more probably chiefly though there may be some other causes for it, than that the *stocks* they were grafted on might be *Crab-trees* that bore *Crabs* of several kinds, some better, some worse.

So that to conclude this discourse, it cannot be amiss to be so far curious about the *stocks* you graft, as rather to choose such *seeds* and *stones* to raise them from as come from *Trees* that bear the best fruit in their kind (if you can have them) than to take them at adventure.

Crab Kernels
best.

Sect. 6. In raising *Apple-trees* for *Orchards* or *fields*, whether for *Cyder* or *baking*, &c. the *Crab-kernels* are prefer'd before *Apple-kernels*, as yielding *stocks* more hardy, and so better able to endure

and ure cold and course Land, and because they root better and so will make larger *Trees*: Neither are some sorts of *Crabs* so contemptible a *fruit* as they are generally accounted; for being gathered very ripe and kept a good while to *mellow*, some of them will make good *Cyder*; and generally they yield a strong *Liquor*: so that such kind of *Crab-stocks* may rather help to mend some Apples of weak *juice* than make them worle, but the reason before mentioned is the cause of their choice before Apple *Kernels*.

Yet where you cannot conveniently be stored with *Crab-kernels*; *Apple-kernels* Apple kernels. are not so much inferior to them, but they may well enough be made use of, (as they commonly are) for raising *stocks* to graff Apples upon.

And concerning the *seeds* of Apples it's to be observed, that although they produce not *Trees* bearing the same kind of Apples as those the seeds were had out of; yet without graffing they will bring forth a good *barsh fruit* that may yield good *Cyder*: and thus (it's said) we came by some of our best *Cyder-Apples*.

Seeds of various Apples.

If you sow the *seeds* of several sorts of *Apples* mixt together, you would certainly have fruit multiply'd into various kinds; but yet perhaps find none better for *Cyder* than those already known, nor so good, and such *Trees* will be longer before they come to bear *fruit* than others that are grafted: so that it would be but an unpleasant Experiment to search this way for a *Cyder Apple* to exceed all that have been before, because the trial would be so tedious, and the labour in greatest likelihood lost at last.

A Fruit-Hedg.

But if a man had a mind to raise a good *new Fence* about a *Field* he designs to inclose, which he can keep for four or five years together to bear *Corn* or *Clover-grass* to mow, that *Cattle* may be so long kept out of it, he might do it rarely well by sowing Apple kernels of as many sorts as he will, on the top of a new made *Ditch bank*, making the *dead Hedge* (that is usually on the top of the bank) on the out side of the ditch to defend them.

When they are grown up he may plash this Hedg, leaving at every four or five yards distance, one of the best *Trees* to grow up. which of themselves will bear good *Cyder fruit*, or may be grafted to bear what pleaseth the owner; and by this means

means in a little time and with small charge he shall have a *fruit-bearing* and *impregnable Hedge*.

Sect. 7. It's held by some, that the *Kernel* of the *fruit* hath a great dependence upon and sympathy with the *pith* of the *Tree*, and that *hollow-trees* though they grow and bear fruit, yet that fruit hath few *Kernels* in it, and those little better than withered *bushes*. Of the Pith and Kernels.

When I was a young *Planter*, I was once in want of *Pear-stocks*; and made my complaint to an ancient *practiser*, a man of very good judgment in the opinion of those that knew him, and he told me he had oft sowed *kernels* of *Pears* and never could get any to grow: Yet I procured some *Seeds* of *Pears* from the *Mill*, that were very *ripe*, and had *stocks* enough from them, which makes me believe my friend took his *kernels* from a *Tree* that was *hollow-hearted*, as *Pear-trees* are more subject to be than any other *fruit-trees*.

I mention this the rather, because if a *Planter* try any thing but once, and fail, he should not be *discouraged*, and particularly in this; but if he can get ripe *Seeds*, (which will be then very black) and of a *sound Tree*, he need not doubt the *success*.

And to have plenty of *stocks* such as are best for large *standards* for *Orchards*, or *Fields*, there is no better way of raising them than by *Kernels*; with which a man can no way be plentifully and easily provided, but at the time and place of making *Perry*, though he do send some miles for them.

Hollow fruit-trees.

I shall end this *Chapter* with this one *Observation* more, not unsuitable to what went before, and which I have met with verifi'd more than once or twice in my own Experience, That there are some *hollow fruit-trees* that bear fruit so much more excellent than any of the same kind the owners have had, or could elsewhere meet with, that they have been very desirous to propagate from them, but never could any manner of way raise young ones of those old *Trees*, that would bear so good a *fruit*; which seems to infer that the *fruit* of a *Tree* may be the better for the *piths* being consum'd; and if that be true, it must be so, because the *pith* conveys to the *fruit* a worse sort of *juice* than any other part of the *Tree* doth, and therefore being freed from that infection by the *Consumption* of the *Pith*, the *Fruit* becomes more choice and delicate. And that the *Pith* is

is the conveyance of a *confer*, or other fort of juice, is rendred in some sort probable, because (as hath been before observed) the *Kernels* of *Fruit* depend much upon the *Pith*, which almost never produce such good fruit as they come out of, and generally much worse.

C H A P. III.

Of Transplanting the Seedlings.

SECT. 1. In *October* after one Sum-
mers growth in the *Seed-plots*, you
ought to draw up with your hand, (such
of your *Crab*, *Apple*, or *Pear-seedlings* as
you find grown above a foot in height :
and transplant them into your *Nursery*,
and let the rest remain in the *Seed-plot*
till another year; as for those from
Stones they need not be removed, but in-
oculated in the *Seminary*, the *stones* being
set at the distance aforesaid.

Of removing
Seedlings.

When they are drawn up, cut off the
side-spriggs from about the *top*, and
the *strings* from about the roots, and
snip off the *extremities*, both of the *top*,
that it may not run too fast upward, (but

Of dressing
them.

the body may grow in bigness,) and of the *tap* or *heart root*, that it may not run directly *downward* (lest it run further than the good *soil*) but may be more apt to spread its *Roots* in breadth.

Of the soil.

Have *beds* ready prepared, of good fertile dry *Earth*, not over *rich*, lest upon removal afterwards into a much worse *Soil* (as for the most part *Orchard* and *Field* ground is) your *Trees* coming of a sudden from such delicate food, to such coarse fare, pine away if they do not perish; and this is but reasonably thought to be the cause why many *Trees* bought out of *London Nurseries* (which are vastly deep with *fat*, and *rich manure*) decay, or come on very poorly, when they are brought into the *Country*. Therefore upon every removal endeavour to have *Earth* as good, or better (to place next the *roots*) than that out of which they were taken.

Of setting them.

Sect. 2. Let every *bed* you make, for setting these *Plants* in, be about *two foot* broad, leaving room betwixt each *bed* to walk and work about them, without prejudicing the *Plants*: Set *two rows* a *foot* or more distance each from other on every *bed*, by drawing a *line*, and pricking *holes* a full *foot* asunder; let the

holes

holes be so deep, that if the *roots* be not very long, you may set your *Plants* at least two fingers breadth deeper in the ground than they grew in the *Seed-plot*, close the *mold* about them, and if it be a very *dry* time, water them the same day, the better to settle the *Earth* about them.

If you can get old *Fearn* (in some places called also *Brakes*) or for want of it *Straw*, or *new Dung*, cover the *Beds* with it, which will keep the *roots* warm in the *Winter*, and preserve them from overmuch heat in the *Summer*; if the land be any whit *stiff*, this cover will make it *meadow*, and when *rotten* enrich it, and very much hinder the growth of *weeds*, which ought duly to be pluck'd up; and put new *Fearn*, &c. as the old *rots*.

Sect. 3. If any of these *Plants* (in ^{Of dressing} the years following) shoot forth *upright*, ^{them.} top them early in the year, it will make them grow bigger bodied, and so become sooner ready for *graffing*.

If you intend to raise any *stocks*, to ^{For} *Fields*. be set out in *Fields* before they are *graffed*, you need not *top* them upon their first *removal*, neither need you *remove* them, till they are grown *high* enough to

to stand in the *Fields* ; if you find that they *spread* their *roots*, and run not *downward*, as in *gravelly* and such kind of *soils* they will not be apt to do ; (and by the first you *draw up* you may judge of the rest, whether they do or no :) If you reserve any for this use, you had best choose such as grew *straight*, and at convenient *distance* one from another ; which you may contrive to do, in *drawing out* the first *two* years, such as be of *stature* to be *Transplanted* from among them : Whether you remove these into your *Nursery* or suffer them to remain in the *Seminary* you ought to Dress these once or twice a year by cutting off the biggest side-branches to hasten their growing *tall*, but leaving some small side-branches, for this causeth them to thrive in *bigness* the more, which they ought to do proportionable to their height, or else they will be too *weak* to bear a *top*.

Observe this also in *grafted Trees* in your *Nurseries* or elsewhere.

C H A P.

C H A P. IV.

Of Inoculating.

SECT. 1. About a fortnight before ^{Way of inoculating.} or after *Midsummer* (which is the best time, though it may be done from the beginning of *May* till *August*) when you have pitch'd upon such *stocks* as are fit to be *inoculated*, choose out a strong and well liking branch, or shoot of that years growth upon a Tree that bears such kind of fruit as you would by this operation produce, and about the middle, or lower end of it, (for the top will be too tender) fix upon a leaf, that hath a fresh and fair bud growing out betwixt it and the bark, and about half an inch below, and above the bud, cut off the branch, and so you will have a piece of it about an inch long remaining, with a bud and a leaf on; this you must cleave just through the midst, so as the bud may be directly in the middle of the one half; and then snip off a part of the leaf, or the whole leaving the stalk: and holding it by the remainder, clap it to a smooth place on the stock; and with a Pen-

Pen-knife score out, on each side of it, so much of the stock as it covers, or rather a little broader (because when the bark on which the bud is, is taken off from its own wood and applyed to the stock, it will cover a wider space of the stock than it did before;) After you have thus marked your stock, with-draw the Scion again, & cut the bark through where you had marked it, then cut the bark cross and straight, from the uppermost end of one score to the upper end of the other, and cut the bark again cross and straight, from one score to the other, but not so low as the lower ends of the scores by a quarter of an inch, then take the oblong square piece of bark, that is cut on every side quite off the Stock, and raise up that part of the bark that remains betwixt the side scores, at the bottom of the work, from the wood, till you come to the lower ends of the side scores.

Take then a Goose-quill, cut in the fashion of an Apple Scoop, or Scraper, and having with your Nail a little loosened the upper part of that bark that is on the Scion, thrust the quill betwixt the bark and the wood, holding it close to the wood, that it may separate them, and take off with the bark a little wood of
root

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Scion or *bark* as before directed, (only cutting it sharp pointed at the lower end before they take the *bud* off its *wood*) then raise the *bark* of the *Stock* up on each side the *slit*, and put in the *Scion*, beginning at the top and sliding it downward gently, and so bind the bark gently upon it. *This is the common way used among Gardiners.*

A 4th. way.

Thirdly, You may make the *cross cut* in the middle of the downright *score* on the *Stock*, and lifting up the four corners of the *bark*, and making the *Scion* sharp at both ends, put it under the bark of the *Stock* at both ends, and then bind it. But in doing this there is danger of hurting the *Scion*.

A 5th. way.

Fourthly, Mr. *Rea* commends the making the *cross cut* at the lower end of the downright cut, and having opened the sides, put in the *Scion* upward, being made sharp at the upper end only.

Thus much to satisfy the curiosity of such as have a mind to make tryal of every way; but the first that I have described at large, I take to be the best.

CHAP.

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PAP.

112

A. The bark of the tree is taken for the purpose of making a bark tea.

B. The bark of the tree is taken for the purpose of making a bark powder.

C. The bark of the tree is taken for the purpose of making a bark extract.

D. The bark of the tree is taken for the purpose of making a bark tincture.

E. The bark of the tree is taken for the purpose of making a bark decoction.

F. The bark of the tree is taken for the purpose of making a bark infusion.

G. The bark of the tree is taken for the purpose of making a bark syrup.

H. The bark of the tree is taken for the purpose of making a bark elixir.

I. The bark of the tree is taken for the purpose of making a bark emulsion.

J. The bark of the tree is taken for the purpose of making a bark ointment.

K. The bark of the tree is taken for the purpose of making a bark suppository.

L. The bark of the tree is taken for the purpose of making a bark pessary.

M. The bark of the tree is taken for the purpose of making a bark enema.

N. The bark of the tree is taken for the purpose of making a bark cathartic.

O. The bark of the tree is taken for the purpose of making a bark diuretic.

P. The bark of the tree is taken for the purpose of making a bark laxative.

Q. The bark of the tree is taken for the purpose of making a bark antacid.

R. The bark of the tree is taken for the purpose of making a bark antispasmodic.

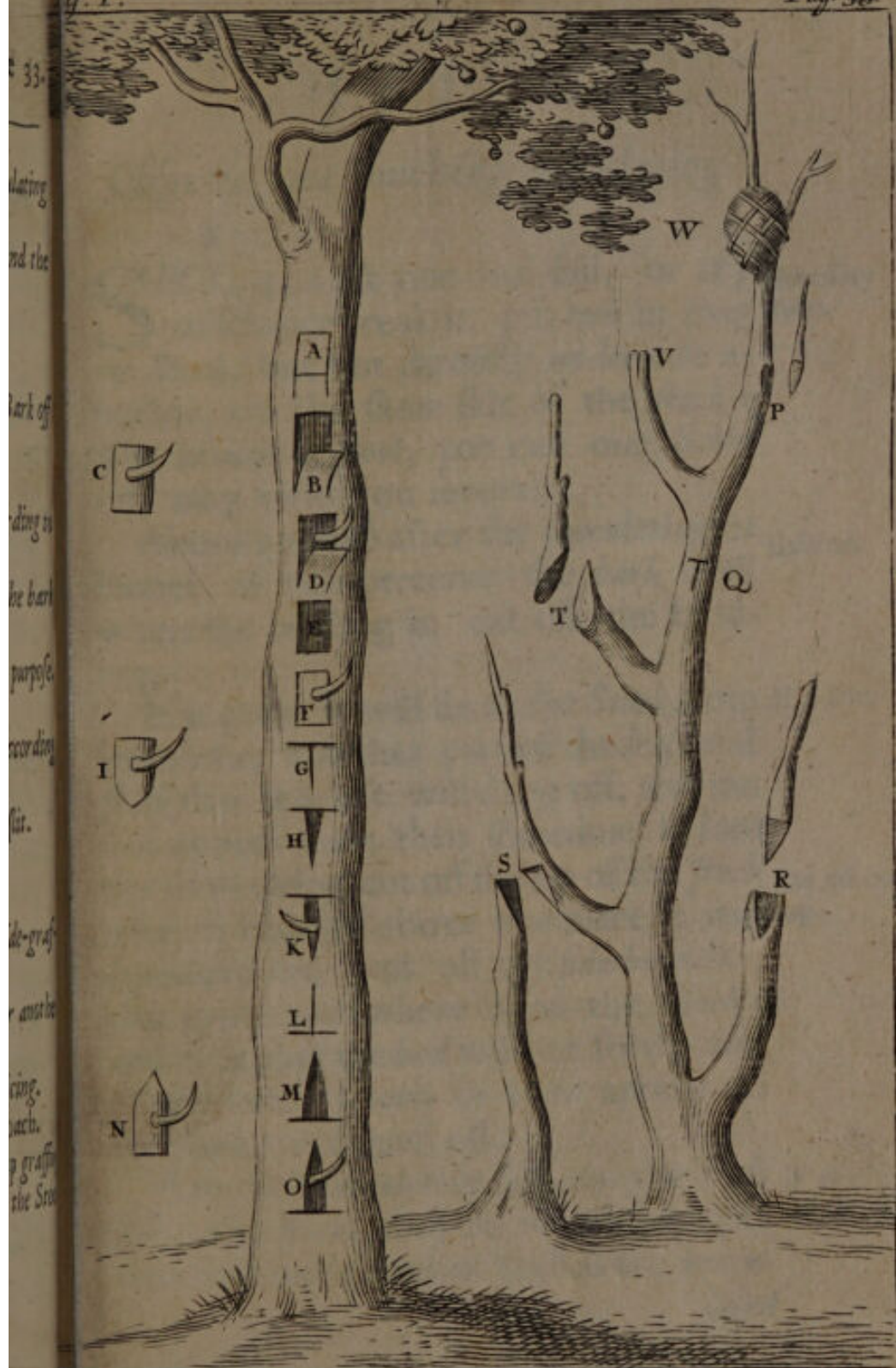
S. The bark of the tree is taken for the purpose of making a bark anesthetic.

T. The bark of the tree is taken for the purpose of making a bark narcotic.

V. The bark of the tree is taken for the purpose of making a bark stimulant.

W. The bark of the tree is taken for the purpose of making a bark sedative.

- A Denotes the cutting of the Bark for inoculating the first way directed.
- B The upper part of the bark taken off and the lower part raised.
- C The bark prepared to put in the Stock.
- D The first inoculation finished.
- E The second way described by taking the Bark off the Stock in an oblong square.
- F The same finished.
- G The cutting the Bark of the Stock according to the Gardiners ordinary way.
- H The sides of the Bark opened to put in the bark or shield.
- I The Bark of the Scion prepared for that purpose.
- K This way of inoculation finished.
- L The cutting of the Bark of the Stock according to Mr. Rea's best approbation.
- M. The opening the bark on each side the slit.
- N The Bark prepared to be put in.
- O The same finished.
- P The cut of the Scion and the Stock for side-graffing.
- Q The cut of the Bark of the Stock for another way of side-graffing.
- R The cut of the Scion and Stock for Slicing.
- S The cut of both for grafting by Approach.
- T The manner of Stock and Scion for Whip grafting
- V The manner of cutting the Bark of the Stock for grafting in the bark.
- W The manner of Circumposition.



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C H A P. V.

Observations touching inoculating.

SECT. I. Left one *bud* fail, or any Necessary
 mischance break it, put *two* in eve. Rules.
 ry *Stock*, but not directly under one a-
 nother, on the same side of the *stock*:
 The *branch* or *shoot*, you cut one *Scion*
 off, may yield you several.

About a *month* after the *inoculating*, or
 sooner, if you perceive the *bark* swell Unbind.
 where the binding is, cut off the bind-
 ing.

If it grow it will fix to the *Stock*, keep If a live.
 its colour, and that part of the *leaf* and
stalk that was left will drop off, and the
bud appear fair; then sometime before
 the next spring cut off the *top* of the *stock* Cut off the
 a hands breadth above the place it was top.
inoculated at, and all the *side-branches*,
 that grow any where upon the *Stock*;
 and at Spring the *bud* will put forth, and
 if any other *sprouts* or *buds* appear on
 the *stock*, cut them off.

If the first *inoculation* fail, or the *buds* If dead ino-
 die, the *stocks* may be *inoculated* again culate again.
 next Summer; and of such as are *inocu-
 lated*

lated timely in the year, it may be sometimes seen whether they grow or not, time enough to *inoculate* them again the same year.

Apricocks will have *buds* sooner ready than other fruit; so that you may begin with them, and follow with other kinds.

Size of the
stocks.

Seçt. 2. *Stocks* raised of *Peach-stones* are commonly big enough to be *inoculated* the *second* Summer, sometimes the *first* after they are set; when they, or any other *Stocks* are an *inch* and half in compass, or thereabouts, they are big enough to be *inoculated*.

Height.

Those you intend for *Wall*, or *Dwarf-trees*, are to be *inoculated* within a *handful* of the ground, and not Pruned at all till you remove them, and then you will better see what's necessary to be cut off: And these you may remove after *one* years growth, or *two* with more safety.

If you *inoculate* any *Plums*, *Cherries*, *Pears* or other *Fruit*, that you intend for an Orchard, or other place, for tall standards, you may do it higher on the *stocks*, and Prune these up in the *Nursery*, and let them grow there three or four years (according as they grow in height) before they be removed.

After

After *Stocks* that are *inoculated* have made *one* or *two* years growth, you must cut off the head of the *stock*, that remain'd above the *bud* at your first cutting it: Cut it close to the new branch, that it may grow over the cut; let it be cut a little slope, and *clay'd* over, if you desire the *branch* should quickly cover it, and the sooner it doth the better.

A second cutting of the stock.

Señ. 3. Care must be had in choosing *branches*, or *shoots*, from which you are to have your *buds*, that are of strong growth, the *Bark* firm, and not spungy; suffer them to fade as little as may be, before you use them; and if the fruit you design to raise, be at such a distance that you cannot have *buds* to *inoculate* the same day they are cut, put them in wet *Moss*, or *Grass* in a *Box*, and so they will keep a day and a night very well.

Choice of Buds.

Nectarines, *Peaches*, and *Apricocks*, are seldom raised otherwise than by *inoculation*; I knew an *Apricock* grafted in the cleft, as likely as might be to grow, but failed; I have heard of one grafted in the *bark* that grew.

What Fruits to inoculate.

Cherries and *Pears* take very sure, being on young fresh *stocks* whose *bark* is not thick.

What not.

The *bark* of *Scions* taken from some *Plums*, is so tender and spongy, they will often miscarry when *inoculated*; from such one would choose rather to raise by *Grafting*; but most *Plums* will hit very well being *inoculated*.

Scions of *Apples* fails for the most part, their *Bark* being tender, and *buds* weak; but to preserve kind of a dying *Apple-tree*, that I could not well cut a *Scion* to *Graft* off, I have taken a hungry *bud* of the year foregoing, and it hath taken, and grown very well.

Pears and *Apples* succeed very well (and the latter best) by taking a *bud* from a shoot of the year foregoing to *inoculate* with. The skill in finding *buds* that are fit for it, which must be short and not likely to make *buds* for *blossoms* is the only difficulty. There is a considerable advantage in it, (*viz.*) Being done in *May* or the beginning of *June*, and part of the head of the *stock* cut off, the *Bud* of the shoots the same year, and becomes so strong, that it makes a far better growth the succeeding year, than otherwise it would have done; neither is such *shoot* liable to so many hurtful casualties, as a *bud* is before the ensuing spring. And lastly, if it should miscarry

ry (as it seldom doth) it will be perceived by *Midsummer*, and the *stock* may be *enoculated* again the same year.

Seç. 4. Where *inoculating* succeeds well, it is to be prefer'd before *Graffing*. Inoculating
prefer'd be-
fore *Graffing*.

1. Because the *stock* will be big enough to *inoculate* sooner by two or three years, than to *graff*, and your *Plant* groweth much faster, after the *Nature* is so altered, than it did before, and will be sooner ready to *Transplant*, and if it be suffered to grow *two* or *three* years longer, as it must be before it will be fit to be *graffed*.

2. It makes a *sounder Tree* than one that is *graffed*, especially in the cleft; because it covereth the *Stock* speedily and well.

3. It *hurts* not the *Stock* so much as *graffing*; and if it chance to fail, it may be *inoculated* next year again, and sometimes the same year.

4. It's more *speedy*, *easie*, and *delightful* than *Graffing*, and may be practis'd by *Gentlemen*, who in *June* may lie on the ground and do it; whereas they cannot bear the cold without danger of taking hurt, in *February*, or *March*, which is the chief *Graffing* season.

Of the time of
the day.

Of the morn-
ing.

Sect. 5. It is debated among *Planters* what *time* of the *day* is best for *Inoculating*: I have heard an Ingenious person argue for the morning; because there passeth up much more *sap*, or *juice*, in the *day* time, than in the *night*; as was observed by him in piercing the *Birch tree*, and other *Trees*, to get the *liquor*, that distills out of them, for *Physical* uses;) and consequently the *bad inoculated* in the morning, must be more likely to grow, having the whole days plenty of *sap* to invite it to unite with the *Stock*, than if it be *inoculated* late in the day, and so must be discouraged in its new habitation, by the niggardly provision of the nights *Sap*. If you follow this advice, you had best wrap some broad *leaves*, or *Fearn*, about the *stock*, so as to shade the *Scion* from the scorching heat of the day following, to prevent its drying before the *Stock* hath undertaken the charge of preserving it.

Noon.

But this work may be done in the middle of the day, if the heat be not *violent*, and then you must (as at all times you ought) be very quick in the doing of it.

And

And for all that hath been said before, ^{Afternoon.} the afternoon may be as good a time as any; because if the *bud* have less *liquor* afforded it in the night, then the coolness of that time makes it less thirsty; and as its thirst encreaseth by the heat of the next day, a more plentiful stream will be very seasonable to satisfy it.

CHAP. VI.

Of the several ways of Graffing.

SECT. 1. As there are several ways ^{Slicing, or Packing.} (as you have seen) of *inoculating*, so are there of *Graffing*, as now I come to let you see; and the first I shall speak of is that which is called *Slicing*, or *Packing*, which I shall describe here at large, and so it will serve in part, as a general direction for all.

Cut off the *top* of your *Stock* in some ^{Preparing the stock.} smooth straight place; if you do it with a *Hand saw*, cut it smooth afterward with your *Knife*, leaving the top flat and even.

The Scion.

Then prepare your *Scion* or *Graff*, by cutting it on one side, from the *joint*, or *seam*, (that is, at every years growth) down slope-wise in the *old wood*, till it's cut quite off, that the slope may be about an inch long, or something more, observing its bent, that when the *Scion* is fixed to the *Stock* it may stand almost upright; give a cut then cross through the *bark* at the top of the slope, and then cut a thin *chip* of the *slope* upward to the *cross-cut*, that there may be a *shoulder* to rest on the top of the *Stock*, but cut not this *shoulder* too deep, little more than through the *bark* will be enough, and this will cause a little rising in the sloped part, which you must cut down, that the whole *slope* may be plain and smooth, without dints or risings, and lie even to the side of the *Stock*.

Length of the Scion.

Cut then the top of the *Scion* off, close about a *bud*, about four inches above the *shoulder* if it be for a *standard Tree*, two *buds* above the clay being full enough; but for *Dwarf*, or *Wall-trees*, you may let the *Scion* be six inches long with several *buds* that they may shoot forth many branches, and spread from the very *Stock*.

The

The *Scion* or *Graff* thus prepared; lay ^{Fitting the} the cut part of the *Scion* on the *West*, or ^{stock for it.} *South-west* side of the *Stock*, and so measure and mark the breadth and length of it, then cut away so much of the bark of the stock, as the cut part of the *Scion* may fit, drawing your Knife upward; but as the *stock*, is bigger, and the bark thicker than that on the *Scion*, so the *chip* must be longer, and broader, or else the passage for the *sap* in the *stock* and *Scion*, (which is chiefly betwixt the *bark* and the *wood*) will not meet together (as in the work you will easily see) which should be aimed at.

Then lay the cut part of the *Scion* on ^{Joyning them} the cut part of the *Stock*, and bind it on with coarse *Woollen-yarn*, *Basses*, or the inward peeling of the *Witch-tree*; if you bind with such a material as will not be loose, or rotten by Midsummer, about that time give it a cut cross-wise with a Knife to set the Prisoners at liberty.

Have in readiness good *Clay*, free from ^{Claying.} *Stones*, mixt with long *Hay*, and daub it about the *Stock* and *Scion*, a full inch above and below the head of the *Stock*, work it up round the *Scion* till it be sharp at the top, that the rain water may run

down it; and with a Knife or little trowel dipt in water smooth over the clay; in doing this be sure not to displace the Scion.

Thus you may Graff *Pears*, *Plums*, *Cherries*, and *Apples*, if it be before the bark of the Stock will part from the wood of them, for when it will, the next way following is better.

In the Bark. Sect. 2. The second way (called *Grafting in the Bark*) is much like this, and I prefer it from experience much before the fore-mentioned, or any other way, but it can with certainty only be used for *Apples*, because all Scions of other Fruit will be grown past use, before the bark of the stocks will peel; which is about the end of *March* or the beginning of *April*: But this will be time enough for *Apples*, if the Stocks be in any thing good liking, which if they be not, they are not fit to be grafted any way.

I have kept Scions of *Pears* till the bark hath risen, and thus grafted them with success. If *February* have been so sharp as to keep the Scions backward, it may do very well, not cutting them till toward the end of *February*, for then they will be well preserved till *Lady-day* or thereabouts, by which time the bark of *Pear*
Stocks

Stocks generally will peel from the *Stocks*.

Prepare then your *Stock* and *Scion* exactly as you were directed in *packing*, only instead of cutting the *bark* off the *Stock*, slit it on the *South-west* side, from the top, almost as long as the *sloped* part of the *Scion*, and loosen the *bark* at the top of the slit with the point of your Knife.

The manner.

Have in readiness a little Instrument made of *Ivory*, or a *Deer* or *Sheep-shank*, or *Silver*, or hard smooth Wood, at one end let it be made of the *shope* of the *slope* part of the *Scion*, but much less every way; thrust it down betwixt the *Bark* and the Wood of the *Stock*, where it was slit, to make room for the *Scion*, take it out and put in the *Scion*, but first cut a little of the *Bark* at the thin end of the *slope* of the *Scion*, that it double not in going down, yet leave it with a sharp edge; and because when you *Scion* is put in, it will bear the *bark* hollow from the *Stock*, nick or slit the *Bark*, on each side the *Scion*, so that it may fall close to the *Stock*, and to the edges of the *Scion*. Bind and Clay it as you have already heard.

The Instrument in the Figure.

These

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You may if you will, a make shoulder on the Scion, and cut the top of the Stock to suit with it, and then bind them together, and *clay* about the place.

This way is successful enough, so that special care be taken, that both *Stock* and *Scion* suit exactly where they are joyned together, which is somewhat troublesome to do, and so it is to find Scions and Stocks of an equal bigness; both which makes it require longer time in doing than the former ways, besides the head will be apt to overgrow the Stocks; all that can be done to prevent it, is to Graff these very low, or if high, to give the Stock more liberty to thicken, by slitting the Bark of it with a Knife.

Its inconvenience.

In this way of *Graffing* there is another little knack may be added to very good purpose; and that is, when the Stock and *Scion* are prepared (as you heard before) to be joyned together, to make a slit with a Knife in the bare place of the Stock downward, beginning towards the top of the *slope*, and so slitting it a little way, and doing the like in the *sloped* face of the Scion, but beginning at the same distance from the lower end of it, as you did before from the top of the

An addition by lipping or tonguing.

the *Stock*, and so carrying it upwards, and then joyn them by thrusting the one *slice* into the other, till the bare place of the *Scion* cover the bare place of the *Stock*.

The same in
packing.

This may be done likewise in *Grafting* by *packing*, and in both conduceth much to strengthen the work, and is called by some, *Lipping* or *Tonguing*.

Side Grafting.

Seet. 4. I am now going to describe another way that I never read of, neither ever knew more than one that used it, and he a skilful Gardiner and us'd it very much: Knowing no name for it I have given it the name of *Side-grafting*.

It's done by preparing the *Scion* as in *Whip-grafting*; then without cutting off the head of the *Stock*, (but making it thin of side Branches) from a smooth place of it on the *West-side*, take off as much *bark* as the *Scion* will cover (as in *Packing*) and slit both *Scion* and *Stock*, according to the directions given of *Lipping* or *Tonguing* in the end of the last *Section*, and fix them together accordingly: Bind it close and *clay* it.

If it grow, at a years end cut off the top of the *Stock* at the *grafted* place slope-wise, and *clay* it.

Some

Some done thus grow well, and I have used it successfully, the transient sap uniting it well to the *Stock*, and it groweth fast if the head of the *Stock* be not too big to rob it of the sap and drop upon it, therefore suffer not the top of the *stock* much to over grow the *Scion* the first year before it's cut quite off.

There is another way of this kind, I A 2d. way. have known used, and is easier done than the former, that is, to slit the *bark* of the *Stock* in the form of a great T, and loosening it with the point of a Knife, and then clapping in a *Scion*, prepared as hath been said before, (but without the slit for *Lipping*,) bind and clay it.

This can be used only when the bark will part from the *Stock*.

Sect. 5. The next way is that which In the Cleft. is called *Grafting* in the *Cleft*, and is very ancient, and still used by common-Planters, and it's thus performed.

Cut off the head of the *Stock* even and Preparing the Stock. smooth, cleave it with a strong *Knife*, or *Chissel*, (hereafter described when I speak of *Pruning* big Trees) let the slit run near two inches deep, let it be as near the middle of the *stock* as you can, but not in the *pith* or *heart*; have in readiness a stick of hard Wood, near a foot long,

long, at one end made like a *wedge*; when you have taken out the *Cleaver*, put the *wedg* into the *slit*, and open it so wide as to put in the *Scion*, when it's prepared.

The Scion.

Which is by cutting it down *slope* on each side, about an inch in length, beginning at the *joynt*, but leaving it much thinner on that side that goeth into the *Stock* than the other that is outward, (that side must be outward that will cause it to lean rather *outward* than *inward*;) you may let it have a shoulder on one side, or both, or neither, all these ways are used; but shouldering takes up more time, and makes the *Scion* weaker, and so apter by any chance to be broke off. Then with your Knife cut away any *jags*, or *roughness*, or *blackness* that remains after cleaving on each side of the *cleft* within, and so put in either *one* or *two Scions* (according as your *stock* is in bigness,) place them so as the passage of the *sap* betwixt the *bark* and *wood*, both of the *Stock* and *Scion*, may meet all along the *cleft*, as near as you can; draw then forth your *wedge*, and if the *stock* be a big strong *stock*, and do pinch the *Graffs*, drive a little wedge of dry wood into the *slit*, but not so as to let the *Scions* loose;
or

Joining them.

or for such strong stocks cut the *Graffs* as thick on that side that goes into the stock, as on the outside, which will prevent the stocks hurting the sappy part and *bark* of the *Scion*.

Many cleave big stocks cross-wise again, and put in two more *Scions* but cleaving hurts the stock so much that you had better (if you will have more than two *Scions* in one stock) *Graff* the other two in the bark, according to the *second* way of *Graffing*, forecasting one of them to be on the *West-side* of the *stock*.

Sect. 6. There is another way, called *Graffing by Approach, Ablactation, or Enarching*, which is by having a *stock*, or *stocks* grow so near another Tree, whose *Fruit* you would propagate, that the *stock* and the *branch* of that Tree may be joyned together in the manner following; or else *stocks* raised in *Pots*, that may be placed near the Tree of whose kind you would propagate; as is commonly used for *Orange-Trees*.

By approach.

Cut the side of the *Branch* and of the *stock* (where they will meet) about three inches in length, till you come near the *pith* of each, and fit them both together, that the passages of the sap may joyn, in which posture *bind* and *clay* them: Af-

The manner.

soon

soon as you find the *Scion* and *Stock* to be well cemented together, cut off the head of the *Stock*, about four inches above the binding; and in *March* following, cut off the stub you left of the *Stock*, and also the *Scion* underneath, close to the Grafted place, that it may subsist by the *Stock* only.

A difference.

It's also used to be done by cutting off the head of the *Stock* at first, and sloping half off about two inches long, and joyning the *Scion* thereunto, being cut accordingly. See the Figure.

This manner of *Grafting* is unnecessary, and scarcely practicable in the *Fruit-Trees*, chiefly intended in this Book; but for *Oranges*, *Lemons*, *Pomgranates*, *Vines*, *Jessamins*, and such like shrubs it may be practis'd.

Also it's said that *Trees* of different kinds will sooner take this way than otherwise.

Among all these sorts of *Grafting*, the second way for *Apples*, and the first for all other *Fruit-trees*, are to be preferred before all the rest.

The Figures with these directions, I hope will make all easie to any mans understanding.

C H A P.

C H A P. VI.

Observations concerning Graffing.

SECT. 1. If the *Plants* that you removed out of your *Seed-plot* into the *Nursery*, and such *Stocks* for *Stone-fruit* in the *Seed-plot* as you intend to *Graff*, be half an inch over in thickness, Size of stocks, where they are to be *Graffed*, or little more, it's enough: It's best not to have them above an inch in the diameter; both that you may lose no time, and that the *Stock* may be easier covered by the *Scion*.

Sect. 2. In providing *Scions* or *Graffs* of *Pears*, *Plums* and *Cherries* you must observe to cut them in *January*, or the very beginning of *February*, having respect to the forwardness or backwardness of the Spring, and the warmth or coldness of the Country you live in; but you must be sure to cut them before the buds have any speck of white appear upon them. Time of cutting Scions,

Scions for *Apple-trees* will seldom be too forward any time before the beginning of *March*.

Choose strong and well grown *Scions*, Choice, that grow at the top or outside of a *Tree* that bears well, and good fruit of its kind,

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of *Grafting* them; but if you will *Graft* any *Apples* in the *cleft*, you may do it a little sooner.

Perhaps you may not have several sorts of *Plums*, *Cherries* or *Pears*, so near you as that you may get *buds* fresh enough for *Inoculation*. In this case you may procure *Scions* and *Graft* them, and they will continue fresh though you should send for them from beyond Sea.

Sect. 4. These *Scions* may be kept three weeks, or a month after they are cut, before they are used, and there ought to be a fortnight or three weeks betwixt the time of their being cut, and of their being *Grafted*, that the *Stocks* in that time may be more replenisht with *sap*, and the *Scions* be more empty of it.

Cutting and ordering Scions.

To keep your *Scions* or *Grafts* after they are cut, you need not, as some direct, bury them in *moist mold*, for this may be a means to make them swell and bud forth, by receiving moisture from the *Earth*; and then when by *Grafting* they are exposed to the cold open *Air*, they will be in danger to wither and die before they have nourishment from the *Stock*.

Keeping.

You may lay them in a dry house, so it be near no heat, or under an old Tree, or Hedge, and cover them all over with *dry mold*, that the *Air* may not have too much influence upon them: though they seem somewhat dry, yet if they cut with a fresh colour, and be not much withered, they will not grow the worse, but rather the better; yea some that have seemed withered, being carried in a Cloak-bag seventy or eighty miles have grown well.

Suffer not the *buds* to be hurt, or rub'd in the *binding* or *carriage*.

Of joints.

Sect. 5. There be some indifferent whether they *Graff* at a *joynt* or no, but forecast to have a *bud* directly behind the *shoulder* of the *Scion*: If *Scions* with *joynts* were scarce, you might practise so on small *Stocks* that will be speedily cover'd, but if *Scions* can be had with *joints*, never *Graff* with others, for these will cover the *Stocks* sooner.

It will do well in *Grafting Stocks* for large *Standards*, to put but one *Scion* into a *Stock*, and if it put forth several *shoots*, to cut off all but one, that is the straightest and strongest: But for *Dwarfs* and *Wall-fruit* put in two *Scions*, if the *Stock* be big enough. Let the latter be

Graf-

Grafted near the ground, the former at such height as the *Stock* will allow.

Sect. 6. In *Grafting* or *Inoculating*, it may ^{Marking} be necessary to have some *mark*, to know ^{Trees.} what kind of *Fruit* is put upon each *Stock*; if you *Graft* many of one kind, (as it's necessary for *Syder-Fruit*) you may observe to make every *row* to consist but of one kind, and no other; but in a *Book*, that such a *row* hath such a kind of *Fruit* in it, and it's but entering where there are several in one *row*, there may be a *Stake* knockt into the ground at the beginning of every new sort, and so entered in your *Book*; and where you have very few of a kind (or for your whole *Nursery*, if you please) you may make *marks* of several *figures* or *shapes*, in the *bark* of the *Stocks*; which *marks* enter into your *Book*, and what *kind* it denotes, and at two or three years when you remove it, the *mark* will be very visible; and by renewing the *marks* sometimes, you may continue it as long as you please, and if any *Tree* be stolen you may own it by the *mark*.

C H A P. VIII.

Of Planting Wall-Fruit.

Time.

SECT. 1. *Stone-fruit* will be first ready to remove, for after two years growth in the Seed-plot or Nursery, after they are Inoculated, or Grafted, you may well remove them, be they for *Wall* or *Dwarfs*, which you ought to do in *October* or *November*; early removing, being advantageous for all *Fruit-Trees*, both for the security of their growing, and for their well growing.

Young *Trees*, having been taken up about *November*, and the ends of the roots cut off, and laid in the Earth till *March* to be Planted, being then taken forth again, it hath appeared that they have put out many fibrous roots, at the ends of those big roots that were cut off; which had they done in the place they were to grow in the next Summer, this would have been a good preparation against Spring; and it's always seen that *Trees* set in *February* or *March*, make generally a much less growth the next year,

year, than those that were set before Winter. If a dry Summer happen to succeed, it often kills some of the late set Trees, and puts such a stop to others, that they recover not of many years.

In sharp Frosts, though you could dig, it's not good to remove Trees.

Yet if you have a few small Trees near hand to remove, you may make advantage of a small Frost, by removing them, in getting up the Earth whole about the roots of the Tree, and set it presently letting as little Earth fall from them as may be, whereby the Tree may be scarcely sensible of removing: And at all times if you have not far to carry the Trees to set them, knock not off the mold from the roots, but preserve as much as you can about them.

Sect. 2. Make a Trench by the Wall-
side you are to set them up to, about Preparing ground.
two foot broad, and as deep, and in every place where a Tree is to be set, about a yard square, mingle good old rotten Neats-dung, with the Earth, and fill it up lightly, near as high as you intend the borders to be, and tread it down; So that it be not above half full in the places you designed to set the trees, as to the borders make them up when you please.

But if you design no borders, make then only a hole for each Tree, of the square before mentioned: And if your Soil be wet, or binding gravel, or such like, very bad in the bottom, go not so deep, it will be better to set them shallow, and raise the Earth about them.

I knew an excellent Planter, that in a blewish clay ground, used at the bottom of the hole to set a broad stone, to prevent the Roots of the Trees in runing downward, and certainly where the Land is spungy or bad in the bottom, you cannot set the Trees too shallow; so that the Earth be deep enough above them to prevent the Sun's burning them the Summer.

Distance.

As to the distance *Wall-fruit-trees* are to be set at, where they are apt to grow, you may learn that best by considering their aptness to spread: *Apricocks* and *Pears* spread most, the *May Cherry* and some others are of very small growth; it's impossible to give rules for all, but the general distance is about four yards asunder.

Mixing Soils,
and setting
them.

Sett. 3. If it be not a manur'd Land you set them in, have in readiness some very fine rich Mold, or shovellings of a yard where

where Cattle are frequently lodged or
fed, that hath lain on heaps till it's *mel-*
low, and become dry, or *rotten Neats-*
dung, which you may mix with the Earth
that came forth of the hole, and so order
it, that it may be as good or better, than
that out of which your Trees came: Fill
the hole half way up with this, and tread
it down in such form (having respect to
the *roots* of the Tree that is to be set in
it) that the *roots* may rest close upon it.
Cut off the ends of all the *roots*, (if it
chance to have one long downright *root*,
you may cut it almost half off,) try (by
setting the Tree in the hole) which side
will stand best to the Wall, and then cut
off such branches as grow directly to-
ward, and fromward the Wall, leaving
only the side branches, to be nail'd unto
it, then clap your Tree in, placing it as
far from the Wall as the *top* will allow,
that must be spread upon it, that the *roots*
may have the more liberty to spread
backwards: fill up the hole with the
mold, and use all diligence to place the
roots of your Tree in the same posture
they were in before you removed it: If
the Tree be young, and the *Roots* flen-
der, this can be performed no way but
by throwing in a little soil at a time,
and

and then raising up with your hands such *Roots* as are pressed down by it below their proper situation, spreading them on the soil you have cast in, and then throwing in more, and ordering the *Roots* as before, so continuing to do till you have filled up the hole.

Old Trees with sturdy *Roots* do not require so much curiosity; but you must be sure that the mold lie close under, betwixt, and among the *Roots*.

If the *Soil* be *light*, you must press it down gently with your foot, when you have finished placing the Earth about them, you may (if the Land be stiff, cold, wet, or barren) cover the Earth with Dung, round about the Tree, but if the Land be good, or that you cannot spare Dung, then in the end of *February* following cover the Earth with *Fearn* or *Straw* almost a foot thick, and this do then, rather than when you set the Tree that Earth may have more benefit of the Frost and Wet in the Winter to temper it. And some in setting Trees esteem it best to put no Dung into the holes, but the soil that came forth of it, both under and about the *Roots*, placing the smallest and best mold next them, laying

laying a good quantity of Dung on the top of the Earth about them.

Sect. 4. Every year it will be necessary to *prune* and *nail* them to the Wall, ^{Spreading Trees on the Wall.} *twice, or thrice*, according as they grow more or less; wherein you must observe, to bend down the strongest *shoots* (that would grow upward) towards the sides, otherwise they will be apt to run straight upward, and not cover the space you design for them, and by their luxurious growth, will extreamly rob the side branches of their nourishment. There will branches enow spring out fresh to run upwards out of them when they are so bowed. Lay none a-cross or under one another, but let them spread as the fingers of your hand when it is expanded.

Cut off such as grow directly outward ^{Pruning.} close to the body; if you cut a part of any branch off, do it at a bud, that the cut may be covered with a fresh sprig.

The *Winter pruning* may be done as soon as the *fruit*, and leaves are fallen, or any time before *February*, except *Nectarines*, and *Peaches*, which are apt to die, if prun'd before the Sap raise. Mr. *Rea* saith, the best time to Prune them, is after they flower.

Shreads

Shreads of Wollen Cloth are the best things to Nail them up with ; some use gentle Leather, or an old Hat, any of these may serve turn.

Baring Roots,
and recruiting
Soil.

Sect. 5. Sometime in the Winter, after two or three years, if the Soil the roots are to spread into, be not rich enough, open the ground at the outside of the holes you made at setting, as near round about, as the Wall will permit. If you find no roots bare, let it lye open a month, and then fill it up with the Earth that came forth, well mixt with such a manure as suits with it.

Amending
Soil.

Sect. 6. Where the natural soil is not good enough of it self, whether it be in Garden, Orchard, or Field, there it ought to be by skill assisted, and better'd, at least-wise for such a compass as the roots of every Tree take up for some time, if not so far round as they are ever like to extend themselves.

And this must be done by mixing such Manures with the Soil, as suit best with its temper.

Cold.

If the Soil be clay, or clay mixt with gravel, or wet heavy Land, hot Dung, as that of Horses, or Poultry, is best to mix with it, to bring it to a due temperament.

And

And if the soil be a *light, hollow, eskie*, ^{Light.}
or *sandy land*, then *Marl*, *Mud* out of a
Pond or River, or *shovellings* of *dinty yards*
or *high-ways*, if they be not *sandy*, and
be well *mellowed*, by lying on heaps,
and especially if those heaps are mixed
with *Lime*, are proper to mend it.

If this last soil be *barren* likewise, you ^{Barren.}
may properly add a mixture of *Neats-*
dung.

If your Land be too rich (which is ^{Over-rich.}
feldom seen) you may mix *Gravel* or
cold clay with it.

I have seen an *Apple-tree* on a *Hemp-*
but, which was constantly Plowed, and
Manur'd to a great richness, bear more
Apples than four such Trees in an *Orchard*
would do. And it's constantly seen in
barren hungry Land, Trees thrive poorly,
grow *Mossy*, or *Bark-bound*, bearing ve-
ry little, and that a very poor *Fruit*.

Only *Wallnut-trees* and *Pear-trees*, do
not necessarily require a very rich ground,
and will prosper best on stony and light
Land.

Seet. 7. When your *Wall-trees* are ^{Renewing old}
grown old, and full of big Wood, you ^{Trees.}
may in three or four years time renew
them, by cutting out some of the big-
gest *stems*, or *loughs*, yearly; cutting
each

each branch off at some small twig, (if it may be) that either it, or a fresh branch may grow over the cut place; which must be kept covered with Clay; and so go on yearly, till all the big wood is cut out.

Or if you dislike the kind of *Fruit*, you may *Inoculate*, or *Graft* the boughs with a better sort of *Fruit*, but not all in one year, but some one, and some another.

By either of these ways, you may renew a decaying Tree, and keep your *Wall* almost still furnished, with less trouble and charge, or loss of time than by taking up the old one, and planting a young one in its stead.

If the *Tree* be so old, that you resolve to take it up, and plant another in its place, if you have none ready, nor are willing to buy, the speediest way to be supplied, you may find directed in Chapter the first, Section the Ninth.

Appropriating
Fruit to walls.

Sect. 8. In furnishing your *Walls* with *Fruit-trees*, observe always to Plant *Peaches* and *Nectarines* up to the *Wall* that is most *South-ward*; the *East-Wall* is to be allotted to *Apricocks*, early *Cherries*, and the choicest *Plums*; the *West* may be set with *Pears*, *Cherries*, and *Plums*.

Some

Some of the coursest *Pears* and *Plums*, you may set to the *North-Wall*, both to cover the *Wall* handsomely, and many years they will bear as well on it, as on *standards*; especially if your *wall* stand not directly *North*, but so as to have some considerable benefit of the Sun; *Nut-trees* likewise are proper for this *wall*, and will prosper well up to it.

For those Autumnal and winter *Pears*, that ripen late, the most *South* and highest wall, doth improve them, and they deserve it, neither will some come to maturity in our Climate (some years) without such a wall. I would willingly bestow the best place I had upon one *Winter-Bontreisten*, two *Burys* or *Butter Pears*, two *Virgulees*, and two *Chasseryes*, a *St. Germans*, *St. Michael*, the *Craffon*, the *Bon-Gerson*.

If your conveniencies will allow it, ^{Position of} and you are to build a new *Wall*, ^{it a wall.} it is much better to have your *Garden walls* not to stand directly towards the *four points*, than otherwise, and then the worst wall will be much better, and the best good enough for your purpose.

As

As thus, the *East-wall*, to incline to the *South*; the *South*, to the *West*; the *West*, to the *North*; the *North* to the *East*; or contrary, but not so well.

In the first way the two first walls will be extraordinary good, and the two latter good enough for ordinary *Fruit*.

A form for
Making a wall.

Sect. 9. In building a new Wall, it would be very advantageous, to make it with half rounds, each semi-circle being eight yards round in the inside, and about six yards in the face or diameter, each taking two Trees; and betwixt every half round, let there be two foot breadth of plain walling, where you may place a *Flower-pot* on a pillar two foot high, or Plant a *Vine* to run up it, which every Summer, you may let spread it self a little into the *half rounds* on each side it.

I know an honourable Gentleman, in somewhat a cold Country, that hath his Garden walls so made, and his Trees bear Fruit plentifully in such years as his neighbours generally fail.

I also saw a wall made thus for raising *Melons* under, by a pattern or directions from *Italy*.

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the *Platform* of it in Paper, and so set down the name of every Tree, according to the place it stands in, whether in *Wall-fruit* or *Dwarf-trees*, the same course you may use about your *Orchard*, and you will find it both satisfactory and useful, that you may readily at any season of the year, know what kind of *Fruit* every Tree beareth: The *Fruit* planted in *Fields*, not being of so much variety, may be easily distinguished without this help.

CHAP. XI.

Concerning Dwarf-Trees.

Advantage of
Dwarfs.

SECT. I. These *Trees* have been of late much affected and coveted, because they are of special advantage for *Table-fruit*, (whether *Pears*, *Apples*, *Plums* or *Cherries*) being but of low Stature, and may be planted in the borders of *Garden-walks*, without doing any thing else there about them any prejudice, by overshadowing them; and their *fruit* will be as well secured, and

com-

commodious for gathering as the *Wall-fruit*.

Sect. 2. *Plants* for this purpose must be provided, and prepared somewhat differently from those for *Orchards*, or *Fields*. Stocks for Pear-trees.

The *Quince-tree* is generally used, and best for *Stocks* for *Pears*, both for *Dwarfs* and *Wall*; as well because it may possibly somewhat meliorate the *Pear* as (and that chiefly) because it groweth not to that bigness, as on a *Pear-stock* it would be apt to do.

Sect. 3. For *Dwarf-Apple-trees* the best *Stocks* are such as are raised of the cuttings of other *Apple-trees*, as of the *Genet-moil*, the *Kentish-Codling* and others. For Apple-trees.

That these are more proper for *Dwarf-trees*, than *Crab-stocks*, appears;

1. Because the *Fruit* will be rather better'd, and not tainted with any asperity, or roughness, as possibly it might be, if *Crab tree-stocks* were made use of; and one chief design in these *Trees* is to have choice and delicious *Fruit* for eating.

2. *Apple-trees* that are raised on such *Stocks*, will not grow so big as those on *Crab-stocks*, but are with ease and certainty kept *Dwarfs*. Mr. Rea judging

the *Paradise-Apple* of somewhat slow growth in bringing forward a *Scion*, advises to *graff* a *Paradise* on a *Crab-stock*, and the *Fruit* you would have, on that *Paradise*, that the *Crab* might yield plenty of *juice* or *sap* to the *Paradise*, and the *Paradise* retard the growth of the *Apple* planted on it, so as to keep it a *Dwarf*; but besides loss of time, I doubt the success of this, because the *Crab* will put forth strong *Roots*, and yield plenty of nourishment: For why *Apple-trees* raised by *cuttings* grow not to be very large *Trees*, I take to be, their putting forth such small *Roots*, by which means the *Tree* hath *sap* conveyed to it accordingly.

3. By using these *cuttings* for *Stocks*, you shall get at least four years time, reckoning from sowing the *Crab-kernel*, and the setting the *Stem* or *Cutting*, being duly ordered; As,

1. By setting the *Stem* in the place you intend the *Dwarf-tree* shall grow.
2. And setting it in good *Earth*, for then after one years growth you may *Graff* it, and you will easily discern the advantage in point of time.

If

If it be said *Crab-stocks* ready grown may be made use of instead of *cuttings*; there's this Answer ready, They must grow *two* if not *three* years after they are set before they are fit to *graff*, and in respect of their large growth will not be fit for *Dwarfs*.

Some *Nursery Men* have made advantage to themselves by this speedy way of raising *Trees* by *Cuttings*, but to the disadvantage of them they put them off for *planting* in *Orchards*, because they are never like to make large, or long lasting *Trees*. A Cheat.

Señ. 4. The way then to provide these *Stocks* is thus: Rules for providing them.

In *October* from such *Trees* whose *cuttings* will grow, take such *stems*, or *branches* that grow straightest, and which (in the place where they shall be *graffed*) are an *inch* or more thick, if they be near *two inches* it's so much the better; cut them off, if you can, a hands breadth below such *knots* or *burrs* as are on them, for at those *burrs* they principally put forth their *Roots*) and cut off the top, that they be not above a yard long, if you cannot get them so long of *Quinces*) you must be content with shorter, (if they be *two foot* it may do

reasonably well: Cut off also all side *branches* close to the body, except one small twigg near the top, for the Sap to vent it self at, set these presently in *beds* as your *Seed-plants* were, or rather if your *Garden* be laid out (that you can know the places they shall stand in) set them there.

You need not fear setting these as deep, as the length will bear, so that there be about a *foot* above ground, because they will shoot out *roots* all along, almost to the top of the ground, and to spread their *roots* in the good Soil; and by setting them something deep they are in less danger of dying, and this prevents the trouble of covering the ground about them with *Fearn* or *Straw*; and by this means likewise they will stand the firmer in the loose *Garden-land*, for *grafting* at a years end, and better support a *spreading top* afterwards.

By Circumposition.

Sect. 5. But because it's hard to meet with great plenty of such *branches*, thus to be cut, and set for *stocks*, that have *burrs* or *knots* upon them; *Planters* have therefore found out a way (which is called *Circumposition*) to bring these *knots* or *burrs* upon *Branches*, that had them not before, and to mend and improve those that before had them, and the way of it is as followeth.

About

About the beginning of *February* next before you design to cut these *stems*, directly above the place you intend to cut them off at, for about a *foot* in length, fasten about them some Earth in an *old Hat*, or *Boot*, or *Bag*, made of some strong Cloth: And in that Earth they will have put forth Roots against the *October* following, when you are to cut them off to set them.

Or (which is a quicker and readier Another way. way) you may dawb some *wet Earth* or *Clay* about the place, and wrap a *Hay-band* about it, putting some moist Earth likewise betwixt the *rounds* of the band, and then running it about again over the spaces betwixt those first *rounds* of the *Hay-band* and making fast the ends of it. If the *stem* have no *burr* before you go either of these ways to work, then first take off here and there a little *slice* of *Bark* about an *inch* long round about it near the middle of the place to be covered as hath been directed.

Some direct, That before this application of the Earth, about an *inch* breadth of the *Bark* be taken off, round about the part of the *branch*, that is to be surrounded with the Earth, that *roots* may shoot out in greater quantity, by coming

No descension
of Sap.

out in the upper *skirts* of that *circle*, as well as in the lower; but this is but a Crotchet, and grounded (as my Lord Bacon hath truly observed) upon the opinion of the *Descension* of the *Sap*; whereas indeed there is no such thing, for the whole mass of *Sap* is always ascending; in lesser quantity in the Winter, because the Tree is then only to be nourished, and kept alive, to which end a small supply is sufficient, and yet necessary; and in greater plenty than the Summer, to furnish the Tree with leaves, fruit, and new yearly growth. And the true reason why the *leaves* and *fruit* fall off towards Winter is, not because the *sap* returns downward from them, but because they have arrived to their full ripeness, and the Tree fails by degrees, to convey up so much *Sap* as it did in the Summer to them, to produce fresh ones; and therefore consequently that's an idle mistake too, to think that the *sap* or *juice* in the Winter, is laid up in the Roots as a *repository*, as appears plainly, inasmuch as they are ever found dryer in the Winter than in the Summer.

So that upon the whole, this taking the *Bark* off round the *branch*, is good for nothing, but to endanger it, by in-
ter-

intercepting the *juice* or *sap*, which rises in greatest quantity betwixt the *bark* and the *wood*; but if, as before was hinted, you take some little *slices* of the *bark* off round the *branch*, here and there, leaving the *Bark* intire in some places. this may, by checking the *Sap*, cause it the more abundantly to pass into *Roots*.

But to proceed to the business in hand, you have seen the way of preparing *cuttings* by *circumposition*, and though some will pretend to raise *Trees* of any kind by the use of it, yet it's certain it avails not, but only in such as by a peculiar property are apt to put forth *Roots*, being cut off and set into the ground; and those generally known, and made use of this way, are the *Kentish-Codling*, the *Gennet-moil*, some sorts of *Sweet-Apples*, and *Bitter-sweets*, the *Quince-tree*, the *Mulberry-tree*, and the *Paradise-Apple-tree*; which last is much commended by the skilful Mr. *Rea*, for to raise *Stocks* for *Dwarf-Apple-trees*.

What Trees are raised by Circumposition.

Sec^t. 6. Another way to raise *Stocks* for *Dwarf-trees*, is to cut down some one Tree of little worth, of such a kind as you want *Stocks* of, about a *foot*, or more from the ground: This will make some kind of *Trees* very apt to cast forth
very

By cutting down an old Tree.

very good *Suckers* from the old *Roots*; such as are two years growth may be *transplanted*, or *inoculated* where they stand before removal; and the *Stump* above ground, will also put forth abundance of young *Shoots*. After these young *shoots* have grown out of the *stump* one year, cast *Mold*, or *Earth* about them, a good height; so that you cover not the *tops* of any of them; where let them grow two years more, and they will be well rooted, then cut them off from the old *Stock*, (which after that may yield fresh ones again) and set the *shoots* you take off as before hath been directed about *Cuttings*.

These will be about three years longer before they be ready to *graff* than *Cuttings*, but will be very good young fresh *Stocks*, and is a good way to raise *Stocks* of the *Quince-tree* for *Pears*; because *Quince-trees* generally grow so crooked and irregular, that it's difficult to procure any considerable quantity of them by *Cuttings*.

You may gain time in raising *Trees* thisway if you inoculate these young *suckers* or *Shoots* where they stand, as soon as they are big enough, and let them continue

tinue there to make one years growth ; by which time they will be well rooted, and ready to remove.

If they shoot up tall after they are molded, you had best top them at a convenient height, it will make them grow the more in bigness, and so be sooner fit to *graff*. But if you have a desire to have any of the same kind as the old Tree was, you need not top them.

And by this means if you want *Quince-trees*, *Codlings*, &c. you may be furnished with plenty, that will make better and handsomer Trees than if you raise them by *Cuttings*.

Sect. 7. You may also raise *Stocks* for *By Suckers*. *Dwarf-Pear-trees* from *Suckers* of old *Pear-trees*, (if you cannot conveniently get enow of the *Quince-tree*) for many *Pear-trees* cast them naturally, which being preserved from Cattle, may be taken up, and set in beds of Earth as you did the *Seedlings*.

If your *Pear-trees* yield not *Suckers* of *To procure* themselves, you need only cut off the top *them*. of some old *Pear-tree* (and *Graff* it with a better *Fruit* if you please) and the *Roots* will cast forth *Suckers* plentifully, and you may help them by making

king a small Ditch or Gutter, so as to bare some of the *roots*, about two yards distance from the Tree, or pare of the Grass (if any grow about the Tree) that they may have the more liberty to spring up.

A further help.

Or in this case you may bare the *roots*, and then give a *cut* cross some *roots* almost to the heart, and from the cross *cut* cleave the *root*, raising up the loose part, and put in a little stone to keep it open, cover it three inches over with *mold*: Let this be done, if you can, where you find a *bud*, or *eye* on the *root*, for the *sucker* to shoot out at; and either *inoculate* the young shoot in the place where it stands, or remove it to some other place after a years growth, and when you do, cut off with it about a foot of the *old root*; and by this means you may have *suckers* from some other Trees, that do not naturally yield them.

For Cherries
and Plums.

Seet. 8. To have *Stocks* for Dwarf-*Cherries*, and *Plums*, or for such Trees for a *Wall*, the speediest way, and such as will succeed for that purpose, is by *suckers* of the common *Red-Cherry*, and any ordinary *Plum-tree*; both which cast up *suckers* plentifully.

If

If the *suckers* grow in a place that is secure from harm, you may *inoculate* or *graff* them before removal under their Mother Plant, and let them grow there one year after; and hereby you will gain a years time and more; choose such *suckers* as grow at greatest distance from the old Tree.

Sect. 9. In *graffing* or *inoculating Stocks* for *Dwarf-trees*, observe to do it as low as you well can, with two *Scions*, and those longer than in *graffing* for large *standards*, that they may spread from the ground.

Ordering the heads of Dwarfs.

And after they are grown two or three years in the places they are to stand in, to make them spread, and to keep the boughs outward, you may tie an old *hoop* of a *Barrel*, or some such thing, in the midst of the *branches*, to bear them a good distance one from another; but if one *branch* be much stronger, or more inclined to grow upright than the rest, then you may drive a *Stake* into the ground, and tie the sturdy one down to it.

Means to spread them.

If you cut the *bark cross-wise* in several places on the inside of the *branches*, when they are placed as you would have them, it will be a means to make them

them more willing to continue in that order of their own accord, after some years growth : If any one *branch* shoot out much further than the other, cut off its *top* to keep it even with the rest, and yearly cut much off, especially new *shoots*, that grow directly upward, after they are grown to that height you design them to be of, which may be about a yard and a half, or more.

Trees of Cuttings.

Sect. 10. Having directed how to raise *Kentish-Codlings*, *Gennet-Moils*, *Quintes*, or any that grow of *cuttings* for *Stocks*, I need give no other Rules for raising Trees or Hedges of the same kind of Fruit, only you need not cut them so short as you do for *Stocks*.

Grafting Codlings.

I have seen *Codlings* grafted on *Crab-stocks*, and set in a Garden ; but I think it will encrease their growth, because *Crab-stocks* that have great *Roots*, and will yield them more plenty of nourishment than *Roots* of their own putting forth, when they are raised by *Cuttings*.

Moils.

Others graff *Gennet-moils* on *Crab-stocks*, and they thrive well, and bear a larger and (some think) a better Fruit than those Trees of that kind raised by *Cuttings* ; I have grafted several of them in rough and *windy* grounds which have
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grown with very strong shoots, and covered the Stocks very soon.

CHAP. X.

Of Planting an Orchard.

SECT. 1. So far as it lieth in a Man's power to choose a Plot of ground for his Orchard, he ought to do it with respect to these advantages.

Choice of ground.

It should lie conveniently near him, declining and lying open towards the South, South-East, or South-West, and defended from the North, North-East, and North-West winds by buildings, woods, or higher grounds; the land should rather incline to dryness than moisture, without Springs; the Soil deep, and a fat Earth, not a stiff cold Clay, or binding Gravel, nor a light, sandy, or eskie hollow Earth: Yet with good Husbandry, if it run not into the extremes of any of these, Fruit-trees may prosper reasonable well in it.

But the natural soil for an Orchard is more to be respected than a Garden, for the Garden-Fruit trees, and what else groweth

Soil.

groweth there, rooteth little deeper than it may easily be *manured*; but *Pear-trees* and *Apple-trees* in *Orchards* should grow to be large *Trees*, and therefore send forth *roots* broad and deep, so that it transcends almost all cost and pains, to enrich the ground for them, as far as the *Roots* every way reach.

To qualify
ground.

Seēt. 2. If the Land you intend for it be a *Turf*, or *green-sward*, you will do well to Plow it two years before you set your *Trees* in it, to make it *mellow* and loose, that the *Trees* may the better take root; and you may then lay on *Manure*, which by Plowing will be well mixt with the natural Soil; and use such *Manure* as will best suit to amend it, according to what you have heard before in the *8th Ch. Seēt. 6th.*

Flat and
shallow.

If your Land lie very *flat*, that wet is apt to stand upon it, or be a *shallow soil*, you may something help it in Plowing; also, by gathering the Land always up, in and near the place where you intend the *rows of Trees* shall afterwards stand, which in two years time will something raise it, and thicken the *Soil*, and the *Reanes* or *Furrows* so made, will help to carry off the Water.

But

But if it be a *springey Land*, you must ^{Spring.} Trench it at the head of the Spring, and that deeper than the Channel of the Spring runs in the Earth, which you may leave open, and yearly cleanse, or fill it with *Oler* boughs, and cover them with the Turf and Earth that came forth, much higher than the other Land, for the Wood and loose Earth will sink very much by degrees.

If it be not *springey*, but only lye so ^{standing wa-} low and flat, that in the Winter Rain, or ^{ter.} Land-floods will lye upon it, and that it hath been lately Plowed, or that you will not lose two years time by Plowing it, before you set your Trees, or if it be a *shallow* or *ebb soil*, you had best set the Trees by *Tumping*, according to the directions in *Field-planting*, which you will find hereafter spoken fully to in its proper place.

Sect. 3. If there be any unevenness in ^{Of uneven} the Land, some direct to level it, by ^{ground.} carrying the banks into low places; but this will not only be very chargeable, but hurtful, by making the high places too *barren*, and the low ground too *rich*.

H

But

But that your Trees may grow somewhat level in their *tops*, and not one over-shade another, and also appear comely, you may forecast to set such Trees as grow *pendant*, or are not apt to grow tall Trees, on the highest ground, and such as are aspiring in the lower places.

Time and
manner of
planting it.

Sect. 4. The best time to *Transplant* into *Orchards*, is from the end of *September*, to near the end of *November*, the sooner the better: If the leaves are not all fallen when you remove your Trees, pick them off.

Pruning.

If your Trees are not very weak bodied, Prune them up, leaving *three* or *four* of the principal *branches* on the *top*, that grow outward, which should be lopp'd off almost a years growth; but if they be weak (lest the wind should injure them by toiling them) you may top them lower, doing it at a *bud*, or small *twig*; and in big Trees, cut the *top* almost all off; and whensoever you *transplant* young Trees, cut off the end of all big *roots*.

Of removal of
Trees.

Sect. 5. At three years end, after *Grafting* in the *Nursery*, Trees may be fit to be removed into an *Orchard*, especially if you Plow (or which is safer dig) the *Orchard Land*, and sent Beans and

and other *Kitchen-Garden-stuff* in it for some years; but if it be such a piece of Land that you Graze, then you must be sure their heads be grown out of the reach of Cattle before you set them there; and you must Fence them one of the ways mentioned hereafter, in the *Chapter of Field-planting*.

Sect. 6. The distance of Trees in Or-
chards ought not to be less than eight yards, neither need it be more than thirteen, or fourteen; the richer the Land is, the greater distance you ought to set the Trees at from one another, to which you ought to have respect, and also to the kinds of *Fruit-trees* you Plant, for some Trees take up more room in their growth than others, as most *Pear-trees* more than *Apple-trees*, and some *Apple-trees* more than others, according to their aptness to grow more or less, too tedious and difficult to be here related; only the *Redstake* being generally a desired Fruit, you may take notice that it's one of the least *Apple-trees*, where it yields the be *Sider*, sometimes it's almost but a *shrub*: And therefore will suit well with planting at 20 foot distance, whereby each Acre will take up one hundred Trees.

H 2

It's

It's certainly best in many respects for Trees to be planted at a very good distance; for,

Convenience.
of planting at
good distance.

1. The Plantation will be little annoyance to the Land, if either you set Garden stuff in it, sow Corn on it, while the Trees are young, or Graze it when they are grown up.

2. Whereas some say the more Trees the more Fruit; that's absolutely false, for when they are set so close, that the Sun cannot have a good influence upon them, they bear poorly and ripen worse.

3. They cannot grow to be Trees of that size set near as they would (if the land be good) being set at a good distance, and some kind of Trees being of stronger and swifter growth than others, will so domineer over their neighbours, that they will make them almost good for nothing.

4. You may plant betwixt every Tree a *Cherry-tree*, or *Codling-tree*, which may grow up, and bear with the other Trees many years, and never prejudice them but will decay before the others are at full growth,

Or

Or you may set a young *Apple-tree* or *Pear-tree*, betwixt every two of your *standards*, that you set in your *Orchard*, and nurse it up with necessary dressing and pruning *seven* or *eight* years or less time, to *Transplant* into *Fields*, or *Pasture-land* where Cattle feed, whereby with little help it will not be in such danger of hurt from Cattle, as small ones would, and bear *Fruit* soon after it's set; and you cannot let them grow so long in your *Nursery* without *galling*, or *hurting* one another; unless when you remove Trees out of your *Nursery* you take care to leave every other Tree, whereby they may have liberty to grow big, and so more fit for your fields.

Señ. 7. I know some are for removing Trees very young, and it's certainly the best way if they can be secure from danger, which in *Oxchards* or *Fields* where Cattle have liberty to feed they cannot well be with ordinary fencing, unless they be of five or six years growth after *grafting*. He that hath a *Nursery* of his own, and removes them into places so near that he can well do it, let him the very same or the next day after they are taken up, set them in the place appointed for them, and not cut off too

Of transplant-
ing Trees
young or old.

much of the roots, but the greatest part of the top. And he may do well to plant *strong and well grown* Trees, especially in his *Fields* and *out-grounds*; for the charge of Fencing will be much eased, and being carefully set they may prosper as well, or better than small ones, especially in *uncultivated*, or stiff land by Nature, where young Trees cannot so well put forth roots. And here I shall propose a surer way to have old Trees remov'd grow, and prosper well, than is commonly practised; that is.

Means to have
old trees
transplanted
prosper.

If you chance to have any Trees betwixt ten and thirty years old, that you have a mind to remove, you must about *November*, the year before you transplant them, dig a trench, as narrow as you please, but so deep as to meet with most of the spreading Roots, at such a distance round about the body of the Tree, as you would cut the roots off at, when you remove it; (about half a yard distance from the body may do well, if they be not very large Trees, but if you have not far to carry them leave them longer;) as you make the Trench cut the roots, you meet with clear off, and smooth, without splitting them, or *bruising the bark*, fill up the Trench again;

again ; and by *October* next after, when you take up the Tree to set it elsewhere, you will find those great roots will have put forth many *fibrous roots*, and made preparation for more ; which fresh and tender roots, upon removal, will enable the Tree to draw more nourishment than otherwise it would, and consequently to prosper the better in its new mansion.

Sect. 8. The best way you can set The order.
Trees in an *Orchard* is according to the Figure which is called a *Quincunx*.

You are to proceed in setting your Trees in the ground by the same general rules, given for *Wall-fruit*, observing exactly all that is there, but only what in particular concerns the *wall*.

Also in *transplanting* any big Trees, Coasting,
men generally observe to *coast* them, (as it's termed) that is, to place the same side of the Tree to the *South, East, &c.* as grew formerly that way, where it stood before ; to which end before you remove it, you had best make some *mark* in the *bark* of the Tree, which way it stood ; this you may observe in straight Trees, but it's more material if your Trees lean one way more than another, to set the leaning side towards the South-

West, from whence the strongest winds blow.

The Fence.
Setting a new
Hedge.

Sect. 9. The best quick Fence for your Orchard is a good *white-thorn*, that when it's grown up may be plashed, the better to prevent the creeping of *Hogs*, or *Sheep* into it; set no smooth quick in it, that may grow to great Trees, because they will be hurtful both to the Hedge and *Fruit-trees*, both by their *tops* and *roots*, when they are grown up; but set two rows of good *Hawthorn*, and make the *dead-hedge* on the outside the *ditch*, and the quick-set will grow the faster; for the Hedge upon the ditch is apt to choak the quick: And thus with sometimes weeding it, you may soon raise a good fence.

Mending an
old Hedge.

If you have an *old hedge* already about your Orchard, scour the ditch, and *plash* the hedge, and cut down all big Trees that grow in it, unless on the North, or West-side, the one requiring a defence to keep the Orchard warm, the other to secure it somewhat from the strong winds, that blow down the fruit before its ripe, though it's better they grew on the outside the hedge.

Sect. 10.

Sect. 10. Your Orchard-fruit-trees as well as others, will need some pruning, which you may observe to do after this manner; if you desire they should be tall Trees, cut off all the side branches till they are grown to the height you desire; if to spread low, let some be left on each side, that the boughs on any one side may not weigh down the Tree, but that it may grow straight upright.

Pruning outside.

And suffer them not the first three years (at least) to grow thick and bushy headed, by cutting off some of the inside shoots, and such as grow cross one another, or pendant; what you cut off from the bodies, or any branch, do it close and even, that the bark may grow over it: If you cut part of any shoot, or a Scion for grafting, cut it close at a bud or sprig, that in that case the wound may again grow up and a stub end not be left behind.

Inside.

When Trees grow big, that a knife will not prune them, procure an Instrument like a broad Chissel, the handle of Iron, above a foot long, with a knob on the end, and the edge alike on both sides, not sloping on one side like that of Joiners; but plain as a knife, and very thin, about

Big branches.

about 3 or 4 inches in breadth, the form you will see in the Table of Figures; Or you may make it like a Stone-cutters *Chissel*, only let it be longer and broader at the edge; with which, and a *Mallet*, you may take off a bough, or large branch as you will, without either hurting the bark of the Tree, by cutting too near, leaving a *stump*, by not cutting near enough; one of which is not easily avoided by the chance blows of an *Ax* or *Hatchet*; and being amongst thick boughs, your *Chissel* and *Mallet* will be more governable than other instruments. If the boughs are very large you may use a *Saw* first, and then smooth it with the *Chissel*.

Soil amend-
ing.

Sect. II. You will do well, if your *soil* be not *rich* enough, once in *three* or *four* years, in the *Winter* time, to open the Earth for a good space round about each Tree on the outside the ground that was first digged at their setting; and about a month after, with some proper *manure* mixt with what came forth fill up the trench again: but if you dig or Plow your land, you will have no need to do this so long; and if your Trees were set by *tumping*, you need not do this till the *roots* are grown past the ditch that was made about the *tump*. The

The Water that soaks from a Dung-^{By water,} hill is a good thing to enrich the Earth, about the roots of Trees; and if your *Orchard* chance to lye so, as that it may be floted with it sometimes, you may do it after this manner.

Make a little trench along the upper^{How.} part of the *Orchard*, and from it cut a small gutter down every row of Trees, take off the upper turf, for half a yards breadth round about every Tree, at about a foots breadth distant from the body; when a rainy day comes, let this foke go down one row, so that (as near as you can) every Tree may enjoy it three or four days at several times in one Winter.

If your *Orchard* stand so that you cannot convey this water to the Trees after this manner, you may carry two or three Pale-full to every Tree, twice or thrice a year, and pour it in where the roots were opened, and against spring put in the old Earth again; when you do first, stir up with something the bottom of this water, the more to thicken and enrich it.

This will follow the roots, and enrich Trees more than can be done by manure, or dung, so that you suffer the water not
to

Placing of
Trees.

Sect. 12. Within your Orchard, on the North-side, set the first rows of *Pear-trees*, or such other Trees, as you know are apt to grow tallest, and the rest Southward, as they decrease in height, as near as you can judge; for so shall all your Trees share in greater measure of the South-Sun, and will be less lyable to receive damage by the Northern cold.

Fencing from
winds.

On the outside of your Orchard, if it be not well defended, plant on the *Northside* two or three rows of *Walnut-trees*, *Chesnut-trees*, or some large growing Trees, thicker than is usually done on other accounts, to preserve your Orchard from the Northern air.

Some are also for Planting a defence on the West-side, to help to preserve them from the *Autumnal* winds, which throw down the Fruit before it's ripe.

C H A P.

C H A P. XI.

Of Planting in Fields.

SECT. I. The benefit of this kind of <sup>Encourage-
ments in
general.</sup> *Planting* is apparent in several Countries in *England*, where it hath been of long and general usage, and in many other Countries, Gentlemen have begun already to imitate them, which should much encourage others to follow; for the more there are that *plant*, the less particular persons will lose by *Thieves*, and where fruit is in great plenty, it is found to be more slighted by idle people; and besides if a Man have store, he will not feel the loss of a little; or it may quit his cost, to have one to cast an eye to them, for a Months time near ripening; and further yet, *Sider-Apples*, *Baking-Pears*, and *Pears for Perry*, are so little grateful to the taste, (which pilferers chiefly aim at pleasing) that he that tastes them once, shall scarcely find his teeth water after them a second time.

How-

However the benefit of *planting* in *Fields* much out-weighs these, and all other inconveniences, for by this means you may almost have a double crop on your lands, *viz. grass* or *grain*, and your *fruit*, and the land rather benefited (as the matter may be ordered) than damaged; one of these *Trees* also sometimes bears as much *fruit*, as three of the best in a thick *planted Orchard*; the benefit whereof for sale, or use in a Family for baking, or Liquors, or other uses is known to be so considerable, that I need say no more of it.

Particularly of
Pears.

Sect. 2. But because the *planting Pear-trees* abroad in *Fields*, is of less reputation generally than the *planting* other *Fruit-trees*, I shall here give you sufficient suggestions to take off the Aspersions.

1. Some *Pears* do not make so contemptible a liquor, as *Perry* is commonly reckoned, but very strong, and kept *two* or *three* years, drinks to admiration, so that several good Palates, that have drank of it, have not been able to distinguish it well from liquors of more esteem.

2. Their *fruit* is not eatable, and so in less danger of Thieves, in your out-grounds than *Apples* are.

3. They

3. They will grow on barren land, where *Apples* will not prosper so well.

4. They are trees of long continuance, and often grow to that bigness, and bear so plentifully, that one single tree will bear Fruit enough to make a *Hogshead* of *Perry*, sometimes *two* or *three* in one year, which would save the expence of much *Malt*, though the liquor were but mean.

Sect. 3. There be seven ways of Planting in this kind; I shall set them all down, that every Man may use that which best suits with his conveniency, and good liking. Seven ways.

1. If your land be in Tillage, you may set fruit-trees at *thirty* yards distance from one another, throughout the whole Field, after the manner of an *Orchard*; and you may go on with your Plowing, with the loss only of about a yard, or four foot square of land, about every tree, for twenty years; and when they are grown so big, that you think your Corn receives hurt by the shade, or droppings of the trees, if you can turn it to Pasture, the trees will improve most kind of land, by keeping it warm in the Spring, they will make the Grass grow more early, and by shades in the

Sum-

I.
Of Planting
whole fields.

Summer, preserving it from burning; but the Trees being set at such a distance, the land may continue fit for any purpose for ever, if you dress or *prune* these trees higher up than any other, that no boughs may hang in the reach of Cattle, and for the convene of going about them with your *Team*, to any work, and thereby the Air and Rain will have free access to the grass, or grain near about them, and the fruit will be safer from common pilferers.

Fencing.

These need no other fencing than thorns bound about them, and a stake driven in the midst, to keep them from shaking; because you may receive the profit of the Stubble or Fallow, without suffering any large Cattle, that will browse upon them, to come into the ground.

II.
Walks.

Sect. 4. Another way of planting fruit-trees in *Fields*, is by setting walks of them, running through the midst, or along the sides of your Pasture ground, where you have a mind to have walks for ornament: For why we should not plant *Fruit-trees* for walks, as well a *Sycamores*, *Ash-trees*, &c. I know not, there being some sorts of *Fruit-trees* that will (and almost any kind may be ordered by

by pruning, so as to) grow very hand
some in shape, besides the beauty and
sweet smell of the blossoms, and worth of
the fruit.

To prevent damage by Cattle, if you Of Fencing.
go this way to work in *Field-planting*,
they must be well grown before you set
them; that is, they must be of about *six*
years growth, and then well *fenced*: and
there are two ways used to save them
harmless.

1. One much commend is by *tump-* By Tumping.
ing them; and it is performed thus: Set
your tree in the place design'd, almost
on the top of the ground, no deeper
than to make it stand, (though all the
roots be not covered,) till the *tump* or
mound be raised about it; and then take
a line, about a yard and a quarter long,
tye the one end of it about the Tree,
but so that in going round the Tree,
with the line strain'd, it may slip about
the tree as you go; fasten the other end
to an Iron setter, or stick with a sharp
point, and as you go round the tree
mark the ground; make then a ditch on
the outside of the round *score*, and lay the
turf handsomely on the inside, *two* or *three*
hights, with the grass side outward, so as
to make the work full half a yard high;

cast the *mold* out of the ditch, observing to throw the best of it next the roots of the tree, till you have raised it within, as high as the *turf*, then prick strong thorns into the *mold*, that they may lie upon the *turf*, and point outwards a yard over the *turf*; as you place the thorns, put more *turf*, or *fast heavy* Earth out of the ditch upon the ends of them, treading it down, the better to fix them; and lay the Earth shelving down from the *turf* towards the Tree, that if rain fall, it may soak towards the roots; if you have any small *Thorns*, *Briers*, *Furs*, or *Gost*, lay it on the top of the work finished, round the tree, and repair all yearly, as you see cause, which may be done with small trouble. The great convenience of this way of setting *fruit-trees*, will appear in these following Observations.

Advantages
therein.

1. If your land be over moist, this ditch will drain all wet from the roots of the tree; but if the land be *clay*, or such that water will stand in, then when you perceive it (which is very rarely) cut some little notch or trench, to let it out.

2. This way of setting, is commended in dry land; because the Earth of the

the *mound* will secure the *roots*, from the heat of the Sun, and every shower of rain will much refresh it, by soaking towards the Tree.

3. You need not bind your tree to a stake which doth often gall and hurt the tree, for so much Earth about it will keep it steady.

4. If your land be stiff, or *strong old land*, the *mound* made of it will mellow and improve about the *roots*, and also by that time the roots spread as far as the ditch, it will be filled up with *mold*, fallen from the *tump*, and with sticks, leaves, &c. which will be rotten, loose and good for trees to root in; and by that time they will need little or no defence, if any at all; a few thorns tyed about the bodies of the trees, to keep Cattle from rubbing against them, will be enough.

5. The chief benefit of setting trees thus, is, that where the soil is somewhat too *moist* or *shallow*, the tree being set on the top of the land, will put forth its roots plentifully into the Earth cast up, and thence shoot into the upper turf, and best land, that had been *Plowed* and *manured* before.

2. The second way of fencing is, by ^{By Paling.} erecting,

erecting, at a foot and a half distance one from another, about every tree, three small posts, (if they be sawed they need be but *three* inches square) or you may use poles, or straight boughs, either whole, or if big enough, cloven in *two*, *three*, or *four* parts, about *five* foot above the ground in height; being driven into the ground, nail a cross-bar of wood, from each to other, within a hand breadth of the tops of the posts, to which bar nail a pale or two, betwixt each two posts, stuck into the ground, or nail'd to the like cross-bar, within a foot of the bottom of the posts; the way of it may be seen now in diverse places, and learnt in a minute; but I think what's here said makes it plain enough.

In setting the posts or poles in a triangle, observe to set one so as the strongest winds may drive the tree towards it, for thereby the tree will have more liberty to be bent or bowed by the wind without galling, than if the rail stood opposite to that side.

Trees thus set ought to be bound to a stake for a year or two to keep them steady, and afterwards (or at first if you please using no stake) stuff *Fearn*, *Pease-straw*, or other *Straw*, betwixt the *Tree* and the uppermost

permost rails, to keep it upright, and from being galled by the wind's bowing and driving it against any of the rails or posts, till it be grown so strong that you see no cause for it.

Some bind thorns about the trees before the posts are set up to secure them, instead of Pales on the out-side, but that proves often mischievous, the *Trees* being galled by them.

This is more chargeable than *tumping*, Where it's requisite. where timber is scarce, but much more durable than it, and absolutely necessary where *Deer*, or *Rabbits*, or any thing that *peels* the *bark* of trees, come into the land planted.

Sect. 5. Another way of *planting* in *Fields*, (which I have practised successfully) is thus, When you scoure a *ditch*, and cut down or plash an old *quick-hedge*, then set a *row* of *Trees* within a yard of the hedge on that side that is not ditcht, and fence them with half round *tumps* only on the one side, for the hedge will secure them on the other; and from the cut or plasht hedge, you will commonly have thorns and briers enough for the *mounds*, to fence it as hath been before directed; and at the same time, or in Summer, draw some of the *quick thorns*,

III.
By planting
near hedges.

hips, or *briers*, from the Hedge into the fence, about the *tump*, which will contribute to the strengthening and preserving the dead fence you had made about it before, so that you may be free from trouble about it for ever after.

There are these advantages in this way of Planting.

Benefits
thereby.

1. The ditch on the outside the hedge, drains the ground and makes it healthful.

2. The ground near the hedge, is commonly very rich, as not having been impoverished by Tillage, but improved, sometimes by the oft scouring of the ditch, and commonly with the dung of Cattle that for shelter, shade, or fodder, repair much thither.

3. It's not the least hindrance to plowing, or grass, for the *hedge* when its grown up, usually beareth out as far as the *tree* is set in the field.

4. And this is much better than *planting* in the *hedge-row*, as many do; for in the *hedge*, when the tree is grown to have a large top, it's apter to weaken the hedge under it; but these being set a little distance from the hedge, and growing (as they will) with the greatest part of their *heads* from it, will not damage it.

5. The

5. The Fruit will be gathered with much more ease, than of those that are planted in the hedges.

6. They will not be choakt, or hurt by the hedge when it's grown up, but be good handsome fair trees.

You may set these at *eight* yards distance, or nearer being but one single row, and so if but half a field (as usually it falls out) have the ditch on the outside, you may set a considerable number, and find advantage, without damage, and with inconsiderable charge, especially if the ditch stand on the *North-side*; if you can therefore, choose such hedges.

This is not to be practised near hedges that are full of great wood, or trees; but if there be but few trees, it's but leaving a vacancy near such trees, and setting your *fruit-trees* against such places where there grow none in the hedge.

Sect. 6. Another way of planting in *Fields* is this. If you would Plant without any charge of fencing, you may do it in your hedges; these trees must be well grown, and strong, that the hedge choak them not while they are young: And when you plash, or cut down a quick hedge, observe no certain distance,

but as it happens where you find it most free from *quicks*, set a tree, and enclose the body in the hedge, but bind not the *Etherings* too close about it, lest they gall it, and as it groweth, observe what thorns annoy it and cut them off.

V.
By Cuttings.

Sect. 7. If you have a mind to set any *Cuttings* of *Gennet-moils*, or other *Apple-trees*, that grow of *Cuttings*, they will prosper very well in, or rather near a hedge; because generally there the *mold* is loose and mellow for them to put forth *Roots* in, and somewhat enricht by the frequent cleansing of the ditch: If you plant them near the hedge, you must a little fence them on the one side, as by the *third* foregoing direction; but the *ramps* you raise to set the thorns in, must not be above a foot high, for the *cuttings* will shoot out their *roots*, almost to the top of the Earth about them, and a high *mound* falling down by degrees, some of the best *roots* may be left bare, or very little Earth upon them.

Of preparing
them.

Choice and
ordering.

The way of preparing *plants* for this purpose, is by *circumposition*, &c. as is directed in the *Chapter* of *Dwarf-trees*.

Make choice of *Cuttings* or *stems*, as big as a mans wrist (if you can) towards the lower end; before you set them, *prune* them

them out of the reach of Cattle, and leave but a little top on them when you set them, neither let them be very long: If the tops be out of the reach of Cattle, it's enough.

Sect. 8. There be some that get long *Crab-tree-stocks* out of woods, or else dress some up in their *Nurseries*, to grow tall, and set them in their *fields*, or *hedges*, and at three years standing *graff* them; which may do well, and is the better approved of, because there needs no removal after they are grafted; but some inconvenience there is in this way: The long *stocks*, out of woods, being commonly very old, their bark *thick*, their *roots* big, they thrive but indifferently; and those raised in *Nurseries* will seldom be *taper* grown, or *strong* enough to bear a large top well, after they are grafted so high as they ought, being set in fields: You will also be longer in raising *stocks* to that height, and any considerable strength (as is necessary for this purpose) than in raising trees, if your *stock* be grafted young in your *Nursery*, because they thrive more after grafting than before.

And in both cases if you graft them high, the *stocks* will be continually putting

VI.
By long Crab-stocks.

Advantage.

Disadvantage.

ting forth *sprouts* of their own kind below the place they were grafted at, which will require frequent cutting off. If you graft them not very high, you will find it difficult to defend them from the nipping of Cattle, and from the *Scions* being broke out of the *stock* by some casualty or other, to which they are more exposed in fields that lie common to Cattle, than Nurseries that are inclosed.

VII.
By Grafting
old Crab-trees.

Sect. 9. The last way I shall speak of, is that which is most used in the *planting* Countries, and that is, by *grafting* such *Crab-trees*, as grow in the *hedges*, or grounds, and this is the speediest way to have *fruit*; because the big trees have bodies already, and in *four* or *five* years time (well ordered) will have good tops to bear; and if you *graft* small *stocks* in your ground that have grown of their own accord there, and fence them, they will speedily bring on *graffs*, being so well rooted.

A mischief
used herein.

I have seen many cut off the tops of old *Crab-trees* and *Apple-trees*, and graft the *body* or *trunk*, but the *Scions* could never cover the heads of those *stocks*, and by that time the top was a little grown up, the body was ready to perish with rotteness.

The

The best way for big *Crab-trees* (or if you would change the kind of any *Fruit-trees*) is to graff them in the *boughs*, where they are not bigger than a mans arm, making use of none but those that grow handsome, at convenient distance one from another, cutting off the others smooth and even, close to the body of the tree.

Necessary directions.

To do this, that Winter that you cut, or *plash* a *hedge*, order the work-men to trim up, but not to lop or top the *Crab-trees*, unless it be the tops of the *boughs*, half a yard or more above the place you intend to graff them at, and then in *March* following, saw off the *heads* at proper places, and graff them.

Many are for *graffing* these in the *cleft*, because they think the *Scion* hath better hold, and will not be so subject to be broke out by the wind, as those graffed in the *bark*; but I have seen those in the *cleft* broke out by the wind, neither could I ever find that the wood of the *Scion* in the *cleft*, did ever cement with the wood of the *Stock*, but only on the out-side as the others do. And those in the *cleft* are not so apt to grow all of them, nor to make so great a growth as those in the *bark*; which with a little wariness

Of graffing these in the Cleft.

In the Bark.

may

may be preserved from danger of *wind*, and full as much care must be had about those grafted in the cleft, if you will preserve them *all* from the same prejudice.

One chief reason of the winds breaking those in the bark, is their luxurious growth, which they are more subject to than those in the *cleft*, but I could always wish that to be their crime, and be willing to be at the trouble of picking off the *leaves*, or tying them at and a little above the place they are grafted at with a hay rope, to prevent their injury by the wind.

Difference to
be observed.

I have been used to observe the following difference in *grafting* these great boughs from all the forementioned varieties of *grafting*, and look upon it as a thing well worthy to be taken notice of and observed.

In fitting the
bark.

When you have prepared the *Scion*, as you are directed to do, when you *graft* in the bark, apply it to the place you design to put it in, and *slit* the bark of the *bough* through, on both sides the *Scion* close to it, beginning at the top of the *bough*, and not carrying the *slits* much above half the length of the *slope* of the *Scion*, separate that little portion of

of the bark between the two *slits*, from the wood, with your Instrument, thrusting it a little lower than the *slits*, to let in the *Scion* as far as it is sloped, and then stick the *Scion* in, having first taken off from the edges of the *Scion* any unevenness (not cutting through the bark) that all may the better fit together; and you may put in two, three, or four *Scions* in every head; having respect to the bigness of it; or you may in the biggest put in two *Scions* in the *cleft*, and two others in the *bark*, doing one of the latter on the *West-side* of it, for then the *wind* blowing it towards the head, is not so apt to break it out, as if it drave it from the head; bind the heads, and *clay* them as you heard before, and continue so to do yearly till the heads are almost covered.

At the *first claying*, stick in *feathers* or long *escures*, to prevent birds lighting on the *Scions*. Of preserving them from injuries.

In *July* following (whether you *graff* these big stocks in the *cleft* or *bark*) pick off most of the leaves of the *Scions*, and cut off such sprigs, as growing inward will make the head thick, and all *straggling out boughs*, that the wind may not have so much force upon them, to break the *branches* out of the stocks. Cut

Of pruning
the Stock.

Cut off also some of the biggest shoots the *Crab-tree* puts forth of its own kind; but for the first three years you must not cut off all, lest the Tree not having liberty to vent all the sap that cometh up, fursfeit and die, the small *grass's* not being able to receive near so much sap, as the old top did the year before.

Thus many Country-men when they take off the whole head of an old *Oak*, have sometimes found it die; and therefore in some Countries they leave one *big bough* to grow for one year, to draw up the sap, (as they term it) whereas it is indeed that the sap may have liberty to vent it self; for Trees that have a thick bark, as *old Oaks* have, when all the small *boughs* are cut off, are long in putting forth *branches*; and difficultly at last put forth so many, as will spend the sap which comes up the Tree in some proportion, to what it did the year before, when the whole top was on; which sap being chiefly in the greatest channel, betwixt or near the *bark* and outside of the body of the Tree, and not being *vented*, is either dried or consumed by the heat of the Sun, or putrefies for want of that *continual motion* that is in it, when it hath
vent,

vent, that several trees die of this disease; and when trees die this way, the *bark* will drop off from the body of them sooner by some years than otherwise.

Hence it is that you may kill a Tree, by lopping off the whole *top* in the *Summer* time, or so much of it, that the remaining *boughs* cannot receive all the sap, but lieth choakt up for want of issue.

The second *Summer* you ought to bind some *hay-ropes* about the lower part of the *Scions*; I have not seen need of repeating this the third *Summer*, but if done it will the more certainly secure them from breaking by the wind.

And thus I have ended what I had to say of *Field-planting*, and have been the more large in it, because I have not seen it any where else taught without much imperfection, and many defects; and indeed not much more than mentioned, rather than treated of.

CHAP.

C H A P. XII.

Of the annoyances about Fruit-trees, and of some mistakes in Planting and Ordering them.

Of Moss and
Canker.

SECT. I. The nature of the *soil* is the chief cause of *Moss* and *Canker*, and therefore without altering the *one* you can scarce prevent the other; However you may scrape or with a *hair-cloth* rub the *moss* off, after rain, or (as some say) burn it with a bottle of straw under the Tree.

All *Canker*, *filth*, and *morms* must be picked clean off, and bind some clay well mixt with *hay* about the *canker'd* place. If the Tree grow but poorly, which is for the most part caused by the ill temper of the *soil*, open the ground about the *roots*, and put in some *manure* proper to cure it.

Bark bound.

Slitting the *bark* is an excellent additional help to most of the foresaid evils, and also for *bark-binding*, some advise that the *bark* be cut according to the *grain* of it, as in *Apple-trees*, *Pear-trees*, &c. straight down; in *Cherr.es*, &c. round about the Trees.

But

But I have found in the same land, Some Trees
some kinds of *Fruit-trees* very subject to prosper where
some of these *evils*; and others prosper others will
very well; when once you discover this, not
(because it's utterly in vain to make
ground and trees, of different *genius* a-
gree together) you must make it your
business by degrees, to change your Trees,
till you have left none against which
your *soil* beareth such an implacable ha-
tred, and furnish it with such as will
flourish, and be fruitful.

If any of your Trees are *galled*, by being Bark galled.
bound to *stakes*, or by *thorns*, or other-
wise, lay some *clay* upon the gall'd place
and wrap *hay-bands* about them.

Big *Plants* also, that upon their remo- Deal tops.
val have had their tops cut off, are apt to
die from the place they were cut off at,
to the next *sprig*, or *branch* upon them;
these dead parts ought to be cut off close
to the next good *twig* or *shoot*, and cove-
red with *clay*, as in *grafting*, that the head
may be well grown over, by such *twig*
or *shoot*, and the wet prevented of getting
into the *pith*, to damage the Tree.

Sect. 2. *Hares* and *Rabbits* are very Hares and
mischievous to *Nurseries*, and young Conies.
Orchards, by peeling off the bark of the
Plants: If your fence be a wall, or close
K pale,

pale, or water, there's little danger of them; but because such fences about *Orchards* are rare, and no other can keep them out, some expedient must be made use of.

Hay ropes.

Some have used *Hay-ropes*, bound about the Tree, from the ground to a sufficient height; but this were endless in a *Nursery*, it may be done in an *Orchard*; but there are other ways to be preferred before it.

Tar.

Others therefore *daub* the bodies of the trees over with *Tar*, which being used alone, endangers the life of very young *Plants*, and extreamly hardens the *bark*, and otherwife hurts them, which evil is prevented by mixing the *Tar* with any kind of Grease, and boiling them on a fire, so as both may incorporate, then with a brush, or little broom, daub over the body of the Tree, as high as *Hare* or *Rabbit* can reach; and if this be done in *November*, it will preserve the *Trees* for that whole year, with that once doing, it being the *winter time* only that they will feed upon the *bark*.

Tar and Grease.

Grease.

Some use Grease alone, and then it may require to be laid on *twice* in a *Winter*.

Some

Some thin stuff out of a *House of Office*, ^{Man's dung.} or the thick tempered with Water, and brush'd on once in a Winter hath been often used with good success. Or the *White-wash* which Plasterers white Houses with, done once a Year over the Trees with a Brush, preservesthem from *Hares*, *Rabbits*, or *Deer*.

Seet. 3. If you find *Pismires* or *Ants*, ^{Pismires.} breed about, or near the *roots* of any of your Trees, cast away the Earth they lodge in, and supply its place with some *stiff clay*; if they breed distant in several places, some direct to daub the Tree about with *Tar*, that their Feet may be taken in it; but you heard already that's prejudicial to young Trees; but if they pester you extreamly, and your Tree be young, you may bind a single *list*, or *shread* of *Cloth* about it, and once a week (when *Buds* and *Blossoms* are putting forth, for that is the chief time they prejudice them) daub the *Cloth* over with *Tar*.

Seet. 4. *Moles* are to be kill'd, espe- ^{Moles.} cially in Seed-plots and Nurseries; Spring-traps, or Box-traps are best to destroy them, not easily describ'd, but are now known almost generally.

Water-Rats.

I have heard that *Water-Rats* will spoil a whole *Nursery*, getting through *Mole-holes*; and barking or eating the young *Roots*: I found several *Roots* so served; and it being near a *Fish-pond*, I suspected it was done by them; but finding also a *Snake* in a hole among the *Roots*, I knew not whether that might not be the *Enemy*.

Snakes.

Efts, or Askers.

Efts, or (as some call them) *Askers*, are also said to be pernicious to *Trees*; but these three last accidents are so rare and inconsiderable, that it's needless to labour much about Remedies against them, only as men find them to destroy them.

Blastings, Caterpillars.

Sect. 5. The greatest prejudice to *fruit*, is by *blastings*, *frosts* immediately succeeding rain, *Caterpillars*, or *black Flies*, that eat up *buds*, *leaves*, and *blossoms*: There's one way used to help in all these cases, for *Orchard-fruit*; but I know not how it should be useful for any but the last two, for which I dare commend it: And that is, that when in the Spring you perceive these *Caterpillars*, or *Flies* appear, make fires of something that will smoak, so near the *Orchard*, and in such places that the wind may carry the *smoak* as much through the *Trees* as may be. A thing frequently used is *Hemp-sheaves*,

Smoak.

sheaves, (as it's called) being the stalk of the *Hemp*, when the *tow* is separated from it, and its certainly very good; but bad *Chaff*, *wet straw*, or *moldy Hay*, or any thing of that nature may serve turn.

Snails are pernicious to *Wall-fruit*, Snails. therefore destroy as many of them as you can, when they are best to be discovered, which is early in the morning.

And to preserve your *Wall-fruit* from Cover Wall-fruit. *blasting winds* and *Frosts*; it will be necessary to cover them in the nights, and cold days by hanging before them *Matts* or *Blankets*: some stick *branches* of *broom* before the *blossoms* and young tender *fruit*.

To preserve *ripe fruit* from *birds*, Birds. spread an old *Net*, before the *Wall-fruit*, or upon the *Dwarf-trees*.

Señ. 6. I have endeavour'd to direct the Reader by true Rules, which if observed, he would not fall into those vulgar Errors which are frequent in practice; but because for want of warning, some people may continue in them, thinking they have a further knowledge or better Judgment, I shall endeavour to refute those I have most taken notice off in use.

1. Some set *Trees* too deep, and plead for it, that otherwise the *Tree* may be in danger of dying, if the next *Summer* prove very hot : But to prevent that hazard it's better to raise *Earth* about it, and cover it with *Dung*, *Fearn*, or *Straw*, and in the *Summer* with the *Grass* mowed from *Grass-plots*, and set it not too deep whereby the *Tree* may put forth its *Roots* in the upper *Turf*, which is generally the best *Land* in all *Ground*. For in some *Land* a deep hole will draw in *Water* in the *Winter*, which standing under and about the *Roots*, may chill and starve them ; other *Lands* in the bottom are *Rocky*, have a *Fox-bent*, *Cat-brain*, or *stiff Clay*, and *binding Gravel*, unfit for *Trees* to root in, and yet may have that depth of *Earth* above it, that some *Fruit-trees* being set light, may prosper reasonably well.

2. Others for curiosity use grafting several kinds of *Fruit* on one *Stock*, which hath often this *Evil*, that the one kind (being of swifter growth than the other) overtops and keeps under its fellow. But if a *Man* have a few *Trees* in a secure place, he may graft two or three sorts on one *Head* of choice *Sum-*

mer

mer Fruit, whereof he is content with a little Fruit of each kind for eating only ; and by pruning he may make them grow somewhat equal.

3. Some out of curiosity (instead of Clay) when they graff *Trees*, cover the Heads of the Stocks with *Lime* mix'd with Hair ; others with *Bees-wax* or some such things compounded ; the first of which groweth so hard that the Stock cannot grow to cover, nor the *Scion* enlarge it self as it would, and the *Lime* kills often Stock and all, as will salt Clay, such as is used on Drinking-Vessels ; the latter is either melted by the heat of the Sun in Summer, and runs off the Stock, and being thin, the heat of the Sun hardens the Sap which the Stock puts up to a Crust, that it groweth not to bark or wood, as it should do ; and if it be compounded of so hard a substance that it melteth not, it hath the like effect as the *Lime* : So that upon tryal, there is nothing better than good Clay mix'd with long Hay, and laid on somewhat thick, for that keeps it from the heat of the Sun, as well as too much wet, and with Hay it will keep on much longer than otherwise.

4. Many neglect keeping the Heads of Stocks clay'd after the first time when they are grafted, but it's very necessary to do it till the Stock be near covered, for it hastens it in covering, whereby the *Scions* grow faster, and wet is prevented from perishing the Stock.

5. Another Evil is, when Men set well grown Trees, that they must cut off the Head where it may be an inch over; they consider not to cut it at a Branch, and so the top often dieth a little at the Head; whereas if they did cut it off a little sloap at a Branch or small Sprig, and put Clay thereon, as in grafting, that Branch would cover the top, and keep the Heart sound. If you do it not at the setting of the Tree, then the Year after, when it hath put forth Branches, cut off the top sloap-wise, where it is alive, at the uppermost Branch you would preserve, and then clay it: You will find advantage in the growth of the top and soundness of the body of the Tree.

6. In pruning big Branches of any Tree, do it in *March*, and cut it not so close to the Body as to hurt it, nor yet so long that it be a Stump, but leave it highest in the middle, for then it will
not

not have so deep a hole in its growing to cover, which otherwise it's apt to have, and to hold the wet. This pruning can be no ways so well done as with such a broad Chissel as I have described.

7. The first Summer after you have set a Tree, some let Shoots grow out near the Butt, and in several places on the Body, though so low that they never intend they shall continue. These had best be cut off at the first springing out, that they rob not the top of Sap.

If you have any high Standards, such as are proper to be planted in Fields, or Forest Trees in Avenues, it will be necessary to have such another Chissel; but instead of an Iron handle let it be made with a Socket, which fix on a Staff about two or three yards long, and let it have Edges likewise on the lower part on each side the Socket; with this you may, as you walk about your Trees, cut off such young Shoots as grow out of the hands reach, and yet such as you would not have continue, first cutting them upwards, and then with the other Edge cutting downwards the little Tippet left on the upper

per side, that it be smooth, and even to the Body.

2. I have known some Country Gardeners in pruning Wall-Fruit-trees yearly cut off the young Shoots or Branches that grew side-ward, as well as outward, from the Elder-wood, and leave the Wall almost bare; whereas it's those young Shoots chiefly that bear Fruit the Year following: And therefore the better to inform the Reader in Pruning, it will be necessary to shew what Years Branches bear Fruit in each kind, or in the most common sort of Fruit-trees.

1. *Vines* and *Shrubs*, as *Gooseberries*, *Currans*, &c. bear Fruit for the most part on the Branches they put forth the same Year; so that in pruning these you may cut off much of the *Shoots* of the foregoing Year, and old *Wood*, as you see occasion, and there will be the more Sap to put forth fresh ones the Year after, provided you leave plenty of Buds for them to put forth at, and with this Caution, that such as grow very luxurious in Wood are not apt to bear, and there the more you cut off, the more they will run into the same Evil.

2. *Stone*

2. *Stone Fruit-trees*, generally bear on the *Branches* of the foregoing Year, therefore leave a sufficient number of them.

3. *Apple and Pear-trees* bear Fruit on the *Branches* that are of two years growth before the bearing year.

And thus you shall find it for the most part; and although *Fruit* may often in all these sorts seem to be on older Wood than I mention, yet if you search into it you will find (where it seems so) that it grows on some short Stalk put forth as near (as can be judged) as I have set it down.

You will therefore find it often necessary to practice the direction formerly given in this Book of taking off some of the old Wood of Trees, *Chap. 8. Sect. 7.*

And when your Trees are young let them not fill the Wall so thick as many Trees are apt to do, otherwise you will find many will not bear well young, and when they grow bigger you must cut them thinner, which will be worse for the Tree.

Another Evil is common in suffering too much Fruit to grow upon Trees (especially Wall-Trees) wherefore if it be so, pluck off some where they stand

in Clusters, Green *Apricocks* will serve for Tarts.

These foregoing Observations may seem trivial and of small concern; but you will find a due observation of them will conduce much to the health and welfare of your Trees and Fruit.

C H A P. XIII.

Some particular Rules about some kinds of Fruit-trees besides the general Rules already mentioned.

Of Vines.

SECT. I. *Grapes* seldom or never ripen well in this *Isle*. without help of Art and Industry, to which purpose take these directions.

1. To plant such as ripen soonest in the Year, that they may have as much of the *summer* heat at ripening time as may be.

2. Let the Wall you plant them against be a full *South*, or but a little inclining to the *East*; or if you have a *half-round*, or corner in a Wall, or the back of

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yet by this means you will make advantage of such portions of your Wall, as otherwise you could have had little benefit from.

Proper Soil,

Seç. 2. The best ground for them is that which is *rich* and *dry*, inclinable to *stony* or *gravel*, so it bind not ; the best Dung to fatten the Earth they grow in is Horse or Sheeps-dung : Make bare the *Roots* in the beginning of Winter, and throw in plenty of the same Dung most Winters.

Way of propagating.

The best way of propagating of them is, in *November* to lay a Branch of that Years growth into the Earth, under the old Tree, without cutting it off, lay as many *joynts* or *buds* in the Earth as you can, leaving but one or two out ; for it puts forth its *roots* chiefly at the *joynts* at a Years end, or in the *February* come-twelve-month, cut it off from the old one, and plant it where you design it should grow ; lay it in the Earth in the same posture it lay in before, and also lay some of the *Buds* of the *new wood*, that grew out since it was first laid down, that it may gain the more *Roots*, leaving out of the ground again not above one or two *Buds*.

You

You may chance to have Suckers ^{Suckers.} of an old Vine which will be sure to grow.

Or you may take *Cuttings* of *Vine-* ^{Cuttings.} *branches* of that Years growth, and set them in good *warm loose* Land, and many will grow; if it be in the place you intend they shall always stand in, next year lay down a part of that which hath grown out, to root also, or else upon removal lay in the new growth all but a *bud* or two, with that part which is already rooted: If it have made but small growth the first year, lay part of the second years growth in the ground, it will more advantage them by helping them to good *roots*, than the loss of a year or two's growth in the top will amount to.

If you have an old *Vine*, that bear- ^{Cure an old} eth not well, lay down in *February*, or ^{Vine.} *March* some of the strongest *branches* of the foregoing year, (that grow low) in the *mold* under the old Tree, without cutting them off, leaving out of the ground a *bud* or two to grow, and your *wall* will quickly be furnished with new, and fresh *branches*; so that by degrees you may cut off many of the old *branches* of the *Vine*; for though one *Vine* may cover

cover abundance of walling, yet three or four *roots* in that compass will strengthen it the more to bear.

Of Pruning.

Señ. 3. As *Vines* stand in more need of *pruning* than other *Fruit-Trees*, so great care is to be taken in the performing of it; when you have set your *Vine*, as you have been before directed, so that not above two *buds* of it remain above ground, you are to nail up such *branches* as grow forth up to the Wall, till it have overspread as much Wall as you design for it, suffering not above two *branches* to grow from the ground, and snipping yearly the *tops* of the *branches* a considerable length, as far as they are weak and tender, and also all small *poor ones*, close to the body, unless the well-looking *branches* be but few, and then you may leave the lowest *bud* of some of them to grow forth next Year; and this you are to do towards the end of *February*, or beginning of *March* yearly.

When your *Vine* comes to bear, you are to use your knife about it three times in the Year.

Time.

1. In *February*, or the beginning of *March* you are to prune off part of the foregoing Years *shoots*, where they are too thick, close to the old wood. As it
en.

enriches your *Vine* to keep it thin of *branches*, so you must take care it be well stor'd with *buds* against the spring following, for it bears *Grapes* only on the *new shoots* of every Year; and in cutting off these *Branches*, you must take care your Wall continue furnished with such *Branches* as may be spread upon the Wall regularly and decently, not thick in one place and thin in another, nor crossing one another.

2. The next time to take off Superfluities from your *Vine*, is about *Midsummer*, when the *Grapes* are knit, clip off then the end of the *branches* that have *Grapes* on them, a little above the *Grapes*, that they may have the more nourishment, and keep them nail'd to the Wall, as also barren *Branches* where the Wall needs them.

3. The last time of cutting is in *August*, for then, because *leaves* and *branches* may be so thick as to keep the heat of the Sun from the *Grapes*, which is necessary to ripen them, you may pluck off some of the leaves, and cut off some of the *branches* to open way for the Sun to come to them.

There's one thing to be observed in ^{Place} the pruning these peculiar to it, That ^{where} where-

Bleed.

whereas others are cut at a *Bud*, the branches of these must be cut off near the midst, betwixt two *Buds*, and that not later in the year, than the beginning of *March*, for afterward the *sap* or *juice* will run out, and the *Vine* will be much weakned by *bleeding*: You will by that time also see what the *Frost* of the *Winter* foregoing hath kill'd, which must be taken all away.

Frosts.

If Frosts come before any *Grapes* are ripe defend them in the night time with *Tilts* or *Mats*.

Vineyard.

Señ. 4. It's scarce worth while to have a *Vineyard* here in *England*; there having been many, and now so few, affords a strong Argument to prove that attempts of that kind never turn to account: The usage of the *People* in such cases being of no small Authority.

It's possible that persons that have very warm ground, well situated, with care and industry, may some Years have good *Grapes* without the benefit of a Wall. I have seen, not far from *Bristol*, in a Year that was very favourable to them, *Grapes* ripen well without such help.

Fig tree.

Señ. 5. *Fig-trees* ought to be planted in a very warm place, against a Wall, defended

ended from the *North*, and *North-East* wind; every old Tree will yield plenty of *suckers*, fit to raise new ones.

If you plant some small *Fig-trees* in Pots or large Boxes, as you do *Orange-Trees*, and put them in some House (from the beginning of *November* until *April*) without any Fire or Curiosity, you may have *early Figs*, and (it may be) a *latter crop*. When you take them out of the House, set them under a *South-wall*; and if the Nights are frosty, take them in for three or four Nights; water them at first setting out, and weekly after, and oftner when the *Figs* are toward ripening.

Seet. 6. You have seen the way of *Quince-tree* raising *Quince-trees*, in the Chapter of *Dwarfs*; I shall here only add, that if you have a part of a Tree, that groweth so low, that you can bring it to the ground, either by plashing or otherwise, you may do it in the beginning of *Winter*, and cover it all with Earth but the ends of the Branches, and let it continue so one Year, and then uncover it, and every *Twig* will have put forth *Roots* in the Earth, which being cut off and *transplanted*, will make you a Tree.

Layers.

And this is the way of propagating of *Fruit-trees* by *layers*; and you may here take notice, that all such *Trees* that may be propagated by *Cuttings*, may be raised likewise by *Layers*, and this way takes more sure than by *Cuttings*.

Soil.

Quince-trees delight in a *moist rich* Land; near some gutter that carries away the soke or wash of a *Dunghil*, or *House*, is a place usually chosen for them, and is such as they like very well in.

Medlar-tree.

Seet. 7. *Medlars* are raised by *grafting* on the *Pear-tree*, *Crab-tree*, *White-thorn* or *Servise-tree*; the last is the best, and the *White-thorn* by much the worst.

Servise-tree.

You may get *Plants* of *Servises* out of woods, where they grow wild; from which you may raise *Servise-trees*, or *stocks* for *Medlars*, or if you can get none such, *graft* the *Servise* on the *Wickey-berry-tree*, or the *White-thorn*.

Walnut-tree.

Seet. 8. *Walnut-trees* are much *Planted* of late, and are very proper for *walks* in grounds and a good fence to shelter *Buildings* and *Orchards*; the *fruit* is useful, and very profitable if you can spare any to sell, or for *Oyl* for *Painters* if the market should be glutted with them;

them; and the Timber so excellent for *Tables, Chairs, and Stools, Stocking of Guns, &c.* that it goes off well, and takes a good price.

They are raised by *Nuts*, gathered from the same Trees, if you can let them have their green husks on them, for the betterness thereof will defend the *kernels* from being eaten by worms before they spring up; but you must chiefly respect their full ripeness, at which time they are apt to shed their *husks*: You may either set them as they come immediately from the Tree, or keep them in the sand till *March*.

Way of raising.

Set them in *rich, dry, warm Land*, and when you *transplant* them, set them as speedily as you can after taking up, and cut off little of the *roots*, but by no means the *tap* or *heart root*, (as in other Trees) and top them not at all if you can help it; but if the Tree be so *tall, crooked, or dead* at the *top* before removal, that you must put a *peg*, or some soft *wax* into the *pith-hole*, or cover the cut with *clay*, that wet may not get in, and make it die downward, because these Trees have a large pith; when you do cut off the top, do it, if you can at a *side branch* or *sprig*, and that will spread under the *clay*, and

Soil and transplanting.

cover the *tops* again. You may cut off many *side branches* when you *transplant* them.

Fencing.

No Cattle will *brouze* or *peel* them, by reason of their bitterness; so that a fence that will preserve them from Cattles rubbing against them is sufficient.

Soil.

They will grow well in a *loose*, *gravelly*, *stony*, or almost *rocky* land, and best where they are at first set without being removed; to which end you may in such a *hillock* as is spoken off in *Field-planting* (but not so broad nor so high) set *three*, or *four Nuts*, or more, and about two years after they are grown up, pluck up gently all but one of them, that is likely to make the best *Tree*.

Plant without removal.

Chestnut-trees.

I have seen *Chestnut-trees* grow in *England* to be very large, and bear good *Fruit* on a *hot*, *dry land*. They are excellent for a defence from winds, and better than *Walnut-trees*. It's not good to top them, as some do when they *transplant* them.

Way of raising.

They are raised by setting *Nuts*, that are come fresh from beyond *Sea*, at the end of the year; or from good *Nuts* well ripened in *England*, which you may set with the *bushes* on, when they are fallen, or rather kept in *Sand* till the
great

great Frosts are over : These trees grow best likewise without being ever removed ; some say they will grow well being grafted upon Oakes, Beech, or Walnut-trees.

The *Horse-Chesnut* may be rais'd from the Fruit or growth of Layers, and makes delicate Trees for *Avenues*.

Filbeards and *Hazle-Nuts*, worthy to be planted in *Orchards*, or *Gardens*, are raised from Nuts set in the Earth, or *Suckers* from the roots of an old Tree, or may be grafted on the common *Hazle-Nut*. Filbeard Nuts.

Seet. 9. *Mulberry-trees* are raised by *Suckers*, *Layers*, or *Cuttings*.

Goosberries, *Currans*, *Barberries*, and *Rasberries* are raised by *Suckers*, of which you may have plenty about the roots of old Trees. Goosberries, Currans, Barberries, and Rasberries.

When they have grown some years, suffer not many *suckers* to grow about them, nor cut the tops to a round close bush, as many *Gardeners* do ; whereby they grow so thick, that they neither bear nor ripen their *Fruit* so well as if they grew taller and thinner.

C H A P. XIV.

*Of the several kinds of Fruits.*Of choice of
Fruit-trees.

SECT. 1. As to *Wall-fruit* and *Dwarfs*, if the *Planter* have convenient room, he ought not only to have *one*, or *two* Trees of each good kind, but also some of that which is but indifferent, that is ripe, or will keep good at such time, when better eating fruit is not to be had ; and more of lasting winter fruit than of summer or any one sort.

Of Peaches.

SECT. 2. Of *Peaches* the first and soonest ripe is the *White-Nutmeg*, next to that the *Red-Nutmeg*, next to that the *Troy* which is ripe almost assoon and a better Fruit ; next ripe are,

The	[Persian]	Peach
	[Early Newington		
	[Magdalen red and White		
	[Sion		
	[Minion		
	[Catharine		

Isabella

The	Isabella	Peach
	Savoy	
	Burdeaux	
	Old Newington	
	Violet-Mascat	
	Modena	
	Morello	
	Rumbullian	
	Scarlet	
	Bellice	
	Royal	

These are accounted excellent kinds of *Peaches*, and there are many other good *sorts* besides these; and so there are of *Apples*, *Pears*, &c. more than I have mentioned in this tract; for I think it not necessary to trouble either the *Reader*, or my self with them here, but only to mention some *choice Fruit* of every kind, and leave every one to please his own fancy, and store himself with them, or others, as he approves them and hath convenience so to do.

Of Nectarines.

Sect. 3. The best *Nectarines*, are

The { *Red-Roman*
Murphy
Tawny
Paper-white } *Nectarines*.

There are others though worse sorts, as ;

The { *Yellow*
Painted
Russet
Red } *Nectarines*.

The *Algiers* is commended by some, because it parts easily from the *Stone*.

Of Apricocks.

Sect. 4. Amongst *Apricocks* the *Algier* and *Masculine* are first ripe : The *Turkey* is much commended, so is the *Orange* ; the *white Apricock* is also accounted better than the common, and the *Fulham Excellent* ; the *Brussels* will ripen without the benefit of a Wall, either as Dwarf or Standard.

Of Plums.

Sect. 5. *Plums* to be preferred before others are as follow ; The *red* and *blew Primordian* as being first ripe, though not so good Fruit as several following ;

The

The next ripe,

	Morocco	
	Merabolen	
	Violet	
	Apricock	
	Barbary	
	Black and	
	Green Damascene	
	Prunella	
	Queen Mother	
The	Kings	Plum
	Matchless	
	Black-Pear-Plum	
	Pescod	
	Bonum Magnumque	
	Cheston	
	Marbled	
	Imperial	
	Nutmeg	
	Turkey	

These you may set to a Wall, though most of them will bear well, being Dwarfs or Standards if you have not wall enough.

The White-Pear-Plum, Prune, Damascens, and Verdock, are good Preserving Plums.

The

The { *Muscle*
 { *Wheat* } Plum, { *Damascens*
 { *Lammas* } { *Michaelmas*
 { *Bullace*

and several *course Plums* are raised by *Suckers*, without *grafting* or *inoculating*, and may be set in *Orchards*, *Hedges*, or any common places.

Of Cherries. Sect. 6. The *May Cherry* is first ripe, and should have a good *Wall* to expedite its ripening; for though they are but ordinary *Fruit*, yet their earliness makes them a rarity. Next ripe are

— { *MayDuke*
 { *Black Heart*
 { *Morocco*
 { *Egriot*
 { *Flanders*
 { *Red-Heart*
 The { *Lukeward* } Cherry.
 { *Bleeding Heart*
 { *Spanish-black*
 { *Naples*
 { *Carnation*
 { *Amber*

The

The great bearing *Cherry* of *Millain*, and *Morella* are *blackish* when ripe and *blood-red* within, excellent to make *Cherry Wine*, affording a strong and vinous liquor.

These two last and the *Prince Royal* are good to Preserve.

If you have not room upon your *Walls*, these will bear well in any warm place, planted as *standards*.

Those that you find put forth *small twigs*, and have a *small, dark, green leaf*, are easiliest kept *Dwarf-trees*.

Seçt. 7. The first ripe *Grapes* are the *small Black*, or *Cluster Grapes*, next the *Muskadine* red and white, the two sorts of *Frontiniacks*. Of Grapes.

The	Griffin Frontiniack	} Grape
	Claret Wine	
	Muscat	
	Grape de Arbois	
	Raison of the Sun	
	Red Orleans	
	Burler	
	Parsley	

Seçt. 8. *Pears* are of very many kinds, Of Pears. and are much improved by being Plant-
ed against *walls*. In *France* they are ac-
counted

counted among the best Fruit, and the best kinds do well deserve it.

The *Summer* and *Winter Bon-Cristien*, growing pendent, are fitter for a wall, than to be Planted of *Standards*: the *Winter* will keep till *May*, and is a very choice *Pear* in a good year for ripening fruit, and ought to have the best Wall.

These Pears next following no one ought to be without, and he that hath but little ground needs no other. I shall mention them in order as they are eatable, not according to their goodness, for, among several, that might make a dispute as tedious as the *French King's Gard'ner* hath done.

Windsor Summer Bon-cristien.

Hambden's Burgamot.

Amadote, Common Burgamot.

Green Butter or Bury Pear.

Messire Jean, Deadmans Pear.

Virgulee, St. Michael

Winter Thorn, Le Chasserye.

The Crassane, St. Jermin.

Winter Bon-Cristien.

Double Blassom, Le Bon-Gerson.

Most of these deserve the best *South-wall*, and the *Winter* seldom ripen well with-

without it, The Summer may be
Dwarfs.

Other Pears accounted good are

The	{ Bury de Roy	}	Pear.
	{ Violet		
	{ Dove		
	{ Great Musk		
	{ Roussellet		
	{ Great Sovereign		
	{ Blood		
	{ Green-field	}	
	{ Great Burgamot		

Summer Pears.

Great Banquet, Musk, Cassiolet, Robine,
Skinless Maudlin.

Autumn.

Besiderry, Dean Pear or Doyence, Land-
sacks, Vine Pear, Russelin, Sugar green
Pear.

Winter.

Ambret, Bugis, Angoberts, Portales,
St. Augustines, Lemon, Besi de Cassoy.

Old

Old English Pears well known are

Hill	
Primating	
White and Red	
Geneting	
Green-Chissel	
Pearl	
Soveraign	
Orange	
Catharine	
Anthony	
Sugar	
Pimp	
Berry	
Popering	
The Scarlet	Pear.
Prick	
Royal	
Nonsuch	
Kings	
Ladies-Buttock	
Muscat	
Oak	
Virgin	
Ice	
Gascoin-Burgamot	
Winter Popering	
Little Dagobert	
Great Kirville	
Long Burgamot	

With

with divers others, each *Country* affording variety.

The *Slipper* and the *Lewis Pears* are good to dry.

In *Fields* you may set *Baking Pears*, and *Perry Pears*.

For Baking.

The	{	Bon Gerson	}	Pear.
	{	Norwich		
	{	Black Worcester		
	{	Quince-pear		
	{	Bishops		
	{	Arundel		
	{	Bell		
	{	Painted		

Also *Wardens* of several sorts very good.

For Perry.

The *Red* and *White Horse Pear*, the *Long Land*. There are also divers other *Wild* or *Choak-Pears*, whereof the *Red-coloured* yield the strongest *Liquors*. The *Bosbery*, and *Bareland Pears* are by much the best I have known or heard of. And the *Tree* of the first of these two kinds groweth to that bigness, that it will bear fruit to make one, two, or three *Hogheads* of

M

Perry

Perry in one year: I could tell you several stories to set forth its excellence when it's two or three years old. The tree will prosper on almost any base Land.

of Apples.

Sect. 9. Apples are seldom planted against a wall: A man had best furnish himself with the choicest of these following, for Table-fruit, by making them Dwarfs in his Garden, or larger Trees in a secure Orchard, being tempting Fruit, and some of them early ripe.

The	{	Juniting	} Apple.
		Flax	
		King	
		Margaret or	
		Magdalen	
		Golden Russeting	
		Spice	
		Summer Queening	
		Go no further	
		Royal	
		Golden Pippen	
		Good-Huswife	
		Giant	
		Pomewater	
		Summer Pearmain	
		Belle et bonne	

There

There are also some of special account
in their respective Countries ;

The { *Stocken Apple in Herefordshire.*
Darling in Cheshire.
Golden Rennating in Hartford-
shire, &c.
Angels-bit in Worcestershire.
Kirton Pippin in some part of
Northamptonshire.
Harvy-Apple in Cambridgshire.

These next following are good *Winter*
Apples, or such as may be planted in Or-
chards.

The { *Winter-Pearmain*
Winter-Queening
Quince-Apple
Nonfuch
John-Apple
Leather-coat
Winter-reed
Golden Doucet
Lones Pearmain
Westbury
Pome-Roy
Lording, hath little Core
July-Flower
Pear-Apple

Apple

The	{ Flower of Kent }	} Apple.
	{ Parsly }	
	{ Winter-Chesnut }	
	{ Maligar }	
	{ Red-Fennel }	
	{ Short-Tart }	
	{ Russeting }	

There are divers kinds of *Pippens*, I have heard of *eighteen* several sorts, those of them I know are so good, I can scarcely tell which to prefer.

Of choice of Winter Apples. In Planting *Winter-Fruit*, the best course is to Plant several *Trees* of some few of the *best kinds*, after you have found what sort prosper in your Soil best; for many sorts will be troublesome in the gathering, and keeping them severally when you have done.

Long lasting and fair Apples will adorn your *Table*, and yield most profit.

Of Cyder fruit. For *Cyder-Fruit* the *Redstrake*, and *Brombery-Crab* have the general preeminence, the last of which is not ready for grinding till almost *Christmas*.

The *Gennet Moil* was once accounted the best, and still many *Gentlemen* that are *Cyder-Masters* prefer it, and preserve it for their own drinking.

The

The *white* and *red Must-Apples* make a *Cyder* very good, to be drunk about *Christmas* next following the Season of making *Cyder*. The Tree is of *quick* and *large growth*, a good *bearer*, and *twelve* or *fourteen* Bushel or *Strikes* of them will make a *Hogshead* of *Cyder*.

The *Winter Queening* is not commonly used for *Cyder*, yet it yields a *strong* and *vinous Liquor*, so that it hath been taken for a rich and strong *White-wine*; but so *dry* a *fruit*, that near *twenty four* Bushels will go to make one *Hogshead*. The *fruit* must not be ground till very late in the year.

The *Golden Pippen* makes an *admirable Cyder*.

Pippens and *Pearmains* mixt, are much used, and *Pippens* alone, make a *strong* and *wholesome Liquor*.

Some are apt to object, That since ^{of planting} *one* or *two* kinds of *Fruit* may be had ^{several} *very good* for *Cyder*, what occasion is ^{kinds,} there to Plant of so many sorts?

For answer, They will find it advantageous to have several sorts of *Fruit* for *Cyder*, if they consider;

1. One sort of *Fruit-trees* may, and do bear one year, when another fails.
2. *Cyder* made of some kinds, will be

ready to drink sooner than of others, and thereby you may have it successively ready for your use. The *Must-Cyder* may be clear a month after making; The *Gennet Moil*, a quarter of a year after: The *Redstrake*, near half a year after, though it's much improved by longer keeping.

3. You may make your *Cyder* with more ease, the *Fruits* you make it of ripening after one another.

4. Though some *Fruit* yield not so good *Cyder* as others; yet the *Trees* may be quicker of growth, bear more plentifully, and last longer than those that yield better: And the *Palates* of men being various, some like one sort, and some another, and so all may be pleased.

5. Some *Fruit-trees* agree with the *Soil* and *Climate* better than others, which you will not be able to know till you have made trial of several.

Of Quinces. Sect. 10. Of *Quinces* there are some sorts, though not many, somewhat different from each other.

The *Portugal-Apple* and *Pear-Quince*, are held to be the best, and are the largest.

The *Barbary-Quince* is good, but smaller. The

The *Lions* and *Brunswick*, are also good Fruit.

The *English* is the most stony.

Sect. 11. There are several sorts of *Walnuts*, some being *larger*, others *thinner shell'd* than the common, but differing so little one from another, that Men have not much minded giving them names. The largest sort is usually called the *French Walnut*.

The best *Chestnuts* among us, are those that come from beyond *Sea*; but of those that grow with us, some are *larger* than others, without any difference worth observation.

There are two sorts of *Filbeards*, distinguished by the colour of the skin of their *Kernels*; the one being *red*, and the other *white*.

There is another sort call'd the *Filbeard* of *Constantinople*; the leaves and fruit of which, are bigger than either of the former.

And there is besides these an excellent large plump *Nut*, that hath a very good *Kernel*, the best of which have a very thin shell.

Sect. 12. *Figs* are a Fruit that agree with *English Palates* and *Soils* much alike, there being few that affect them. Among

the several sorts of them, there are *two* of chiefest note among us. The great *Blew Fig* which is most common, and the *Dwarf blew Fig*, that is sooner ripe and better tasted.

Of Med-
lars.

There are three or four sorts of *Medlars*, the biggest sort is best, without any *thorns* upon the branches, as the common hath: There is another kind also without *stones* in the *Fruit*.

Of Ser-
vices.

There are two sorts of *Services*, one larger than the other, that groweth wild in the *wood*; but neither the sorts of these, nor of *Medlars* are distinguished by *Names*, and the *fruit* of both is not eat-
ble till they are rotten.

Of Mul-
berries.

Sect. 13. *Mulberries* are distinguished by their *colours*, for there are *black*, *red*, and *white*.

Of Goos-
berries.

There is some variety in *Goosberries* likewise; the best sorts are the *Amber*, and great *Hedghog Goosberry*, which is *prickly*, but the other *smooth*, both of a *bright, yellow colour*, and the *white Hol-land Goosberry* which is *large and transpa-
rent*; there are likewise some that are of a *blew*, others of a *red*, and others of a *green colour*.

Of Currans

The *white* and *red Currans* of the larg-
est size, are the best sorts of that kind of
Fruit;

Fruit; the great dark-red Dutch-Curran is largest, and hath a sweet relish; some persons affect the common black Curran.

There's scarcely any other difference ^{of Ras-} found among *Rasberries*, but that some ^{berries;} are red, and some white.

And the like difference is to be found ^{of Barber-} among *Barberries*, but some are without ^{ries.} Stones.

CHAP.

C H A P. XV.

Of Gathering Fruit, and making
several sorts of Liquors of them.

SECT. I. In gathering of *Fruit*, be careful the *branches* of your *Trees* be not battered and broken.

*Must not
the Trees.*

Such as you design to keep any time, ought not to be *shaked* off the *Trees* because of bruising; but picked off with your hands. Be sure the *Fruit* you gather be thoroughly *ripe*; which you may know by its beginning to *drop*, or the *Kernels* turning *black*: Let the *weather* be *fair* and *dry* when you gather, and no *dew* upon the *Trees*. Lay up what you thus gather in a *close*, but *sweet room*, upon a *boarded-floor*, without any *green leaves*, or *sticks* among them.

*Of preserv-
ing.*

If you have some *Pears*, that are *choice* and *lasting*, wrap them up in *Paper*, and lay them one by one upon a *shelf*, or hang them up by the *stalks*, and keep out the *air* from them as much as you can.

As you find any in your heaps *rot*, pick them out; and in a sharp *Frost*, cover them with a *Straw Mat*.

In

In gathering Cyder Fruit you must be sure to let them be well ripe; then let them be gently shaken down, and laid upon a sweet and dry floor, in a heap, and there lye a fortnight. The Red-strake, and harder Apples you may let lye longer, (that is) three weeks or a month; the longer they lye, the less Cyder indeed they will yield, but much the better, it being necessary to have them as ripe as may be, so that too many of them begin not to rot; some are for picking out the rotten ones before you grind them; others say a few rotten Apples do no hurt, but rather good, in helping the Liquor to ferment.

Sect. 2. And because I am here speaking of a Ladder, ing of gathering Fruit, I shall give you the description of a Ladder, convenient to be used both in getting the fruit off young trees, and pruning them, they not being strong enough to bear an ordinary Ladder without harm.

Take a Board like the head of a joint-stool, but thicker; let there be join'd to it a Ladder (of what length you judge convenient, having respect to the height of your Trees) with such Irons as it may ply to and fro, and at the other end, let two feet of equal length with the

the *Ladder*, be put in so as they may stand wider at the bottom than the top. See the *Figure*.

Of an Engine or Mill for grinding fruit.

Sect. 3. Of many sorts of Fruits may be made very noble and delicious liquors for drinking, by separating the juice from the feculent parts of them, which is performed by Pounding, or Grinding them, by such Instruments as were to be had: But lately hath been found out an Engine, incomparably more commodious for this Work, than any thing ever known before; many of which are already dispersed throughout the Kingdom, made according to the first model; but they have lately received so vast an improvement, that they seem now quite another Invention, and to want nothing to their Perfection. The excellencies of it are, That it takes up so little room, no more than two yards square: It grinds according to the bigness of it, from 50 to 20 Bushel an hour, with the labour only of one Man, the feeding of it now being contrived with a little assistance of another. It performs the Work better than any thing else. And lastly, It grinds all manner of Fruit with a little alteration in setting of it.

Sect.

Seet. 4. Other *Authors* have given directions about making *Liquors*, of several sorts of *Fruit*, but that he that hath this Book may not be troubled to seek for them any where else, and because I can truly pretend to exactness in this particular, no less than (I believe) I have justly done in all that went before; and withal having guided the Reader in the way to get choice *Fruit*, before I take leave with him, I shall in the last place instruct him how to order it, and how to make use of it.

In grinding, or pounding and pressing *of making Cyder.* their *Fruit*, every one may be safely left to the custom or convenience of his Country, but the management of the *liquor* after it is pressed out is of great importance; Thus therefore you must proceed, When your *Apples* are ground, or pounded sufficiently, and the *liquor* prest forth, strain it immediately through a *sieve*, and tun it up in a Hog-head or Barrel, seasoned and sweet; fill it not up by two *gallons* at least, and stop it up only with a loose *stopper* for two or three days, and then stop it up close with *clay* on the *top*, and put a *cork*, or some *stopper* in the *vent-hole*; but for a weeks time or more, you may
once

once a day draw it forth a little, left it break the Vessel, or force some other *vent*; then stop it close up also, and so let it stand till you think it may be something *clear*, and then pierce it to try how it fines; the *Summer Fruit* after a *Month*, the *Moil* after the first *Frosts*, the *Redstrake* not till after *January*; other *Winter-fruit Cyder* about the same time.

Of fining
Cyder by
racking.

If your *Cyder* be not *fine* at the times aforementioned, try them again about a *month* after; and then if it be not fine, rack it off, as you would do *Wine*, setting another vessel in a convenient place, that through a pipe of *Leather*, or a *Siphon*, or *Crane* of some *metal* or *glass* the liquor may run out of the one into the other without being exposed to the *air*, which is a most material thing to take care of at the first pressing, and at all times; the *Spirits* of *Cyder* being very apt to *evaporate*.

With Izinglass.

Some choose rather to fine their *Cyder* with *Water-glew* commonly call'd *Izinglass*, than by racking it, which is thus done. For a *Hogshead* take about a quarter of a pound of *Izinglass* (and so proportionably for a greater or lesser quantity) beat it thin upon an *Anvil*, or an *Iron*

Iron-wedg or such like thing, cut it in small pieces and lay it in steep in a quart of *White Wine*, or some of the *liquor* you would fine, so it be not sharp, but it dissolves best in *White Wine*, let it lye therein all night, the next day keep it some time over a gentle fire, till you find it well dissolv'd; then take a greater proportion of the *liquor* you intend to purify, after the proportion of one *gallon* to a *Hogshead*, in which boil the dissolved *Izinglass*, and cast it in the whole mass of *liquor*, stirring it well about, and leave the vent-hole for some time open: This will fine any kind of *Liquor*.

But the common and best way is that among *Vintners*, &c. that have frequent use for it: And it is to dissolve a considerable quantity of *Izinglass* in *White Wine* without putting it on the fire, which it will do in about a months time and turn to a *jelly*, which they keep by them, and it will keep good a twelve-month, and when they have occasion to use it, remove the scum that will be on the top of it, and take what quantity will serve their turn out of it according to the proportion of a *quart* to a *Hogshead*; and this with some of the *liquor* its to be put in, they beat to a froth, and

and mix it with more of the same *Liquor*, and then pour it into the *vessel*, mixing it well together with a broom, and so leaving the work.

When it is very *fine*, either draw it out of the *vessel* as you drink it, or which is better, *bottle* it; and take notice, after it is *fine*, the sooner you draw it off the better, for change of weather oft alters it.

New Vessel. If the *vessel* you put it in be new, scald it with *hot water*, in which some of the *Must* or *Pouze* hath been boil'd.

Tainted Vessel. If it be tainted take some unslacked *Lime* and put it in the *vessel* with water, and *stopping* it well, *roll* it about a while.

2. Or *Pepper* a quarter of a pound to a *Hogshead* pounded and boyled with water may help the ill savour.

Yet besides those *Operations*, let it be scalded first, and made as clean as may be from all dregs, and if after all, you use *Must* or *Pouze* of *Apples* (as is before directed for new *Vessels*) it may compleat them, tho' some *Vessels* may be so tainted, that there is no cure for them, but by taking off the *Head*, and exposing the whole to the *Sun* and *Air* for a considerable time.

Wine

Wine Casks, if sweet, are accounted proper to receive this *liquor*. Wine Casks.

If any one shall desire a small quantity of *Sider* extraordinary for its goodness, let him take the *liquor* that comes first from the *Must*, without much pressing, and dispose of what comes afterwards by it self, or mix it with the juice of another grinding. Choice Sider.

Some have been so curious as to pick off the *Trees* the ripest *Apples*, and especially those that have had most of the Sun, and to make use of them by themselves for choice *Sider*.

Seç. 5. *Perry* is made the very same way as *Sider*, only observe to let your *Pears* be very ripe before you grind them. And it's a thing advised by some, to mix *Crabs* among the *Pears* of weakest juice to mend the *liquor*. Of Perry.

Seç. 6. If you have plenty of *Rasberries* they will make delicious Wine, after this manner: Of Raspberry Wine.

To every two quarts of *Rasberries*, put one pound of fine white Sugar; let them stand two days in an earthen pot, often stirring and bruising them; then put them in a woollen bag and hang them up, that the *liquor* may drop out into a *Milk-pan*, or such like thing, for twenty-four

four hours, or more; put then the *liquor* into an *earthen Pot*, with a *Faucet* in it, let it ferment there, and scum it off, at a *Weeks* end, or sooner (if it be any whit fine) bottle it up, and at another *Weeks* end, shift it into fresh *bottles*, reserving the *settlings* in the *bottom* of the *bottles*, which you may after put together into one *bottle* by it self; shift the *bottles* thus *twice* or *thrice*, as long as you see any settlement in them. Or thus:

Take *Rasberries* pick'd and bruised, and to them add the like quantity of *White-wine*; let them stand together two or three *days* close covered and stirred once a *day*; strain it, put it up in a *Pipkin* with a *Faucet*, or little *Vessel*, with some *Sugar*, if you please; after four or five *days* draw it off into *Bottles*.

Curran wine.

Seç. 7. Of *Currans* also you may make a delicate *Wine* thus: Gather the *Currans* very ripe, bruise and strain them; to every two quarts of the *juice* put one *pound* and a *quarter* of *Sugar*, put it into an *earthen Pot*, scum it off, and at a *Weeks* end draw it off, take out the settling, put it in the *Stean-pot* again; do this *twice* or *thrice* till it be very fine, and bottle it; if you find it not fine in the
bot-

bottles at a Weeks end, shift it into other Bottles.

Señ. 8. Of *Apricocks* also is made a delicate *Wine* thus :

Take six pound of Sugar, and six quarts of Water, let them boil together, take off the Scum when it riseth, put in twelve pound of *Apricocks* stoned and pared ; let them boil till they are tender, then take them out, they will be good to eat, for present use, but will not keep long, unless you use them as in preserving *Apricocks*.

When this *Liquor* is cold, bottle it, or you may, when the *Apricocks* are taken out, put into the *Liquor* a Sprig or two of flower'd *Clary*, and let it boil a walm or two more; and after it is cold bottle it.

It will be fit to drink at half a year old, and being kept longer, will come to more Perfection, holding good two or three Years.

If you find any Settlement in the *Bottles* at a Weeks end, pour the *Liquor* off into fresh *Bottles*, and the Settlement by it self into other *Bottles*, which you may afterwards separate again as it groweth fine.

Goosberry
wine.

Seck. 9. To make *Goosberry wine*: Gather the fruit before they are too ripe, and for every six pound of *Goosberries*, take two pound of *Sugar*, and two quarts of *Water*, stamp the *Goosberries*, and steep them in the water and sugar twenty-four hours, strain them, and put the liquor Into a vessel close stopt for a fortnight or three weeks: Draw it off if you find it fine, if not, let it stand a fortnight longer, and then draw it into *Bottles*; but if it be not then fine, rack it, or use *Ising-glass*.

Others gather the *Goosberries* full ripe, and use the like quantity of water and *Sugar*; but put not the *Sugar* in till they have press'd the liquor from the *Goosberries*, after they have lain in steep twenty-four hours, and make excellent Wine. The *Goosberry* Skins after pressing, and the Lees mix'd of any strong Tiquor, also the Lees of the *Goosberries* themselves make excellent Brandy.

Delicate Wines are made these ways upon *Experience*; but if you desire to make a greater quantity of liquor of your *Fruit*, you may either for *Raspberry*, *Curran*, or *Goosberry Wine* add more water, and make them after this manner.

Seck.

Señ. 10. For every pound of ripe fruit ^{Another way.} stamp, take a quart of spring-water, and a quarter of a pound of fine white sugar, boil the water and sugar, scum it and put in the juice of your Fruit, let it boil up again, take it off the fire, run it through a hair sieve, and when it's thoroughly cold put it in a stean-pot or Vessel, after six or seven days draw it out into Bottles, put into each Bottle the quantity of a Nutmeg of Loaf-sugar. It will not be fit to drink under a quarter of a year's time, and will keep good a year.

According to this last direction you may also make *Cherry Wine*, or to make it stronger, use no more water than juice of the *Cherries*.

Señ. 11. *Cherry Brandy* is usually ^{Cherry Brandy} made with black *Cherries*, by filling a Bottle half full of *Cherries*, and putting in *Brandy* till the Bottle is near full; shake it sometimes; within a Month it will be ready to drink.

If you put the like quantity of *Goosberries* instead of *Cherries*, it will make the *Brandy* very delicious.

If you do so also with *Rasberries*, putting in some Sugar, the *Brandy* will be dulcified, and have a fine Flavour.

Seç. 12. Since I have spoke of *Liquors* of the *Fruits*, it may not be impertinent to add something of the *Liquors* extracted out of the *Trees* themselves. It's most practised in *England* on *Birch-trees* (which are besides my *Discourse*) yet may it be (as it is) on *Fruit-trees* in other *Countries*, here. In particular, the *Walnut-tree* affordeth this *Liquor* plentifully. It is usually done by penetrating the body of the *Tree* with an *Augur*, and putting in a *Faucet*, from which the *Liquor* is received in a *Bottle* or other proper *Receiver*; but less damage may be done to the *Tree*, and more *Liquor* attained, by cutting of the ends of some superfluous *Branches*, of such a size as fit the *Mouths* of *Bottles*, and by hanging several *Bottles* on such *Branches*, thrust in them, to be done in *March* and *April*. And after the *Liquor* is received, to every *Gallon* add a *pound* of *Sugar*, or a *quart* of *Honey*, boil it half an hour, set it to cool, add *Yeast* or *Barm*, tun it up when a little fermented, and, if you please, hang in a *Bag* of *Spice* (*viz.*) *Cinnamon* and *Mace* bruised, stop it close; in a *Month* bottle it; it's quickly ready to drink, but will not keep long.

Seç.

Se^t. 13. If you have *Sider* (of no better worth than to make *Vinegar*, or) where *Wine-Vinegar* is not easily had, to procure it of *Sider* you may draw off your *Sider* as fine as you can into another Vessel, and add a small quantity of the *Must* or *Pouze* of *Apples*; if you can have a conveniency put it in the Sun, and at a week or nine days end draw it off. Now if you design this, you must keep a Cake of *Must* or *Pouze* in a dry place, till you have occasion to use it, and use not such of it as is mouldy or smells musty.

Ill *Sider* distill'd in a Limbeck yields excellent Spirit, fit for any use as Brandy.

Se^t. 14. To make excellent Wine with *Elderberries*, very like Claret-wine, and exceeding the ordinary Claret in strength.

Take what quantity you please of *Malago Raisins* chopp'd very small, to every pound of them put a quart of water, and let them stand in an open Vessel with a Cloth cast over for the space of a week or nine days, stirring them wet every day: Then draw off what Liquor will run, and strein the rest out of the Raisins by pressing, and tun it

up in a Barrel, and unto every Gallon of this Liquor add a Pint of the Juice of ripe *Elder-berries* cold (after it hath boil'd and scumm'd) so let it stand close stopp'd about six weeks, then draw it off as far as is pretty fine into another Vessel, and add half a pound of ordinary Sugar to every Gallon of Liquor, and when it's perfectly fine draw it into Bottles.

CHAP.

C H A P. XVI.

Of Greens and Green-houses in General.

SECT. I. *Greens* retaining their Beauty in the *Winter* as well as *Summer*, Introduction are deservedly affected by the *Curious*: I have therefore to my former *Treatise* of Fruit-trees, added some *Chapters* of them, sufficient (I hope) to improve any ordinary *Artist* in *Planting*, both in the propagating and preserving of them, and somewhat to *entertain* Gentlemen and Ladies that delight therein.

I shall first lay down some *general Rules*, which may one way or other concern them all, and afterwards treat of some of them in particular.

There

There are five ways or means by which they are raised or encreased.

1. By *Seeds* or *Berries*.
2. *Graffing* and *Inoculating*.
3. *Suckers*, or *Off-sets*.
4. *Layers*.
5. *Cuttings* or *Slips*.

The first of these must be treated off under each particular Plant so raised, because the *manner* of propagating them by Seed is not always to *several* kinds in the same Method.

As to the second, The several ways of *Graffing* and *Inoculating* are already plainly and fully directed in the fourth and sixth Chapters of this *Treatise*, and which kinds are to be so encreased, shall be mentioned when I come to write particularly of them.

Touching the three last I shall give some *general Rules*, which will serve alike for all that are to be raised *those* ways, as follows :

Of *Suckers*.

Sect. 2. By *Suckers* or *Off-sets* is understood young Shoots from the Roots of a Tree, &c. of the same kind and nature with the Tree from which they spring ;

spring ; for such which grow from *Trees* that were raised by *Grafting* or *Inoculating* follow the nature of the Stock.

These *Suckers* sometimes (and of some kinds usually) put forth near the Body of the Mother Plant ; others at more distance, the last are the best, where they can be had ; yet the former removed in a seasonable time (*viz.*) when there is least Sap in the top, and *preserving* what fibrous *Roots* are upon them, often prosper well ; therefore when you take them up, open the Ground very well as deep as they grow, and (if they grow from the *Body* of the Tree or great *Roots*) cut them off *close* to the Stem, and set them presently. As for such that grow at more distance, you may take up a little of the *old* Root with them (if they have few or none of their own putting forth) and yet do the old Plant no hurt.

By *baring* the *Roots* of *Trees*, and *slitting* them in some places, they are made more apt to put forth *Suckers*.

Seet. 3. To raise *Trees* or *Shrubs* by *Of Layers*.
Layers, cover some of the low *Branches*, of such *Trees* or *Shrubs* you would raise from,

from, with good fat Mold, leaving their ends out, until they are rooted, and then cut them off; such that grow so *high* that they will not easily *bend* or *yield* to the Earth, may be *slit* as in plashing, and so brought down: Or if more be desired to be raised than you can bring *Branches* down to the Earth, it may be done by Circumposition, as Chapter 9.

And further, if you would have *plenty* of encrease of any Plant in a *Pot* or *Case* it's easily effected, by making a *hole* in some Ground that is not very wet or stiff, so deep that when the *Pot* is in the hole the *Branches* may be even, or a little above the *surface* of the Earth; then lay fast Mold or good Earth as high as you please about the *body* of the *Plant*, letting as many of the *ends* of the *Branches* as you can appear out of the Earth: As the Mold *sinks* or *falls down* renew it: Let the *Plant* continue the whole *Summer* thus with watering frequently if it be of such kind as ought to be *hous'd* in the Winter; but if it be such that will bear the Weather *abroad*, let it abide a whole *year*, and then abating the Earth. Cut off each *Branch* that is *rooted*, and plant it where, and as the

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the kind requireth, and water them as soon as set, and let them not be exposed to any extream *heat* of the Sun till well settled.

The time for laying is in the beginning of *Spring*, or *Autumn*; in the Month of *August* is the surest and least trouble; those laid in the spring requiring frequent *Waterings* in the Summer time.

Those that are not apt to strike root plentifully, may be help'd by *slitting*, *nicking*, *pricking* with an Awl, or *tying* a Packthred about the place that is put into the Earth to take root.

Seck. 4. Very many of ever-green Plants will take by *cutting* or *slipping off* ^{Of Cuttings or Slips.} a Branch or Sprig, and setting it in fine moist Earth. In most kinds the best time is from the middle of *August* to the middle of *April*. The *Sap* ought not to be too much in the *top* when its done, lest it die or decay before that part in the Earth has *Roots* sufficient to maintain the top; neither ought it to be very *dry* or *scanty*, for the *Sap* that is in the Branch helps it to strike *Roots*. If it be done in *Spring*, let them not fail of water in the *Summer*.

When

When you provide them, cut off such *Branches* as have *Burs*, *Knobs*, or *Joints* two or three inches beneath them, strip off the *Leaves* so far as you place them in the *Earth*, and leave thereon no *side Branch*, nor but little *top*; Sprigs of *two* or *three* Years growth are the best for this operation. Some advise to *slit* the end that was cut off, before you set it.

Whatever *Tree* or *Plant* you find in the direction following may be rais'd by *Cuttings*, the growth thereof is much facilitated by being made a *Layer*.

Of Green-houses.

Señ. 5. Many choice *Greens* will not in our *Climate* bear the *Winter's* cold abroad, wherefore it is necessary to have a *House* or *Conservatory* for such.

Green-houses are of late built as *Ornaments* to *Gardens* (as *Summer* and *Banqueting-houses* we formerly) as well as for *Conservatories* for tender *Plants*; and when the *Curiosities* in the *Summer time* are dispersed in their proper places in the *Garden*, the *House* (being accommodated for that purpose) may serve for an *entertaining Room*.

A *Green-house* ought to open to the *South*, or very little declining to *East* or *West*; it's *height* and *breadth* about 12 foot, and not exceeding, for the more advantage of the *Sun-beams* and *Air*; the *length* according to the number of *Plants* intended for it: Let it by no means be *plastered* within with *Lime* and *Hair*, because *dampness* (the great Enemy to most of these *Plants*) is observed to continue longer on such *Plaster* than on *Bricks* or *Wainscot*: One part of it may have *Trills* made under the *Floor* for carrying warmth from the *Stoves* made on the back-side of the *House*, the better to preserve it from cold or dampness, and this to be reserv'd for the most *tender* *Plants*, being thought to be much better than *Fires* hung up; or placed in holes on the *Floor*, as hath been usually practised, though in extremity of weather that way may be sometimes used in the other part of the *House*; and if *Charcoals* be used in *Pans*, let them be well *burnt* before they are put into the *Houses*; *Coals* out of *wood-fire* or *Ovens* will serve very well. Some Persons use *Glass-doors*, *Casements*, or *Chases*, I think *Canvas* *Doors* better; whatsoever it be, they ought to be placed

ced at such distance from the *Wain-scot* Doors, that in extremity of weather *Mats* may be set up between them. If *Canvas* Doors be used, they may be made to take off and put on at pleasure, that if the House be used for *Entertainment* in the Summer time they may be laid aside.

Mr. *Evelin* hath offer'd a very probable way of *warming* and *refreshing* the Plants in the *Green-house* with *Pipes*; which you may see fully described in his *Kalendarium Hortense* of the last Edition.

Seet. 6. But if any one desire a *Green-house* (the like whereof upon experience in the sharpest Winters hath preserved the choicest Plants) with less expence or trouble than any other (for such that value it only thereupon, and not for *Ornament*) it may be thus made.

In any place where the Ground is dry, and annoyed by no spring or soak of *Water* (the nearer the Garden the more convenient) dig as for a *Cellar* or *Vault* about six Foot deep, and ten Foot wide, of such length as may be necessary to contain the Plants you would reposit.

Wall

Wall up the *sides* with *Brick*, and make a pair of *Stairs* at the one end of the whole breadth, the better for two Men to *carry* up and down large Boxes or Cases between them; or if any one will use a *Crane* to let down and take up the Cases, a *Ladder* may be sufficient without *Stairs*. For the *Cover* of it let it be made of *Fetheridge Boards*, in the nature of several *Doors*, with *Hinges* fix'd on them, to be put on *Hooks* fastned in a piece of *Timber* lying on the *North-side*, rais'd a Foot higher than the *South side*, that the *Cover* may by *shelving* a little, the better to *carry off* Rain-water, and between every pair of *Doors* let there be a *Joyce* laid for them to rest upon; let a *Rope* (or two, if the *Doors* are broad) be fastned unto the *South-end*, or fore-part of each *Door*, and a *Frame* of two *Rails* on the *North-side* of the *Conservatory*, that the *Ropes* may be drawn over that one *Rail* to raise the *Doors* for opening the *Cover*, and be fastned to the other *Rail* when the *Door* is at such height as is requisite, whereby as the Season is, the *Doors* may be raised and stand at what *height*, and as few, or ma-

ny as is necessary to admit the *Air* and *Sun-beams* to the Plants therein.

In very sharp weather let *Fearn*, or some kind of *Straw* be laid on the *top* of the Boards, that the *Wind* may not pierce thereinto.

I know any kind of *subterraneous Conservatory* hath already been condemned in Print, as being too *moist* for the *Plants*; and I question not but on the first reading this may be obnoxious to the same Fate, but whether such a Censure be reasonable or not, I shall not concern my self, since I have matter of *Fact* on my side. And there needs no great Philosophy to prove, the *dry Quality* of Earth, and that a House or Room *above-ground*, exposed to all sorts of Weather and Air is affected with *Mists* and *Vapours* (as well as by all consent they are with *Frosts*) much more than such a House or Room that lies not above the Surface of the Earth.

A *Green-house* somewhat like the former, and very useful, and less troublesome, might be contrived in a spot of Ground that already is, or can be convenient-

veniently made like a *Gravel-pit*, the *back-part* and *ends* to be below the *Surface* of the *Earth*, and the *Front* open to the *Air* with *Doors* as the first, and a *Roof* shelving forward, if there can be a *passage* to carry away the *Rain-water*.

Seç. 7. Orange Trees, and some of the *tenderest* Plants ought to be put in the *Conservatory* commonly in the beginning of *September* (sometimes the *Weather* is so favourable they may stay out longer) and not set forth until the end of *April* or beginning of *May*; respect must always be had to the *Climate* and quality of the *Weather*. At first putting into the *House*, and for some time before they are taken out, and at any time when the *Sun* shines, if the *Wind* be not sharp, or *Frost* severe, at least-wise in the *middle* of the day, the *Door* must be open. The more *Air* they have (if the *Season* admit it) the *healthier* they may be expected. Mr. *Evelyn* in his *Calendarium Hortense*, and Mr. *Gilbert* in his *Vade Mecum* have divided all Plants proper for the *Green-house* into

O 2

three

General
Rules for or-
dering Greens

three *Classes*, shewing which are most tender and more hardy.

Upon every *Removal* in or out of the House, which will be *twice* every Year, *refresh* the Trees in the Pots or Cases with good Earth, *taking* some of the old out, and *loosening* what lies among the Roots: Let the Earth put in lie *higher* than the out-side of the Pot or Case, because it will *sink*.

As soon as the Trees, &c. are put in or out of the House (having been refreshed with Earth, as aforesaid) give them *Water* plentifully, even till it runs out at the bottom. After long *Frosts*, if the Earth be *dry*, give them *Water* also; and when they are abroad in *May*, *June*, and *July* (unless there be great Rain) most kinds will bear it *twice* a week; in *August* and *September* *once* in ten days may suffice.

As they grow *bigger* they ought to be removed into larger Pots, Boxes, or Cases; the most convenient time for such removals is the beginning of *April* generally; some *hardy* Plants may be

be removed sooner : To perform it, lay a Course of *Rubbish*, as Brick bats, Chips, and Sticks orderly, that wet may *pass* through in the bottom of the Pot, Box, or Case you design to *remove* the Plant into, about three inches *thick* more or less according to the bigness of it, and upon that lay a *course* of good Earth press'd down hard, as *high* as the middle of the Pot, &c. Then remove the *Plant* out of its former Pot in this manner, with a *Trowel* or otherwise take the Earth out that lies near the *Pot-sides* round about the *Roots*, and part of that on the *top* of the *Roots*, and then *draw* the Plant gently out, with as much Earth as will hang upon it, such *Roots* as are bare *shorten*, and if they grow *thick* or *cross* one another, separate and thin them, and then having fitted the Earth as aforesaid in the new Pot, &c. for receiving the *Roots*, place the Tree in it, and *press* the Mold about it, *water* it very well, and let it stand in the *Conservatory* a while after, till the Season is fit to set it abroad.

Much of this Direction will serve for the first *Planting Greens in Pots.*

Before *Plants* are removed out of the House, they ought to have the *Dust* and *Filth* brush'd off them, and then wash'd with a *watering Pot*; and do this as oft in the *Summer* as they are dusty, it will preserve them *beautiful*.

And this is what shall be said in *general*, with this only Addition, That it is a great *fault* in *Gardeners* to bring up those *Plants tenderly* in Houses, some whereof in any place, others in good *warm* places under *Walls*, will bear almost any *Winter*, unless there be a great *extremity* of Cold, when a little covering with *Mats* may be necessary; for all Persons find, that notwithstanding great *Skill* and *Care* used, many hous'd *Plants* become *feeble* and *unhealthy*, and some *perish*.

C H A P. XVII.

*Of several Plants in Particular.*SECT. 1. Of *Oranges* and *Lemons*. Sowing Seeds.

Sow the Seeds of well *ripe* or *rotten* *Oranges* (the *Confectioners* can help one to plenty) on a *Hot-bed*, somewhat *decay'd* or *cold*, in the beginning of *April*, the breadth of two or three fingers deep in trills or holes prickt in; keep them there with convenient *watering* untill the end of *July* or beginning of *August*, and then with some *Earth* about the roots *transplant* them into *Pots*, four or five of the lustiest in each *Pot*, water them and as the weather grows cold cover them in the nights till *November*, and then they ought to be put in the *House*: Or else let the Seeds be at first sowed in *Pots* in the *Spring*, and place the *Pots* in *Hot-beds*, and this is the best way.

And according to the *general* rules before laid down, preserve them untill they are *big* enough to enoculate, which is to be done in *July* or *August*, or as some will have it done in the beginning of *April*, placing two buds *opposite* to each other, within an inch of the Earth they stand in, or else graff them by *approach* in the Month of *May*.

Sect. 2. Trees may be bought *ready rais-* they come out of *Italy*, if they can be had in *April* or the beginning of *May* its a good Season. These come with the roots *bare*, or in *clods* of Earth.

Of buying
Trees ready
graff'd.

Those which come with *bare* roots have commonly their heads bare of *leaves*. If it be not done before, they are to be *trim'd* from head to foot, (that is) all the small *twigs* of the head cut off close, and the *big* ones shortened, so as to bring it when it shoots forth to a proper *round* figure, and all such small or fibrous roots as are *dry*, and others as far as they are *dead* taken off clear and even.

This

This done *plunge* the roots for five or six hours in common water, and then plant them in prepared Earth in *baskets*, and set the baskets in a moderate *hot-bed*, made in a *shady* place (or else the Trees ought to be *covered* from the piercing heat of the Sun, with mattraces on frames over them, or some such like covering) and thus with moderate *watering* (so as the mold may be a little moist) let them *remain* all the Summer in the *hot-bed*, and in the middle of *September* (sooner or later as the weather is foul or favourable for that time of the year) *remove* them into the Green house, put the *baskets* into the *Cases* fitting for the Trees, and laying Earth about them, the baskets will rot time enough for the roots to strike through.

As for Trees brought into *England* with *clods* of Earth upon them, the Tops must be *trim'd* as the other, and *pare* a little of the Clods, so as to come at the Roots and *cut* a little off the ends of them, then with care *plunge* the clod into water and continue it, untill it hath

hath given over *bubbling*, being then taken forth whole, let it *drein* a little, and then place it in a *basket* with earth and order it as the former.

Some put *Soft-wax* on the heads cut off. I think it's needless untill the Tree hath *shot-forth*, and then the top ought to be *cut* close to the best placed, strong, uppermost *shoot*, and be covered with *clay* as in *Graffing*, or a mixture of *Bees-wax* and *Oyl* in such proportion that it may be *plyable* and work in your hand. But for several reasons *clay* wrought with pretty long hay is best.

Though some of those bought, should not *shoot* forth the *first* year, yet cast them not a way, for they *may* afterward.

Of preparing
Earth.

Seet. 3. The best Earth for the *Pots* or *Cases* is thus prepared; Take good natural ground next under the *Turf* free from Stones, rather solid and heavy than over light (or if you have time to let it lie to *rot Turf* and all) mix this with

with half as much *Sheeps-dung* or *rotted Neats-dung*, or for want of such, the *dung* of an old Hot-bed, and thus being mixt, it may be used *new made*, but it's much better, if mixt and *layn* sometime on a heap, and *screen'd* when it is to be used. After this manner is prepared Earth or Mold for *Planting*, *Removing* or *Refreshing* Orange Trees.

Sect. 4. Besides the former *pruning* at Of Pruning. the first planting Orange Trees, it ought to be done twice in a year at least, to keep them in handsome *shape* and *form*: A Stem of three or four foot high may be most suitable for Trees in *Cases*.

The Figure of the *Top* ought to be a *broad-round*, a little *Piramidical*, but not sharp, when ever it *shoots* so far on each side, as to enlarge it self above one *foot* in the Diameter, that's a sufficient *growth* for one year, and it ought to be reduc'd to that, at least if some shoots have grown longer that is above *half a foot* on any side they must be *shortned*, and care taken (as near as may be) to keep all *sides* of an

an equal *length* from the Stem, whether it hath grown more or less; No Sprigs must be permitted to *hang-down* further than they are a *cover* to the branch they grow upon, the much greater part ought to grow *slopingly upward*.

This with what is already laid down in the *general* directions I hope is sufficient *instructions* for the Ingenious.

Limon-Trees require the same Governance as the *Orange-Trees* do, only they are somewhat *less* patient of Cold.

Of

Of Bayes and Lawrels.

Seet. 5. **T**HERE are divers sorts of Bayes ; The common kind is not only a *well scented Tree*, but very *beautiful*, when duly ordered ; Being planted in *Pots, Boxes or Cases*, it may be kept in the shape and size as *Orange-Trees* are, or planted abroad it may be permitted to grow to a considerable *height*, and almost of what shape the manager pleaseth.

They are raised by *Berries, Suckers* or *Layers*. But I may lay down this Assertion in respect of these and generally of most Plants (*viz.*) That those which are of *slow growth*, make *less* progress therein, and are *less* beautiful, when raised by *Layers*, than those that rise from *Berries*, or good *Suckers*.

As

As to raising the *Bay-tree* of *Berries*; they must *hang* on the *Tree*, untill they are dropping *ripe*, and be gather'd *dry*, and put in *dry Sand* to lie in the *Winter*, and set in *Rows* or *Trills* in *March*: For the first two or three years, they should have some *covering* in cold weather, the sharp *East* and *North* Winds are more pernicious than *Frost* or *Snow*: At other times the *Air* is good; they delight most in somewhat a *shady* Place, but a *hot* gravelly Land.

They are proper for *Hedges* or *Arbours*, but the most beautiful use of them (if you are not willing to be at the charge and trouble of *casing* and *housing* them) is to plant them on *Borders* near *Walks*, and prune them up clear for three or four *foot*, and then order the *top* to what shape you please, it will grow *thick* and *full* of Branches.

The *Rose Bay* is of two sorts, one bearing *red* the other *white* Flowers, but bear no *Seed* with us.

The

The *Indian Bay* is a *slow* grower and *tender*, requiring to be hous'd in the winter, 'tis *encreas'd* by *Layers*.

Laurustinus is of *two* sorts; the one hath *white* Flowers with *blush* edges, the other enclined to *purple*, flowering in the winter; both sorts grow by a *Wall* or *Pale* very well, bear *Berries* from *which* or *Layers* they are easily encreased. They may be set in *Pots* or on *Borders*, and being supported by a *Stick* kept *straight*, and have *round* heads, and so ordered will be very handsome, and *double* the growth of *Bays*.

The common *Lawrel-tree*, were it *Aromatick* as the *Bay* is, I think in many respects would *exceed* it, being easily *propagated* the same way, and of much swifter and stronger *Growth* than it or any other such like *Green*. It may either be kept *low* or suffer'd to grow to what *height* reasonably can be desired, cut in any *figure* or *shape*, it abides all *weathers*; not but that sometimes

times a *tender* shoot may *die* in part, but that cut off to the next bud or branch will make amends by its growth next year; I much wonder it is not more used for out *Walks* and *Avenues*, it's commonly employ'd to *cover* bare Northern Walls, and for Hedges, wherein also nothing comparable to it, comes *sooner* or prospers *better*, it grows very well of *Layers*, and some *Cuttings* in moist and shady ground will take well.

Of Holly and Yew.

Sect. 6. **T**Hese are two common *English Greens*, which for *Avenues*, *Groves* and the first for *Hedges* I think nothing excells, their only fault is the *slowness* of their growth.

They

They are propagated by *Seeds*, which seldom comes up the *first* year. They ought to be full *ripe* before gathered, preserved in dry *Sand* until *March*, and then Set or Sowed in a *shady* place in *moist* ground and watered in the Summer.

This is certainly the *best* way to have plenty of them, and *curious* trees, though the sooner will be to get *seats* of them out of *Woods* and *Hedges*, and of such *seats* as came from *Berries* (gathered about *Allhallowtide*) scarce one will *fail*, but some persons employ'd to gather these *seats* go to a *Holly Bush* and take off the lowest *branches* that have made themselves *Layers*, and got some little *Root*, and bring these for *Planting*, many or most of which commonly *miscarry*, though certainly with a little *Art* (*viz.* casting in Earth among and upon the *branches* that grow near the ground, in a *years* timere the might plenty of good *Layers* be had.

P

If

If you plant a Holly Hedge of *seats* that are a foot or more *long*, after a *years* growth *lay* them down and *cover* with Earth all except a branch or two of the *Top*, and they will shoot forth *thicker* and *stronger* from that part *laid* down and come *sooner* to a better hedge than otherwise.

It may be an Additional *grace* to a Holly Hedge, if at *two or three yards* distance, you *graff* or inoculate one of them, with a *Striped* Holly and suffer it to grow up *above* the Hedge to what *height* and in what *Figure* you think good.

These *Hedges* are very proper, to be set within a *Pale*, that stands for a *defence* to Fruit, that grows on the out side of a *Garden-wall*; and may be kept *cut* at what height is best, regard being had to the *nearness* it grows to the wall, which it ought not to give *shade* on. But its pricking it may be a means to *deter* some *Robbers*.

In

In many Countries there grow such plenty of *Holly-Trees* and *Eughes*, that one Man in a days time may find and get up, two three or four young Trees of eight or ten foot high, with good bodies, fit for Groves or some particular *Avenues*: Where such can be had many years advance is gained of raising by Berries or Seats:

There are divers sorts of *striped* or *variegated* Hollies, formerly a great rarity, and always very fine: these are encreased by *layers*, but much sooner by *grafting* or *inoculating* upon the Green Holly:

Of Cypress and Juniper.

Seēt. 7. **T**He Cypress is raised of Seeds. Sow them in *March* or in the beginning of *April* on a bed of fine Earth well pressed down, sift mold over them about an inch thick, water them always in dry seasons. After *three years* growth they ought to be transplanted, when you do it; cut off a hands breadth of the *Top*, and clip the *side* Branches, which being yearly shorn (it ought to be done in warm weather in *May*) may be kept furnished from the *top* to the *bottom* with green Branches and to grow in a *Piramidical* form very beautifully without binding (as is commonly practiced) for that hinders the growth of the *stem* or body in strength; If the top branch be weak, shorten it sometimes that it may shoot stronger.

Or

Or you may raise fine *hedges* of them, by sowing the Seeds in a Trill, and when they are grown two or three years, take up the *supernumeraries* for planting elsewhere, leaving them about a foot distance one from the other, which being kept *clipt* on the *top* and *sides* will make handsome ever-green *Hedges*.

Its a curious Tree for some peculiar *Avenues* which fancy may lead unto, which should be a *place* well defended from sharp *winds*, in such they have been known frequently to grow to a great *height* and very beautiful; it is a great *evil* that often befalls them in severe *Winters*, to have a great part of their branches *killed*. This mischief is not seen in a Tree that with due ordering may come very near it, in its beauties; that is

The *Juniper*, which, tho they grow in *Bushes* in the *Commons* where Cattle or Sheep brouze upon and crop them, yet have I seen them taken out of *Woods* with straight bodies eight or ten Foot long, but these (as all Trees

in Copſes are, were *weak* in their bodies) had not *ſtrength* in the Stem proportionable to their *height*, I doubt not but with due *ordering* they might be brought to handſome Trees for *Avenues*.

They may be raiſed plentifully from the *Berries*, or young *Plants* may be had out of many *Commons* in *England*, which being a little *trimmed* and planted, after a *years* growth may have the *crooked* part cut off, and the next ſhoots may grow up to ſtraight and handſome *Trees*: Or they will make curious *hedges* or *Arbours* being ordered accordingly.

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Of the Firr and Pine-tree.

Sect. 8. **T**HE Firr and Pine are raised from *Seeds* or *Kernels*, which are lodg'd in *Cones* or *Apples* that grow upon those Trees, and are best taken out by exposing the *Cones* to the *Fire*, the heat whereof making them *gape*, will soon discover the *Seed*.

Sow them in *March*, rather in *Cases* than otherwise, that they may be *remov'd* from place to place as the *Season* requires. At first sowing place them near the *South-side* of a *Wall*; when they are come up, and the *Sun* *hot*, remove the *Cases* into a more *cool* and *moist* place. In the beginning of *Winter* return them to the former *Wall*: Thus do for at least the first three *Years*.

If you sow them in *Beds* of Earth, shade them from the *piercing* heat of the Sun-beams in *Summer*, and cover them lightly in *Winter*.

The Seeds ought not to be *set* or *sown* deep, but *covered* with light Mold: When they are *coming up*, let a *Net* or defence be set over them to prevent *Birds* plucking them up, which they are apt to do by taking hold of the *Husk* or remaining part of the *Seed*, that comes upon the young Plants *Head*. When they are about two inches *high*; sift *Earth* about them, to uphold their *weak* Stalks.

The first three or four Years they are *slow* of growth, and somewhat tender, but then you may *transplant* them, cutting off the *side* Branches, little of the *Roots*, and none of the *top*. If the place be *near* to which they are to be *remov'd*, preserve some of the *Earth* they grew in about the chief *Roots*, shortning the *ends* of such as hang out, and so set them.

There

There are several sorts of these *Trees*, all which require the like ordering, and suffer by *removing*, especially the *Pine*, which often miscarries: Therefore (if Circumstances will allow it) the best way is to raise them of *Seeds*, in the place where they are to stand, for thereby they would have much advantage in their *growth*, every *removal* retarding (if not endangering) the same: However, after they are well *rooted* they thrive very fast, in forty Years time growing to large *Timber*, where they like the Land.

They are very graceful in *Avenues* and *Groves*; and nothing is better to be planted about *Bowling-greens*, or such places where the *Leaves* of other *Trees* at their falling, become an Annoyance to the Ground.

An

An Addition by an Eminent Gardiner.

THE Firrs of all the kinds may stand in their Seed-beds for two Years after they are sown; and sometimes, in case they do not shoot much, they may stand to the third Year. But as for *Pine-trees* they ought to be planted out from their Seed-beds the first Year after they are sown; for they are Plants that generally run down into the Ground with a Tap-root, and are very difficult in growing after they are removed: So that the best way is to make the Ground fit where you intend they shall be planted, and so put in the Seeds. It's a Tree that grows very much in a few Years, when kept clean from Weeds, and suffered to continue where they are first sown, and are fit to be planted in large Wildernesses, and Groves

Groves near to Great and Noble
Seats.

Though it be a *speedy* Grower, yet
it must give place to the Noble Train
of *Firrs*, of which there are three sorts
usually rais'd in *England*, viz.

The *Silver*, The *Spruce*, and the
Scotch Firrs.

The *Silver Firr* must be allowed to
be the *finest*, though the *Spruce* and
Scotch Firrs are easier to be raised and
procured, the *Silver Firr* being some-
what *scarce*: But *Spruce Firr* is a No-
ble and a Useful Tree, fit to make *E-*
spaliers; a Method of *Planting* to be
pitied that it has not been put in pra-
ctice *sooner*, by reason of the great use-
fulness of it to break of the *cold* Winds
from all *tender* Greens and Plants, a
sort of *Fences* which will be of much
use in time. And these *Firrs*, being
so planted, will endure *clipping* very
well, and hereby grow very *thick*, and
make a very fine *Hedge*.

These

These sort of *Espaliers* were first put in practise at *Brompton Park*, where they are to be seen of several sorts, made of *Forest-trees*, *Fruit-trees*, and *Ever-Greens*.

Of *Phillyrea* and *Alaternus*.

Sect. 9. **P***hillyrea* is a *fine green* and *hardy* Shrub, yet in a very *sharp* Winter, upon an *East* Wall, it hath been *kill'd* almost to the Ground: However being cut *close down*, it hath quickly *grown* up. It may be raised by *Seeds*, but they are *long* in coming up, and it is easily encreased by *Layers* or *Cuttings*.

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Besides the Green there are divers *Variegations* of them, one of Yellow and Green, called the *Golden Phyllyrea*, another edg'd and strip'd with White called the *Silver*.

They are used to *cover* Walls, or for *Hedges*, and in little *Standards*, either on *Walk-sides* or *Corners* of *Grass-plots*, where being prun'd, clipped, and duly ordered, they are very beautiful, especially the *Silver*, which deserves care; therefore (if they are not in *Pots* to be hous'd) let them have a covering in *sharp* Weather by a *Mat*, or such like, to defend them.

Alaternus, or *Ever-green-Thorn*, is likewise a *fine Green* for Hedge or Wall, and either way will grow to a great *height* if permitted and supported: 'Tis very *hardy*, rais'd of *Seeds*, which are ripe in *August*: Some advise to gather it before it is very ripe. If the Seed be kept till *April*, and then sowed, it will come up in little more than a Months time.

There

There are some few more Evergreen *Shrubs*, and great variety of green *Plants*, curious in their kind, whereof some are *variegated*; for which, I hope, the Rules foregoing are sufficient.

The enumerating of them would serve to no other use than to swell this Volume to a greater Bulk than is designed; I rather chuse to refer you to the sight of them at *Brompton Park* before-mentioned, which, I am certain, will yield Pleasure and Satisfaction to those that will view them in their proper places.

Reader, I have no more (and I am pretty well assured there's little more necessary) to say to thee as a *Planter*; but when thou goest to work by these Directions, then, as a good *Christian*, observe the Characters of the Divine *Wisdom*, *Power*, and *Goodness*, that thou shalt every where meet with in this ingenious and beneficial Employment, and chiefly take notice how all ends in that which

serve

serve only for thy own use and pleasure; therefore praise and adore him, and observe his Bounds in the Enjoyment: And in so doing thou maist have the benefit of, and I will take my leave of thee, in the Words of him that spake of Trees: *From the Cedar tree that is in Lebanon, even unto the Hyssop that springeth out of the wall. Go thy way, eat thy Bread with joy, and drink thy wine with a merry heart; for God now accepteth thy works,* Eccl. 9. 7.

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La Cuisse Madam.
La Grand Blanquet.
La Petit Blanquet.
La Muscat Robert.
La Jargonelle d'este.
La poir sans peau.
L'Espargne.
La Bourdon.
L'Orange vert.
July Flower.
La Fondant de Brest.

La

A Catalogue, &c.

211

La Gros, } *Russelet.*
Le Petit, }
Pear Roshea.
Autumn Bergamot.
La Buree.
Greenfield.
La poir sans Pepin.
Pear Royal.
Katharine.
La Pendar.
La vert Longue.
La Marquiss.
La bon Chretien d' Autumn.
La Messieur Jean.
La Cressau.
La Louis bon.
L' Amadot.
La Virgoulee.
La Chassery.
L' Ambret.
La Petit Oin.
L' Espin d' Hyver.
La St. Germaine.
La Colmar.
La St. Michel.
La St. Andrew.
La Brut bon.
La Bugi.
Swan's Egg.

Q

14

A Catalogue of

La Bon Chretien d' Hyver.
La Liver, or Pound Pear.
La bon Chretien de Spain.
La Cadillac.

P L U M S.

La Perdrigon { *Violet,*
 Blanch.

La St Katharine.

Apricot Plum, or Prune d' Abricot.

La Roche Corbon.

L'Emprese.

La Reigne Claud.

L'Imperial.

La Royal.

La Violet.

L'Orleans.

Fotheringham.

Queen-Mother.

Damascen Noir de Ture.

Cheffon.

Mussel.

White Prunella.

Blue Frimorden.

Red Imperial.

Blue

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*A Catalogue of**La Persique.**La Bell de Gard.**La Purpree.**L'Admirable.**La Nivet.**La blanch Andille.**Lile Peach.**Mountabon.**Pafs Violet.**Old Newington.**Katharine.**Rambullet.**Persian.**Sion.***NECTRONS.***Violet hasting.**Red Roman.***VINES.**

VINES.

Early Curran.

Black Curran, or Cluster.

Royal,
White, } Muscadine.

Red,

Red,

White,

Greeflin,

Black,

} Frontiniack.

D'Arboy.

Pearl Grape.

FIGS.

White.

Blue,

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APPLES.

Golden,
 Russet,
 Kirton,
 Kentish,
 Pearsons,
 French,
 White-man,
 Dutch,
 Greasy,
 Stone
 Pepins.
 Pepin Pearmain.
 Golden Mundy.
 Non-pareill.
 Royal,
 Summer,
 Winter,
 Loans,
 Pear Russet.
 Golden Rennet.
 July Flower.
 Winch Apple.
 John Apple, or Deux-Anne.
 Carraway Apple.
 Quarandine.

Pome

Pome d' Apee.

Russet Rennet.

Green Rennet.

Harvey Apple.

Red-streak.

Codling.

Red Calvin.

Jennet Moyl.

Q 4

A

A Catalogue of *Greens* and *Blossoming Shrubs*.

Ever Greens Broad-leav'd.

Lawrels.

Hollies strip'd and plain, great varieties.

Alaternus strip'd and plain.

Phillyrea vera.

Laurus Tinus.

Arbutus.

Piracanthus.

Lentiscus.

Bayes.

Ilex.

Privet.

Box.

Ever

Ever-Greens narrow-leav'd.

Silver, }
Spruce, } Fir.
Scotch, }
Yew.
Cyprus.
Juniper } Swedisch,
 } Common.
 } Lebanon.
 } Goa.
Cedar of } New-England.
 } Lycia.
 } Virginia.
Savin.

Flowering Shrubs.

Laburnum.
Lelack } White,
 } Blue.
Syringa.
Spanish Broom.
Bladder Senna.

Double

*A Catalogue of Greens.**Double flower'd Ind. Almond.**Persian Jessamine.**Mezerian.**Althea Frutex.**Spira Frutex.**Scorpion Senna**Honey-suckles, all sorts.**Roses, many varieties.*

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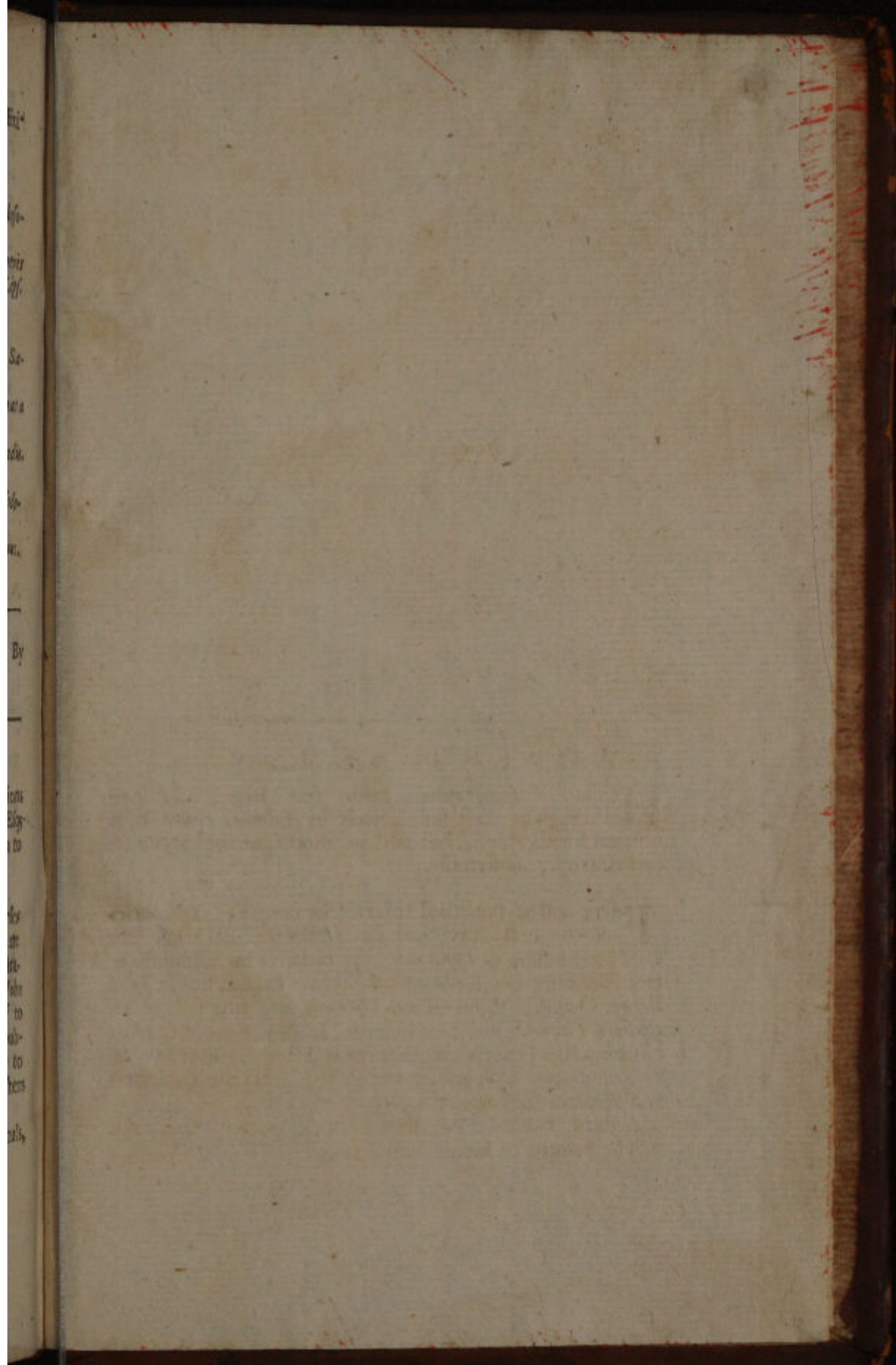
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