

The Project Gutenberg eBook of The English Husbandman

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*** START OF THE PROJECT GUTENBERG EBOOK THE ENGLISH HUSBANDMAN ***

Transcriber's note

Spellings are inconsistent, especially the use of ée and ee. Notes of changes that have been made for obvious misprints, and of other anomalies, are listed at the [end of this etext](#) and are indicated in the text.

The following table of contents has been added for the reader's convenience.

Contents

[To the Right Honovrable, and his singular good Lord, the Lord Clifton, Baron of Layton.](#)

[The Epistle to the generall and gentle Reader.](#)

[A Former Part](#), before the first Part: Being an absolute perfect Introduction into all the Rules of true Husbandry; and must first of all be read, or the Readers labour will be frustrate.

[Chap. I.](#) The Proem of the Author. What a Husbandman is: His Vtilitie and Necessitie.

[Chap. II.](#) Of the situation of the Husbandmans house; the necessaries there to belonging, together with the modell thereof.

[Chap. III.](#) Of the seuerall parts and members of an ordinarie Plough, and of the ioyning of them together.

[Chap. IIII.](#) How the Husbandman shall temper his Plough, and make her fit for his worke.

[Chap. V.](#) The manner of Plowing the rich, stiffe, blacke Clay, his Earings, Plough, and other Instruments.

[Chap. VI.](#) The manner of plowing the white or gray Clay, his Earings, Plough, and Instruments.

[Chap. VII.](#) The manner of plowing the red-Sand, his Earings, Plough, and Implements.

[Chap. VIII.](#) The manner of plowing the white Sand, his Earings, Plough, and Implements.

[Chap. IX.](#) The manner of plowing the Grauell with Pible stones, or the Grauell with Flint, their Earings, Plough, and implements.

[Chap. X.](#) The manner of plowing the blacke Clay mixt with red Sand, and the white Clay mixt with white Sand, their Earings, Plough and Implements.

[The First Part of the English Husbandman](#): Contayning, the manner of plowing and Manuring all sorts of Soyles, together with the manner of planting and setting of Corne.

[Chap. I.](#) Of the manner of plowing all simple Earths, which are vncompounded.

Chap. II. Of the manner of plowing the blacke clay mixt with white sand, and the white clay mixt with red sand: their Earrings, Plough, and Implements.

Chap. III. A comparison of all the former soyles together, and most especiall notes for giuing the ignorant Husbandman perfect vnderstanding, of what is written before.

Chap. IIII. Of the planting or setting of Corne, and the profit thereof.

Chap. V. Of the choice of seede-Corne, and which is best for which soyle.

Chap. VI. Of the time of Haruest and the gathering in of Corne.

The Second Part of the First Booke of the English Husbandman, Contayning the Art of Planting, Grafting and Gardening, either for pleasure or profit; together with the vse and ordering of Woodes.

Chap. I. Of the Scyte, Modell, Squares, and Fashion of a perfect Orchard.

Chap. II. Of the Nurserie where you shall set all manner of Kernels, and Stones, for the furnishing of the Orchard.

Chap. III. Of the setting or planting of the Cyons or Branches of most sorts of Fruit-trees.

Chap. IIII. Of the ordinary and accustomed manner of Grafting all sorts of Fruit-trees.

Chap. V. Of diuers other wayes of grafting, their vses and purposes.

Chap. VI. Of the replanting of Trees, and furnishing the Orchard.

Chap. VII. Of the Dressing, Dungging, Proyning, and Preseruing of Trees.

Chap. VIII. Of the Vine, and of his ordering.

Chap. IX. The office of the Fruiterrer, or the Gatherer, and keeper, of Fruit.

Chap. X. Of the making of Cyder, or Perry.

Chap. XI. Of the Hoppe-garden, and first of the ground and situation thereof.

Chap. XII. Of the ordering of the Garden, and placing of the Hills.

Chap. XIII. Of the gathering of Hoppes, and the preseruing of the Poales.

Chap. XIIIII. Of drying, and not drying of Hoppes, and of packing them when they are dried.

Chap. XV. The office of the Gardiner, and first of the Earth, Situation, and fencing of a Garden for pleasure.

Chap. XVI. Of the fashion of the garden-plot for pleasure, the Alleyes, Quarters, Digging and Dungging of the same.

Chap. XVII. Of the adoration and beautifying of the Garden for pleasure.

Chap. XVIII. How for the entertainment of any great Person, in any Parke, or other place of pleasure, where Sommer-bowers are made, to make a compleat Garden in two or three dayes.

Chap. XIX. How to preserue Abricots, or any kinde of curious outlandish-stone-fruit, and make them beare plentifully be the Spring or beginning of Summer neuer so bitter.

Chap. XX. How to make Grapes grow as bigge, full, and as naturally, and to ripen in as due season, and be as long lasting as either in Fraunce or Spaine.

THE
ENGLISH
HVS BANDMAN.

The first Part:

CONTAYNING
the Knowledge of the true Nature
of euery Soyle within this Kingdome:
how to Plow it; and the manner of the
Plough, and other Instruments
belonging thereto.

TOGETHER WITH THE
Art of Planting, Grafting, and Gardening
after our latest and rarest fashion.

A worke neuer written before by any Author:
and now newly compiled for the benefit
of this KINGDOME.
By G. M.

Bramo assai, poco, spero nulla chieggio.

LONDON:
Printed by T. S. for *Iohn Browne*, and are to be sold
at his shop in *Saint Dunstons Church-yard*,
1613.

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TO THE RIGHT
HONOVABLE,
and his singular good Lord,
the Lord *Clifton*, Baron of
LAYTON.

[13] **I**t was a custome (right Honorable, and my most singular good Lord) both amongst the auntient *Romans*, and also amongst the wise *Lacedemonians*, that euery idle person should giue an account of the expence of his howers: Now I that am most idle, and least employed in your Familie, present here vnto your Lordships hands an account of the expence of my idle time, which how well, or ill, it is, your Noble wisdomes must both iudge and correct; onely this I am ascertain'd, that for the generall rules and Maximes of the whole worke, they are most infallibly true, and perfectly agreeing with our English climate. Now if your Lordship shall doubt of the true tast of the liquor because it proceedeth from such a vessell as my selfe, whom you may imagine vtterly vnseasoned vvith any of these knowledges, beleuee it (my most best Lord) that for diuers yeeres, wherein I liued most happily, I liued a Husbandman, amongst Husbandmen of most excellent knowledge; during all which time I let no obseruation ouer-slip me: for I haue euer from my Cradle beene naturally giuen to obserue, and albe I haue not that oylie tongue of ostentation which loueth euer to be babling all, and somewhat more then it knoweth, drawing from ignorance admiration, and from wisdomes laughter, filling meale-times with much vnprofitable noyse; yet I thanke my maker I haue a breast which containeth contentment inough for my selfe, and I hope much benefit for the whole Kingdome; how euer or whatsoever it is, it is all your Lordships, vnder the couert of whose fauourable protection if it may finde grace it is the vttermost aime whereunto my wishes aspire, nor shall I feare the malignitie of the curious, for it is not to them but the honest plaine English Husbandman, I intend my labours, vvwhose defender you haue euer beene, and for whose Honorable prosperitie both they and I will continually pray.

*Your honours in all
seruiceable humblenesse,*

G. M.



The Epistle to the generall and
gentle Reader.

Although (*generall reader*) the nature of this worst part of this last age hath conuerted all things to such vildnesse that whatsoever is truly good is now esteemed most vitious,


learning being derided, fortitude drawne into so many definitions that it consisteth in meere words onely, and although nothing is happy or prosperous, but meere fashion & ostentation, a tedious fustian-tale at a great mans table, stuf with bigge words, with out sence, or a mimicke Iester, that can play three parts in one; the Foole, the Pandar and the Parasit, yet notwithstanding in this apostate age I haue aduentured to thrust into the world this booke, which nothing at all belongeth to the silken scorner, but to the plaine russet honest Husbandman, for whose particular benefit, and the kingdomes generall profit, I haue with much paine, care, and industry, passed through the same. Now for the motiues which first drew me to vndertake the worke, they were diuers: as first, when I saw one man translate and paraphrase most excellently vpon Virgils Georgickes, a worke onely belonging to the Italian climbe, & nothing agreeable with ours another translates Libault & Steuens, a worke of infinit excellency, yet onely proper and naturall to the French, and not to vs: and another takes collections from Zenophon, and others; all forrainers and vtterly vnacquainted with our climbes: when this I beheld, and saw with what good liking they were entertained of all men; and that euery man was dumbe to speake any thing of the Husbandry of our owne kingdome, I could not but imagine it a worke most acceptable to men, and most profitable to the kingdome, to set downe the true manner and nature of our right English Husbandry, our soyle being as delicate, apt, and fit for increase as any forraine soyle whatsoeuer, and as farre out-going other kingdomes in some commoditie, as they vs in other some. Hence, and from these considerations, I began this worke, of which I haue here sent thee but a small tast, which if I finde accepted, according to mine intent, I will not cease (God permitting mee life) to passe through all manner of English Husbandry and Huswifery whatsoeuer, without omission of the least scruple that can any way belong to either of their knowledges. Now gentle reader whereas you may be driuen to some amazement, at two titles which insue in the booke, namely, a former part before the first, and the first part, you shall vnderstand that those first sheetes were detained both from the Stationer and me, till the booke was almost all printed; and my selfe by extreame sicknesse kept from ouer-viewing the same, wherefore I must intreate your fauour in this impression and the rather in as much as there wanteth neither any of the words or matter whatsoeuer: Farewell.

Thine
G. M.



A
FORMER PART,
before the first Part: Being an absolute
perfect Introduction into all the
Rules of true Husbandry; and must first of all be
read, or the Readers labour will be frustrate.

The Proem of the Author. What a Husbandman is: His Vtilitie
and Necessitie.

t is a common Adage in our English spéech, that a man generally séene in all things can bée particularly perfect or compleate in none: Which Prouerbe there is no question will both by the curious and enuious be heauily imposed vpon my backe, because in this, and other workes, I haue delt with many things of much importance, and such as any one of them would require a whole liues experience, whereas neither my Birth, my Education, nor the generall course of my life can promise no singularitie in any part of those Artes they treat of: but for suggestions (the liberty whereof the wisdom of Kings could neuer bridle) let them poison themselues with their owne gall, they shall not so much as make me looke ouer my shoulder from my labour: onely to the curteous and well meaning I giue this satisfaction, I am but onely a publique Notary, who record the most true and infallible experience of the best knowing Husbands in this land.

[A2v]

Besides, I am not altogether vnséene in these misteries I write of: for it is well knowne I followed the profession of a Husbandman so long my selfe, as well might make mee worthy to be a graduate in the vocation: wherein my simplicitie was not such but I both obserued well those which were estéemed famous in the profession, and preserued to my selfe those rules which I found infallible by experience. *Virgill* was an excellent Poet, and a seruant, of trusty account, to *Augustus*, whose court and study-employments would haue said he should haue little knowledge in rurall businesse, yet who hath set downe more excellently the manner of Italian Husbandry then himselfe, being a perfect lanthorne, from whose light both Italie and other countries haue séene to trace into the true path of profit and frugallitie? *Steuens* and *Libault*, two famous Phisitions, a profession that neuer medleth with the Plough, yet who hath done more rarely! nay, their workes are vtterly vncontrolable touching all manner of french Husbandry whatsoever; so my selfe although by profession I am onely a horse-man, it being the predominant outward vertue I can boast of, yet why may not I, hauing the sence of man, by the ayde of obseruation and relation, set downe all the rules and principles of our English Husbandry in as good and as perfect order as any of the former? there is no doubt but I may and this I dare bouldly assure vnto all Readers that there is not any rule prescribed through this whole worke, but hath his authoritie from as good and well experienced men, in the Art of which the rule treateth, as any this kingdome can produce: neither haue I béene so hasty, or willing, to publish this part as men may imagining, for it is well knowne it hath laine at rest this many yéeres, and onely now at the Instigation of many of my friends is bolted into the world, to try the censure of wits, and to giue aide to the ignorant Husbandman. Wherefore to leaue off any further digression, I will fall to mine intended purpose: and because the whole scope of my labour hath all his aime and reuerence to the English Husbandman, I will first shew you what a Husbandman is.

[A3]

A Husbandman is he which with discretion and good order tilleth the ground in his due seasons, making it fruitfull to bring forth Corne, and plants, meete for the sustenance of man. This Husbandman is he to whom God in the scriptures giueth many blessings, for his labours of all other are most excellent, and therefore to be a Husbandman is to be a good man; whence the auntients did baptise, and wée euen to this day doe seriously obserue to call euery Husbandman, both in our ordinary conference and euery particular salutation, goodman such a one, a title

*The definition of a
Husbandman.*

(if wée rightly obserue it) of more honour and vertuous note, then many which precede it at feasts and in gaudy places.

A Husbandman is the Maister of the earth, turning sterillitie and barrainnesse, into fruitfulnessse and increase, whereby all common wealths are maintained and upheld, it is his labour which giueth bread to all men and maketh vs forsake the societie of beasts drinking vpon the water springs, féeding vs with a much more nourishing liquor. The labour of the Husbandman giueth liberty to all vocations, Arts, misteries and trades, to follow their seuerall functions, with peace and industry, for the filling and emptying of his barnes is the increase and prosperitie of all their labours. To conclude, what can we say in this world is profitable where Husbandry is wanting, it being the great Nerue and Sinew which houldeth together all the ioynts of a Monarchie?

The Vtillitie of the Husbandman.

Now for the necessitie, the profit inferreth it without any larger amplification: for if of all things it be most profitable, then of all things it must néeds be most necessary, sith next vnto heauenly things, profit is the whole aime of our liues in this world: besides it is most necessary for kéeping the earth in order, which else would grow wilde, and like a wildernessse, brambles and wéeds choaking vp better Plants, and nothing remayning but a Chaos of confusednesse. And thus much of the Husbandman his vtillity and necessitie.

Of the necessitie of a Husbandman.

[A3v]

CHAP. II.

Of the situation of the Husbandmans house; the necessaries there to belonging, together with the modell thereof.

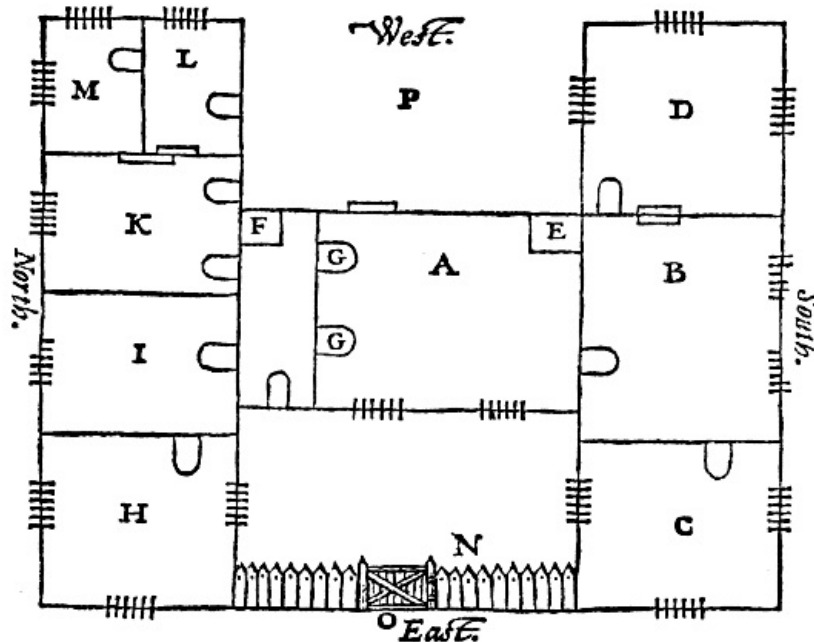


ince couerture is the most necessariest thing belonging vnto mans life, and that it was the first thing that euer man inuented, I thinke it not amisse first to beginne, before I enter into any other part of Husbandry, with the Husbandmans house, without which no Husbandry can be maintained or preserued. And albeit the generall Husbandman must take such a house as hée can conueniently get, and according to the custome and abillitie of the soyle wherein he liueth, for many countries are very much vnprouided of generall matter for well building: some wanting timber, some stone, some lime, some one thing, some another: yet to that Husbandman whom God hath enabled with power both of riches and euery other necessary fit to haue all things in a comely conuenientnesse about him, if he desire to plant himselfe decently and profitable, I would then aduise him to chuse for his situation no high hill, or great promontary (the seate of Princes Courts) where hée may be gazed vpon by the eye of euery traueller, but some pretty hard knole of constant and firme earth, rather assending then descending, frée from the danger of water, and being inuironed either with some pretty groues, of tall young spiars, or else with rowes of greater timber, which besids the pleasure and profit thereof (hauing wode so neare a mans dore) the shelter will be most excellent to kéepe off the bleaknesse of the sharpe stormes and tempests in winter, and be an excellent wormestall for cattell in the summer. This house would be planted, if possible, neare to some riuer, or fresh running brooke, but by no meanes vpon the verge of the riuer, nor within the danger of the ouerflow thereof: for the one is subiect to too much coldnesse and moisture, the other to danger. You shall plant the face, or forefront, of your house vpon the rising of the Sunne, that the vigor of his warmth may at no time depart from some part thereof,

[A4r]

but that as he riseth on the oneside so he may set on the other. You shall place the vpper or best end of your house, as namely, where your dining Parlor and cheifest roomes are, which euer would haue their prospect into your garden, to the South, that your buttery, kitching and other inferiour offices may stand to the North, coldnesse bringing vnto them a manifold benefit. Now touching the forme, fashion, or modell of the house, it is impossible almost for any man to prescribe a certaine forme, the world is so plentifull in inuention and euery mans minde so much adicted to nouelty and curiosity, yet for as much as it is most commended by the generall consent of all the auntients, and that from the modell of that proportion may be contracted and drawne the most curious formes that are almost at this day extant, I will commend vnto you that modell which beareth the proportion of the Roman *H*. which as it is most plaine of all other, and most easie for conuaince, so if a man vpon that plaine song, (hauing a great purse) will make descant, there is no proportion in which he may with best ease show more curiositie, and therefore for the plaine Husbandmans better vnderstanding I will here shew him a *facsimile* (for to adde a scale were néedlesse in this generall worke, all men not being desirous to build of one bignesse) & this it is:

[A4v]



Here you behould the modell of a plaine country mans house, without plaster or imbosture, because it is to be intended that it is as well to be built of stude and plaster, as of lime and stone, or if timber be not plentifull it may be built of courser woode, and couered with lime and haire, yet if a man would bestow cost in this modell, the foure inward corners of the hall would be conuenient for foure turrets, and the foure gauell ends, being thrust out with bay windowes might be formed in any curious manner: and where I place a gate and a plaine pale, might be either a tarrisse, or a gatehouse: of any fashion whatsoever, besides all those windowes which I make plaine might be made bay windowes, either with battlements, or without, but the scope of my booke tendeth onely to the vse of the honest Husbandman, and not to instruct men of dignitie, who in Architecture are able wonderfully to controle me; therefore that the Husbandman may know the vse of this *facsimile*, he shall vnderstand it by this which followeth.

[B]

- A. Signifieth the great hall.
- B. The dining Parlor for entertainment of strangers.
- C. An inward closset within the Parlor for the Mistrisses vse, for

necessaries.

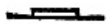
- D. A strangers lodging within the Parlor.
- E. A staire-case into the roomes ouer the Parlor.
- F. A staire-case into the Good-mans roomes ouer the Kitchin and Buttery.
- G. The Skréene in the hall.
- H. An inward cellar within the buttery, which may serue for a Larder.
- I. The Buttery.
- K. The Kitchin, in whose range may be placed a bruing lead, and conuenient Ouens, the bruing vessels adioyning.
- L. The Dairy house for necessary busnesse.
- M. The Milke house.
- N. A faire sawne pale before the formost court.
- O. The great gate to ride in at to the hall dore.
- P. A place where a Pumpe would be placed to serue the offices of the house.



This figure signifieth the dores of the house.



This figure signifieth the windowes of the house.



This figure signifieth the Chimnies of the house.

Now you shall further vnderstand that on the South side of your house, you shall plant your Garden and Orchard, as wel for the prospect thereof to al your best roomes, as also because your house will be a defence against the Northerne coldnesse, whereby your fruits will much better prosper. You shall on the West side of your house, within your inward dairy and kitchin court, fence in a large base court, in the midst whereof would be a faire large Pond, well ston'd and grauelled in the bottome, in which your Cattell may drinke, and horses when necessitie shall vrge be washt: for I doe by no meanes alow washing of horses after instant labour. Néere to this Pond you shall build your Doue-coate, for Pigiions delight much in the water: and you shall by no meanes make your Doue-house too high, for Pigiions cannot endure a high mount, but you shall build it moderately, cleane, neate, and close, with water pentisses to kéepe away vermine. On the North side of your base-court you shall build your Stables, Oxe-house, Cow-house, and Swine-coates, the dores and windowes opening all to the South. On the South side of the base-court, you shall builde your Hay-barnes, Corne-barnes, pullen-houses for Hennes, Capons, Duckes, and Géese, your french Kilne, and Malting flowres, with such like necessaries: and ouer crosse betwixt both these sides, you shall build your bound houels, to cary your Pease, of good and sufficient timber, vnder which you shall place when they are out of vse your Cartes, Waynes, Tumbrels, Ploughs, Harrowes, and such like, together with Plough timber, and axletrées: all which would very carefully be kept from wet, which of all things doth soonest rot and consume them. And thus much of the Husbandmans house, and the necessaries there to belonging.

Of the seuerall parts and members of an ordinarie Plough,
and of the ioyning of them together.



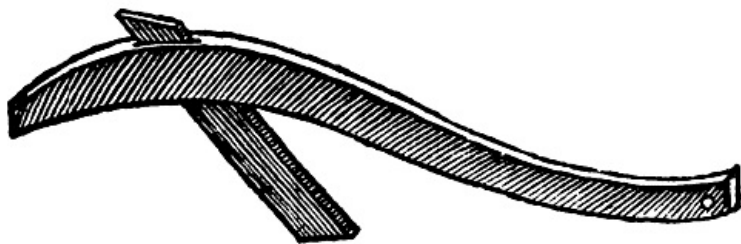
f a workeman of any trade, or mistery, cannot giue directions how, and in what manner, the tooles where with he worketh should be made or fashioned, doubtlesse hée shall neuer worke well with them, nor know when they are in temper and when out. And so it fareth with the Husbandman, for if hée know not how his Plough should be made, nor the seuerall members of which it consisteth, with the vertue and vse of euery member, it is impossible that euer hée should make a good furrow, or turne ouer his ground in Husbandly manner: Therefore that euery Husbandman may know how a well shaped Plough is made, he shall vnderstand that the first member thereof, as being the strongest and most principallest péece of timber belonging to the same, is called the Plough-beame, being a large long péece of timber much bending, according to the forme of this figure.

[B2]



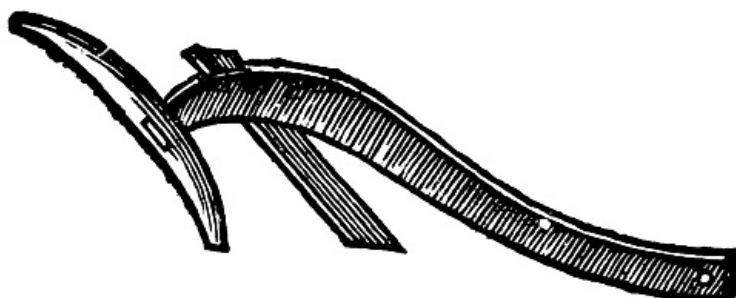
This beame hath no certaine length nor thicknesse, but is proportioned according to the ground, for if it be for a clay ground the length is almost seauen foote, if for any other mixt or lighter earth, then fiue or sixe foote is long inough.

The second member or part of the Plough, is called the skeath, and is a péece of woode of two foote and a halfe in length, and of eight inches in breadth, and two inches in thicknesse: it is driuen extreamly hard into the Plough-beame, sloopwise, so that ioyned they present this figure.

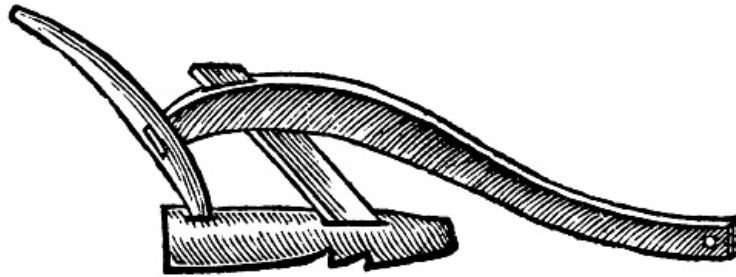


[B2v]

The third part is called the Ploughes principall hale, and doth belong to the left hand being a long bent péece of woode, some what strong in the midst, and so slender at the vpper end that a man may easily gripe it, which being fixed with the rest presenteth this figure.

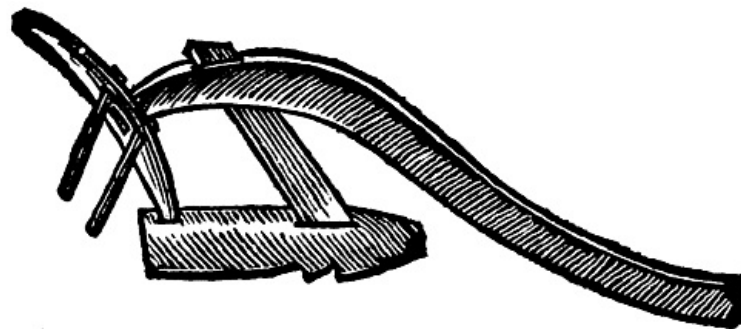


The fourth part is the Plough head, which must be fixed with the sheath & the head all at one instant in two seuerall mortisse holes: it is a flat péece of timber, almost thrée foote in length if it be for clay ground, otherwise shorter, of breadth seauen inches, and of thicknesse too inches and a halfe, which being ioyned to the rest presenteth this figure.

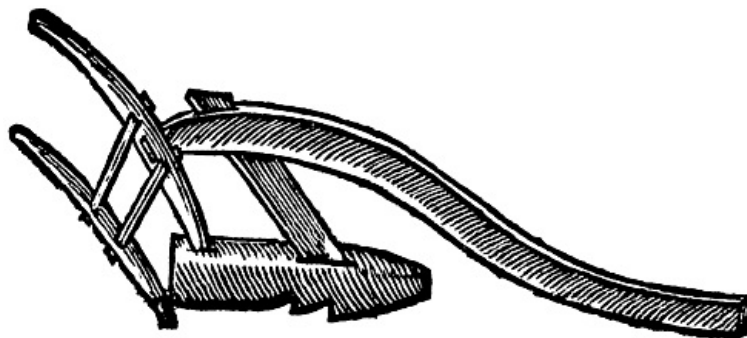


[B3]

The fift part is the Plough spindels, which are two small round pieces of woode, which coupleth together the hales, as in this figure.

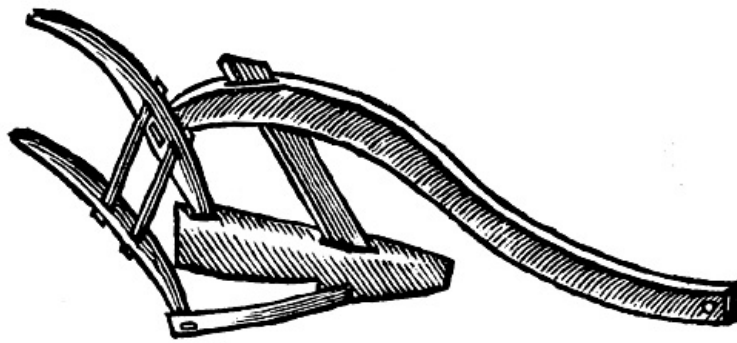


The sixt part is the right hand hale, through which the other end of the spindels runne, and is much slenderer then the left hand hale, for it is put to no force, but is onely a stay and aide to the Plough houlder when hée cometh to heauy, stiffe, and strong worke, and being ioyned with the rest presenteth this figure.

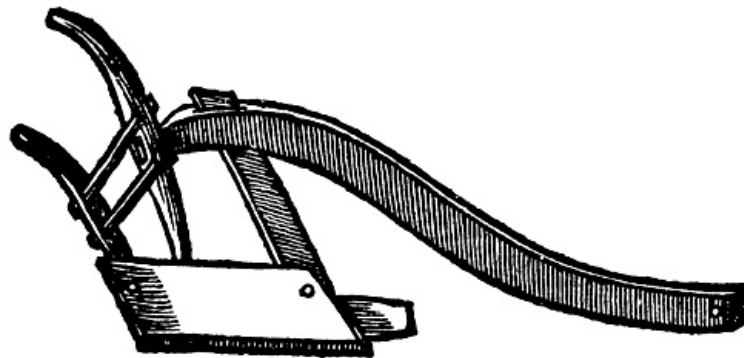


[B3v]

The seauenth part is the Plough-rest, which is a small péece of woode, which is fixt at one end in the further nicke of the Plough head, and the other end to the Ploughs right-hand hale, as you may see by this figure.

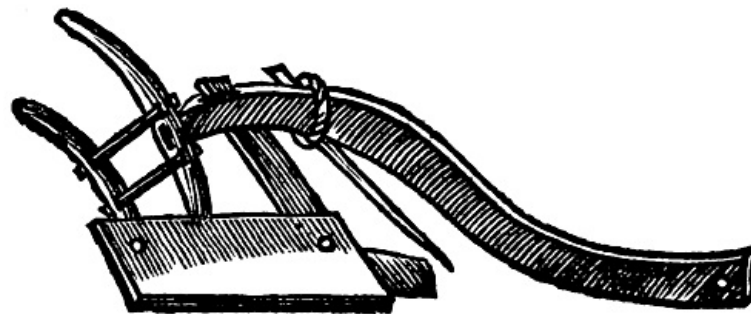


The eight part is called the shelboard, and is a broad board of more then an inche thicknesse, which couereth all the right side of the Plough, and is fastned with two strong pinnes of woode through the sheath, and the right-hand hale, according to this figure.



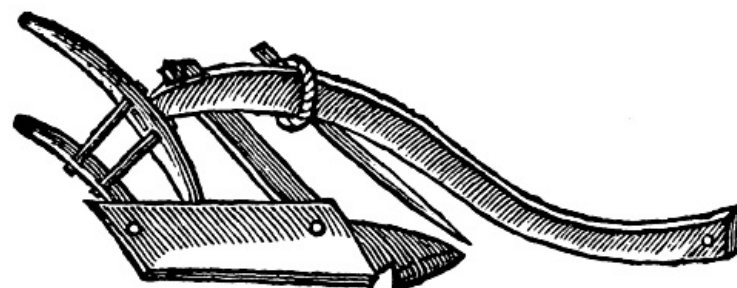
[B4r]

The ninth part is the coulter, which is a long péece of Iron, made sharpe at the neather end, and also sharpe on one side and being for a stiffe clay it must be straight without bending, which passeth by a mortisse-hole through the beame, and to this coulter belongeth an Iron ring, which windeth about the beame and kéepeeth it in strength from breaking as may appeare by this figure.

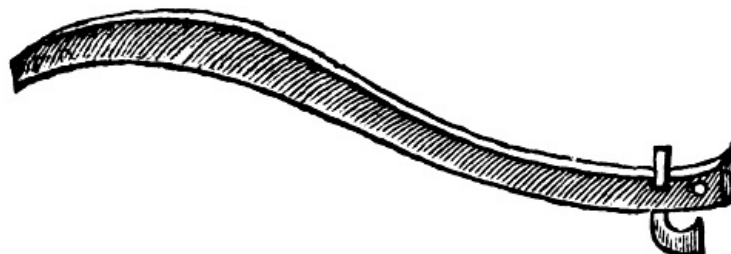


The tenth part of a compleate Plough, is the share; which is fixed to the Plough head, and is that which cutteth and turneth vp the earth: if it be for a mixt earth then it is made without a wing, or with a very small one, but if it be for a déepe, or stiffe clay, then it is made with a large wing, or an outward point, like the figure following.

[B4v]



The eleuenth part of a perfect Plough is called the Plough foote, and is through a mortisse-hole fastned at the farre end of all the beame with a wedge or two, so as the Husbandman may at his discretion set it higher or lower, at his pleasure: the vse of it is to giue the Plough earth, or put it from the earth, as you please, for the more you driue it downeward, the more it raiseth the beame from the ground, and maketh the Irons forsake the earth, and the more you driue it vpward the more it letteth downe the beame, and so maketh the Irons bite the sorer; the figure whereof is this.



Thus haue you all the parts and members of a Plough, and how they be knit and ioyned together, wherein I would wish you to obserue to make your Plough-wright euer rather giue your Plough land then put her from the land, that is, rather leaning towards the earth and biting sore, then euer slipping out of the ground: for if it haue two much earth the Husbandman may help it in the houlding, but if it haue too little, then of necessitie it must make foule worke: but for as much as the error and amends lye both in the office of the Plough-wright, I will not trouble the Husbandman with the reformation thereof.

[C]

Now you shall vnderstand that there is one other thing belonging to the Plough, which albe it be no member thereof, yet is it so necessary that the Husbandman which liueth in durty and stiffe clayes can neuer goe to Plough without it, and it is called the Aker-staffe, being a pretty bigge cudgell, of about a yarde in length, with an Iron spud at the end, according to this figure:



This Akerstaffe the Husbandman is euer to carry within his Plough, and when at any time the Irons, shelboard, or Plough, are choaked with durt, clay, or filth, which will cling about the ould stubble, then with this Akerstaffe you shall put the same off (your Plough still going) and so kéepe her cleane and smooth that your worke may lye the handsomer; and this you must euer doe with your right hand: for the Plough choaketh euer on the shelboard side, and betwéene the Irons. And thus much touching the perfect Plough, and the members thereof.

[C1v]

CHAP. IIII.

How the Husbandman shall temper his Plough, and make her fit for his worke.



Plough is to a Husbandman like an Instrument in the hand of a Musition, which if it be out of tune can neuer make



good Musicke, and so if the Plough, being out of order, if the Husbandman haue not the cunning to temper it and set it in the right way, it is impossible that euer his labour should come to good end.

It is very necessary then that euery good Husbandman know that a Plough being perfectly well made, the good order or disorder thereof consisteth in the placing of the Plough-Irons and the Plough-foote. Know then, that for the placing of the Irons, the share would be set to looke a little into the ground: and because you shall not bruise, or turne, the point thereof, you shall knocke it fast vpon the head, either with a crooked Rams-horne, or else with some piece of soft Ash woode: and you shall obserue that it stand plaine, flat, and leuell, without wrying or turning either vppward or downeward: for if it runne not euen vpon the earth it will neuer make a good furrow, onely as before I said, the point must looke a little downeward.

Now, for the coulture, you must place it slopewise through the beame, so as the point of it and the point of the share may as it were touch the ground at one instant, yet if the coulture point be a little thought the longer it shall not be amisse: yet for a more certaine direction and to try whether your Irons stand true I or no, you shall take a string, and measure from the mortisse-hole through which the coulture passeth, to the point of the coulture, and so kéeping your vpper hand constant lay the same length to the point of your share, and if one measure serue them both right, there being no difference betwéene them, then the Irons stand true for their length, otherwise they stand false.

[C2]

Now your coulture albe it stand true for the length, yet it may stand either too much to the land, or too much from the land, either of which is a great errour, and will kéepe the Plough from going true: your coulture therefore shall haue certaine wedges of ould dry Ash woode, that is to say, one before the coulture on the vpper side the beame, and another on the land side, or left side, the coulture on the vpper side the beame also; then you shall haue another wedge behinde the coulture vnderneath the beame, and one on the furrow side, or right side, the beame vnderneath also. Now, if your coulture haue too much land, then you shall driue in your vpper side wedge and ease the contrary: if it haue too little land, then you shall contrarily driue in your right side vnder wedge and ease the other: If your coulture stand too forward, then you shall driue in your vpper wedge which standeth before the coulture; and if it stand too backward and too néere your share, then you shall driue in your vnder wedge which standeth behinde the coulture: if your coulture standeth awry any way, then are either your side wedges too small, or else not euen and plaine cut, which faults you must amend, and then all will be perfect. Now, when your Irons are iust and truly placed, then you shall driue in euery wedge hard and firme, that no shaking or other straine may loosen them: as for the Plough foote it also must haue a wedge or two, which when your Plough goeth right and to your contentment (for the foote will kéepe it from sinking or rising) then you shall also driue them in hard, that the foote may not stirre from the true place where you did set it. And that these things when a man commeth into the field may not be to séeke, it is the office of euery good Husbandman neuer to goe forth with his Plough but to haue his Hatchet in a socket, fixt to his Plough beame, and a good piece of hard wedge woode, in case any of your wedges should shake out and be lost.

[C2v]

When your Plough is thus ordered and tempered in good manner, and made fit for her worke, it then resteth that you know the skill and aduantages in holding thereof, which indéed are rules of much diuersitie, for if it be a stiffe, blacke clay which you Plow, then can you not Plow too

Of holding the Plough.

déepe, nor make your furrowes too bigge: if it be a rich hassell ground, and not much binding, then reasonable furrowes, laid close, are the best: but if it be any binding, stony, or sandy ground, then you cannot make your furrowes too small. As touching the gouerning of your Plough, if you see shée taketh too much land, then you shall writh your left hand a little to the left side and raise your Plough rest somewhat from the ground: if shée taketh too little earth, then you shall raise vp your left hand, and carry your Plough as in a direct line: If your Plough-Irons forbear and will not bite on the earth at all, then it is a signe that you hang too heauy on the Plough haies, raising the head of the Plough from the ground, which error you must amend, and of the two rather raise it vp behind then before, but to doe neither is best, for the Plough hale is a thing for the hand to gouerne, and not to make a leaning stocke of: And thus much touching the tempring of the Plough and making her fit for worke.

CHAP. V.

The manner of Plowing the rich, stiffe, blacke Clay, his Earings, Plough, and other Instruments.



[C3] f all soyles in this our kingdome there is none so rich and fruitfull, if it be well handled and Husbanded, as is that which we call the stiffe, blacke, Clay, and indeed is more blacker to looke on then any other soyle, yet some times it will turne vp very blewish, with many white vaines in it, which is a very speciall note to know his fruitfulness; for that blewish earth mixt with white is nothing else but very rich Marle, an earth that in Cheshire, Lanckashire, and many other countries, serueth to Manure and make fat their barrainest land in such sort that it will beare Corne seauen yeeres together. This blacke clay as it is the best soyle, well Husbanded, so it is of all soyles the worst if it be ill Husbanded: for if it loose but one ardor, or seasenable Plowing, it will not be recouered in foure yéeres after, but will naturally of it selfe put forth wilde Oates, Thistels, and all manner of offensiue wéedes, as Cockle, Darnell, and such like: his labour is strong, heauy, and sore, vnto the cattell that tilleth it, but to the Husbandman is more easie then any other soyle, for this asketh but foure times Plowing ouer at the most, where diuers other soyles aske fiue times, and sixe times, as shalbe shewed hereafter. But to come to the Plowing of this soyle, I hold it méete to beginne with the beginning of the yéere, which with Husbandmen is at Plow-day, being euer the first Munday after the Twelft-day, at which time you shall goe forth with your draught, & begin to plow your Pease-earth, that is, the earth where you meane to sow your Pease, or Beanes: for I must giue you to vnderstand, that these Clayes are euer more naturall for Beanes then Pease, not but that they will beare both alike, only the Husbandman employeth them more for Beanes, because pease & fitches wil grow vpon euery soyle, but Beanes wil grow no where but on the clayes onely. This Pease-earth is euer where barley grew the yéere before, & hath the stubble yet remayning thereon. You shal plow this Pease-earth euer vpward, that is, you shall beginne on the ridge of the land, & turne all your furrowes vp, one against another, except your lands lye too high (which seldome can be séene) and then you shall begin at the furrow, & cast downe your land.

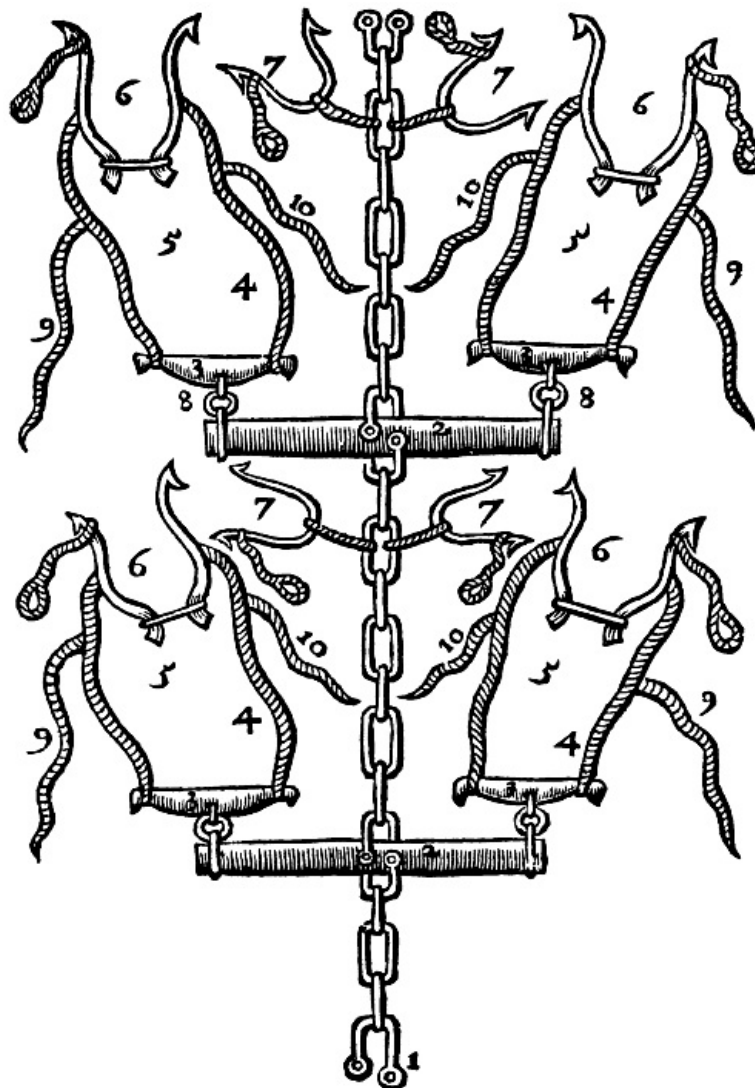
Now, when you haue plowed all your Pease-ground, you shall let it so lye, till it haue receiued diuers Frosts, some Raine, and then a fayre season,

which betwixt plow-day and Saint *Valentines* day you shalbe sure to inioy: and this is called, *The letting of Land lye to baite*: for without this rest, and these seasons, it is impossible to make these Clayes harrow, or yéelde any good mould at all. After your Land hath receiued his kindly baite, then you shall cast in your séede, of Beanes, or Pease: but in my conceit, an equall mixture of them is the best séede of all, for if the one faile, the other will be sure to hit: and when your land is sowne you shall harrow it with a harrow that hath wooden téeth.

The next Ardor after this, is the sowing of your Barley in your fallow field: the next is the fallowing of your ground for Barley the next yéere: the next Ardor is the Summer-stirring of that which you fallowed: the next is the foyling of that which you Summer-stirde: and the last is the Winter rigging of that which you foil'd: of all which Ardors, and the manner of Plowing them, with their seasons, I haue written sufficiently in the first Chapter of the next part; where I speake of simple earths vncompounded.

Now whereas I told you before that these clayes were heauy worke for your Cattell, it is necessary that I shew you how to ease them, and which way they may draw to their most aduantage, which onely is by drawing in beare-geares, an inuention the skilfull Husbandman hath found out, wherein foure horses shall draw as much as sixe, and sixe as eight, being geard in any other contrary fashion. Now because the name onely bettereth not your knowledge, you shall heare behould the figure and manner thereof.

[C4r]



[C4v]

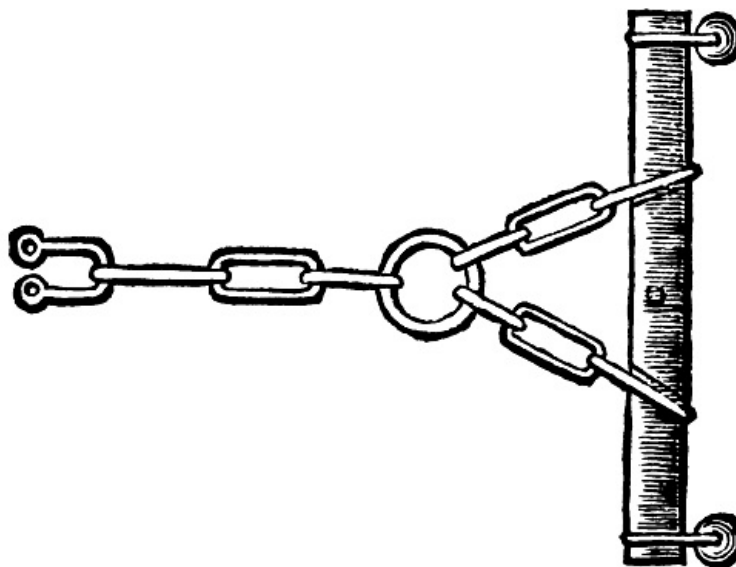
Now you shall vnderstand the vse of this Figure by the figures therein contayned, that is to say, the figure

(1) presenteth the plough-cleuisse, which being ioyned to the plough-beame, extendeth, with a chaine, vnto the first Toastrée: and touching this Cleuisse, you shall vnderstand, that it must be made with thrée nickes in the midst thereof, that if the Plough haue too much land giuen it in the making, that is, if it turne vp too much land, then the chaine shall be put in the outwardmost nicke to the land side, that is, the nicke towards your right hand: but if it take too little land, then it shall be put in the nicke next the furrow, that is, towards the right hand: but if it goe euen and well, then you shall kéepe it in the middle nicke, which is the iust guide of true proportion. And thus this Cleuisse is a helpe for the euill making or going of a plough.

(2) Is the hind-most Toastrée, that is, a broad piece of Ash woode, thrée inches broad, which going crosse the chaine, hath the Swingletrées fastned vnto it, by which the horses draw. Now you shall vnderstand that in this Toastrée is great helpe and aduantage: for if the two horses which draw one against the other, be not of equall strength, but that the one doth ouer-draw the other, then you shall cause that end of the Toastrée by which the weaker horse drawes, to be longer from the chaine then the other, by at least halfe a foote, and that shall giue the weaker horse such an aduantage, that his strength shall counterpoyse with the stronger horse. Now there be some especiall Husbandmen that finding this disaduantage in the Toastrée, and that by the vncertaine shortening, and lenthening of the Toastrée, they haue sometimes more disaduantaged the strong horse, then giuen helpe to the weake, therefore they haue inuented another Toastrée, with a double chaine, and a round ring, which is of that excellent perfection in draught, that if a Foale draw against an olde horse, yet the Foale shall draw no more then the abilitie of his owne strength, each taking his worke by himselfe, as if they drew by single chaines. Now because this Toastrée is such a notable Implement both in Plough, Cart, or Waine, and so worthy to be imitated of all good husbands, I thinke it not amisse to shew you the figure thereof.

[D]

The Toastree with double chaines.



(3) The Swingletrées, being pieces of Ash wood cut in proportion afore-shewed, to which the Treates, by which the horses draw, are fastned with strong loops.

(4) The Treates by which the horses draw, being strong cords made of the best Hempe.

(5) The place betwéene the Treats, where the horses must stand.

(6) The Hames, which girt the Collers about, to which the other end of the Treats are fastned, being compassed pieces of wood, eyther cleane Ash, or cleane Oake.

(7) The round Withes of wood, or broad thongs of leather, to put about the horses necke, to beare the maine chayne from the ground, that it trouble not the horses in their going.

[D1v]

(8) The Single-linckes of Iron, which ioyne the Swingle-trées vnto the Toastrées.

(9) The Belly-bands, which passe vnder the belly of the horse, and are made fast to both sides of the Treates, kéeping them downe, that when the horse drawes, his collar may not choake him: being made of good small line or coard.

(10) The Backe-bands, which going ouer the horses backe, and being made fast to both sides of the Treates, doe hold them, so as when the horses turne, the Treates doe not fall vnder their féete.

Thus I haue giuen you the perfect portraiture of a well yoakt Plough, together with his Implements, and the vse of them, being the best which hath yet béene found out by any of our skilfullest English Husbandmen, whose practise hath béene vpon these déepe, stiffe, blacke clayes. Now you shall vnderstand, that for the number of Cattell to be vsed in these ploughes, that in fallowing your land, and plowing your Pease-earth, eight good Cattell are the best number, as being the strongest, and within the compasse of gouernment, whereas more were but troublesome, and in all your other Ardors, sixe good beasts are sufficient, yet if it be so, that eyther want of abilitie, or other necessity vrge, you shall know that sixe beasts will suffice eyther to fallow, or to plow Pease-earth, and foure beasts for euery other Ardor or earing: and lesse then this number is most insufficient, as appeares by daily experience, when poore men kill their Cattell onely by putting them to ouer-much labour. And thus much touching the plowing of the blacke clay.

How many beasts in a plough.

[D2]

CHAP. VI.

The manner of plowing the white or gray Clay, his Earings, Plough, and Instruments.



ow as touching the white or gray clay, you shall vnderstand that it is of diuers and sundry natures, altering according to his tempers of wet or drynesse: the wet being more tough, and the dry more brittle: his mixture and other characters I haue shewed in a former Chapter, wherefore for his manner of plowing (obseruing my first methode, which is to beginne with the beginning of the yéere, I meane at Christmas) it is thus:

If you finde that any of this white or gray clay, lying wet, haue lesse mixture of stone or chaulke in it, and so consequently be more tough, as it doth many times fall out, and that vpon such land, that yéere, you are to sow your Pease and Beanes: for as in the former blacke clay, so in this gray clay you shall begin with your Pease-earth euer: then immediately after Plow-day, you shall plow vp such ground as you finde so tough, in the selfe-same manner as you did plow the blacke clay, and so let it lye to baite till the frost haue seasoned it, and then sow it accordingly. But if

Of sowing of Pease and Beanes.

[D2v]

you haue no such tough land, but that it holdes it owne proper nature, being so mixt with small stones and chaulke, that it will breake in reasonable manner, then you shall stay till the latter end of Ianuary, at what time, if the weather be seasonable, and inclining to drynesse, you shall beginne to plow your Pease-earth, in this manner: First, you shall cause your séedes-man to sow the land with single casts, as was shewed vpon the blacke clay, with this caution, that the greater your séede is, (that is, the more Beanes you sow) the greater must be your quantitie: and being sowne, you shall bring your plough, and beginning at the furrow of the land, you shall plow euery furrow downeward vpon the Pease and Beanes: which is called sowing of Pease vnder furrow: and in this manner you shall sow all your Pease and Beanes, which is cleane contrary to your blacke clay. Besides, whereas vpon the stiffe clay it is conuenient to take as large furrowes as you please, vpon this kinde of gray clay you shall take as small furrowes as is possible. Now the reason for this manner of plowing your Pease-earth, is, because it is a light kinde of breaking earth, so that should it be sowne according to the stiffe blacke clay, it would neuer couer your Pease, but leaue them bare, both to be destroyed by the Fowles of the ayre, and the bitterness of the weather. As soone as your Pease and Beanes are risen a fingers length about the earth, then if you finde that any of your lands doe lye very rough, and that the clods be great, it shall not be amisse, to take a payre of wooden Harrowes, and harrow ouer all your rough lands, the benefit whereof is this, that it will both breake the hard clots, and so giue those Pease leaue to sprout through the earth, which before lay bound in and drowned, and also lay your lands smooth and cleane, that the Mowers when they come to mowe your Pease and Beanes, shall haue better worke, and mowe them with more ease, and much better to the owners profit. For you must vnderstand that where you sow Beanes, there it is euer more profit to mowe them with Sythes, then to reape them with Hookes, and much sooner, and with lesse charge performed. The limitation of time for this Ardor of earing, is from the latter end of Ianuary vntill the beginning of March, not forgetting this rule, that to sow your Pease and Beanes in a shower, so it be no beating raine is most profitable: because they, as Wheat, take delight in a fresh and a moyst mould.

[D3]

After the beginning of March, you shall beginne to sow your Barley vpon that ground which the yéere before did lye fallow, and is commonly called your tilth, or fallow field: and if any part of it consist of stiffe and tough ground, then you shall, vpon such ground, sow your Barley vnder furrow, in such manner and fashion as I described vnto you for the sowing of your stiffe blacke clay: but if it be (as for the most part these gray and white clayes are) of a much lighter, and as it were, fussie temper, then you shall first plow your land vpward, cleane and well, without baukes or stiches: and hauing so plowed it, you shall then sow it with Barley, that is to say, with double casts, I meane, bestowing twice so many casts of Barley, as you would doe if you were to sow it with Pease. And as soone as you haue sowne your Barley, you shall take a payre of wooden Harrowes, and harrow it as small as is possible: and this is called sowing about furrow.

Of sowing of Barley.

Now if you haue any land, which eyther through the badnesse of the soyle, or for want of manure, is more barrayne, and hard to bring forth then generally the rest of your land is, then you shall not bestow Barley thereupon, but sow it with Oates, in such manner and fashion as is appointed for the sowing of Pease, that is to say, if it be stiffe ground you shall sow it about furrow, if it be light ground, then you shall sow it vnder furrow, knowing this for a rule, that the barraynest ground will euer beare indifferent Oates, but if the ground haue any small hart, then

Of sowing Oates.

it will beare Oates in great abundance: neither néede you to be very precise for the oft plowing of your ground before you sow your Oates, because Oates will grow very well if they be sowne vpon reasonable ground, at the first plowing: whence it comes to passe that many Husbandmen doe oft sow their Oates where they should sow their Pease, and in the same manner as they doe sow their Pease, and it is held for a rule of good husbandry also: because if the ground be held any thing casuall for Pease, it is better to haue good Oates then naughty Pease: besides, your Oates are both a necessary graine in the house, as for Oate-meale, for the pot, for Puddings, and such like, and also for the stable, for Prouender, and the féeding of all manner of Poultry. The time for sowing of your Barley and Oates, is from from the first of March till the first of Aprill, obseruing euer to sow your Oates first, and your Barley after, for it being onely a Summer graine, would participate as little as may be with any part of the Winter.

[D3v]

About the middest of Aprill you shall beginne to fallow that part of your ground, which you entend shall take rest that yéere, and so become your fallow or tilth-field. And in fallowing this gray or white clay, you shall obserue all those rules and ceremonies, which are formerly described for the fallowing of the stiffe blacke clay, knowing that there is in this worke no difference betwéene the blacke clay, and the gray clay, but both to be plowed after one manner, that is to say, to haue all the furrowes cast downward, and the ridges of the lands laid largely open, and of a good depth, onely the furrowes which you turne vpon this gray clay must be much smaller and lesse then those which you turne vpon your stiffe blacke clay, because this earth is more naturally inclined to binde and cleaue together then that of the blacke clay. The time for fallowing of this ground, is from the middest of Aprill vntill the middest of May: at what time you shall perceiue your Barley to appeare aboute the ground, so that then you shall beginne to sleight and smooth it: but not with backe Harrowes, as was described for the blacke clay, because this gray clay being not so fat and rich, but more inclined to fastnesse and hardnesse, therefore it will not sunder and breake so easily as the other: wherefore when you will smooth or sleight this ground, you shall take a round piece of wood, being in compasse about at least thirty inches, and in length sixe foote, hauing at each end a strong pinne of Iron, to which making fast two small poales, by which the horse shall draw, yet in such sort that the round piece of wood may roule and turne about as the horse drawes it: and with this you shall roule ouer all your Barley, and by the waight of the round piece of wood bruise and breake all the hard clots asunder. This is called amongst Husbandmen a Rouler, and is for this purpose of sleighting and smoothing of grounds of great vse and profit. Now you shall vnderstand that you must not at any time sleight or smooth your Corne, but after a shower of Raine, for if the mould be not a little moistned the rouler will not haue power to breake it.

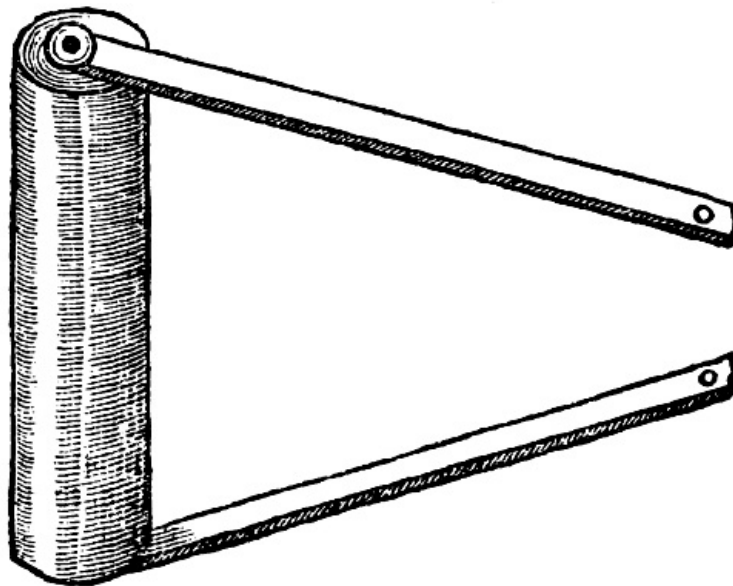
Of Fallowing.

Of sleighting Barley.

[D4r]

Now for as much as this rouler is of so good vse and yet not generally vsed in this kingdome, I thinke it not amisse to shew you the figure thereof.

The great Rouler.



As soone as you haue roulled ouer your Barley, & laid it so smooth as you can with your rouser, if then you perceiue any hard clots, such as the rouser cannot breake, then you shal send forth your seruants with long clotting béetels, made broad and flat, and with them you shall breake asunder all those hard clots, and so lay your Barley as smooth and cleane as is possible: the profit whereof you shall both finde in the multiplying of your Corne and also in the sauing of your sithes from breaking, at such time as you shall come to mowe your Corne, and gather in your Haruest.

[D4v]

Your Barley being thus laide smooth, you shall then follow your other necessary businesses, as preparing of your fewell, and other néedements for houshold, vntill the beginning of Iune, at which time you shall beginne to Summer-stirre your fallow field, which shalbe done in all points after the same manner as you did Summer-stirre your blacke Clay, that is to say, you shall beginne in the ridge of the land, and as when you fallowed your land you turned your furrowes downeward, so now in Summer-stirring, you shall turne your furrowes vpward and close the ridge of your land againe. As soone as this Ardor is finished, or when the vnseasonableness of the weather, as either too much wet, or too much drynesse shall hinder you from Plowing, you shall then looke into your Cornefields, that is to say: first into your Wheate and Rye field, and if there you shall finde any store of wéedes, as Thistell, Darnell, Tare-Cockle, or such like, you shall with weede-hookes, or nippers of woode, cut, or plucke them vp by the rootes; and also if you finde any annoyance of stones, which hinders the growth of your Corne, as generally it happens in this soyle, you shall then cause some Boyes and Girles, or other waste persons, to gather them vp and lay them in heapes at the lands ends, to be employed either about the mending of high wayes or other occasions, and for this purpose their is a generall custome in most Villages, that euery housholder is bound to send out one seruant to be employed about this businesse: whence it comes to passe, that it is called common worke, as being done at the generall charge of the whole Parish. After you haue wéeded your Wheate and Rye, you shall then wéede your Barley also, which being finished about the midst of Iuly, you shall then beginne to looke into your medowes and to the preparing of your Hay haruest.

Of Summer-stirring.

Of weeding.

Of stone gathering.

[E]

Now at such time as either the vnseasonableness of the weather, or the growth of your grasse shall hinder you from following that businesse of Haruest, you shall then looke into your fallow or tilth field againe, and whereas before at your Summer-stirring you Plowed your land vpward, now you shall beginne to foile, that is to say, you shall cast your land

Of foyling.

downe againe, and open the ridge: and this Ardor of all other Ardors you must by no meanes neglect vpon the gray, white clay, because it being most subiect vnto wéede, and the hardest to bring to a fine mould, this Ardor of all others, doth both consume the one and makes perfect the other, and the drier season you doe foile your land in, the better it is, and the more it doth breake and sunder the clots in pieces: for as in Summer-stirring the greater clots you raise vp, and the rougher your land lies the better it is, because it is a token of great store of mould, so when you foile, the more you breake the clots in pieces the better season will your land take, and the richer it wilbe when the séede is sowne into it: And the season for the foiling of this soile is from the midst of Iuly till the midst of September.

Now albe I haue omitted the Manuring of this land in his due place, as namely, from the midst of Aprill, till the end of May, yet you shall vnderstand that of all other things it is not in any wise to be neglected by the carefull Husbandman, both because the soyle being not so rich as the blacke Clay, will very hardly bring forth his séede without Manure, and also because it is for the most part subiect vnto much wet, and stones, both which are signes of cold and barrainnesse. Now for those Manures, which are best and most proper for this soile, you shall vnderstand that all those which I formerlie described for the blacke Claies, as namely, Oxe or Cowes dung, Horse dung and Shéepes dung, are also very good for this soile, and to be vsed in the same manner as is specified in the former Chapter: but if you haue not such store of this Manure as will serue to compasse your whole land, you shall then vnderstand, that the blacke mud, or durt which lies in the bottome of olde ponds, or else standing lakes, is also a very good manure for this soile, or else straw which is spread in high-wayes, and so rotted by the great concourse or vse of much traouelling, and after in the Spring-time shouelled vp in great heapes, is a good manure for this earth: but if you finde this soile to be subiect to extraordinary wet and coldnesse, you shall then know that the ashes eyther of wood, coale, or straw, is a very good manure for it. But aboue all other, and then which there is no manure more excellent for cold barraine clayes of this nature, the Pignons dung, or the dung of houshold Pullen, as Capons, Hennes, Chickens, Turkies, and such like, so there be no Goose-dung amongst it, is the best of all other: but not to be vsed in such sort as the other manures, that is to say, to be laid in great heapes vpon the land, or to be spread from the Cart vpon the land, for neyther is there such abundance of such manure to be gotten, nor if there were, it would not be held for good husbandrie to make lauish hauocke of a thing so precious.

Of Manuring.

You shall then know that for the vse of Pigion or Pullen-dung, it is thus: you shall first with your hand breake it as small as may be, and then put it into the Hopper, in such sort as you put your corne when you sow it: and then looke how you sow your corne, in such sort you shall sow your Pigion or Pullen-dung: which done, you shall immediately put your Barley into the same Hopper, and so sow it after the Pignons or Pullen-dung: by which you are to vnderstand that this kinde of manuring is to be vsed onely in Séede-time, and at no other season. This manure is of the same nature that shéepes manure is, and doth last but onely for one yéere, onely it is much hotter, as being in the greatest extremitie of heate. Now if it happen that you cannot get any of this Pignons or Pullen-dung, because it is scarce, and not in euery mans power, if then you take Lime and sow it vpon your land in such sort as is before said of the Pignons-dung, and then sow your corne after it, you shall finde great profit to come thereon, especially in colde wet soiles, such as for the most part, these gray white clayes are.

The vse of Pigion or Pullen-dung.

After your land is foild, which worke would be finished by the middest of September, then you shall beginne to sow your Wheate, Rye, and Maslin, which in all things must be done as is before set downe for the blacke clay, the choice of séede, and euery obseruation being all one: for Wheate not taking delight in a very rich ground, doth prosper best vpon this indifferent soile. Whence it comes that in these gray white clayes, you shall for the most part, see more Wheate sowne then any other Graine whatsoever. But as touching your Rye and Maslin, that euer desires a rich ground and a fine mould, and therefore you shall make choise of your better earth for that Séede, and also obserue to helpe it with manure, or else shéepes folding, in such manner as is described in the former Chapter, where I spake of the sowing of Wheate, Rye, and Maslin.

Of sowing Wheate.

As soone as you haue sowne your Wheate, Rye, and Maslin, you shall then about the latter end of October, beginne to Winter ridge, or set vp your land for the whole yéere: which you shall doe in all points, as you doe vpon the blacke clay, without any change or alteration. And the limitation for this Ardor is, from the latter end of October vntill the beginning of December, wherein your yéeres worke is made perfect and compleate.

Of winter-ridging.

Now you shall vnderstand, that although I haue in this generall sort passed ouer the Ardors and seuerall Earings of this white or gray clay, any of which are in no wise to be neglected: yet there are sundry other obseruations to be held of the carefull Husbandman, especially in the laying of his land: as thus, if the soile be of good temper, fruitfull, drie, and of a well mixed mould, not being subiect to any naturall spring or casting forth of moisture, but rather through the natiue warmth drying vp all kinde of fluxes or colde moistures, neyther binding or strangling the Séede, nor yet holding it in such loosenesse, that it loose his force of increasing, in this case it is best to lay your lands flat and leuell, without ridges or furrowes, as is done in many parts of Cambridge-shire, some parts of Essex, and some parts of Hartford-shire: but if the clay be fruitfull and of good temper, yet either by the bordering of great hils, the ouer-flow of small brookes, or some other casuall meanes it is subiect to much wet or drowning, in this case you shall lay your lands large and high, with high ridges and déepe furrowes, as generally you see in Lincolne-shire, Nottingham-shire, Huntington-shire, and most of the middle Shires in England. But if the land be barraine, colde, wet, subiect to much binding, and doth bring forth great store of wéedes, then you shall lay your land in little stiches, that is to say, not aboue thrée or foure furrowes at the most together, as is generally séene in Middlesex, Hartford-shire, Kent and Surrey: for by that meanes neither shall the land binde and choake the Corne, nor shall the wéede so ouer-runne it, but that the Husbandman may with good ease helpe to strengthen and clense it, the many furrowes both giuing him many passages, whereby he may correct those enormities, and also in such sort conuaying away the water and other moistures, that there cannot be made any land more fruitfull.

Obseruations.

[E2v]

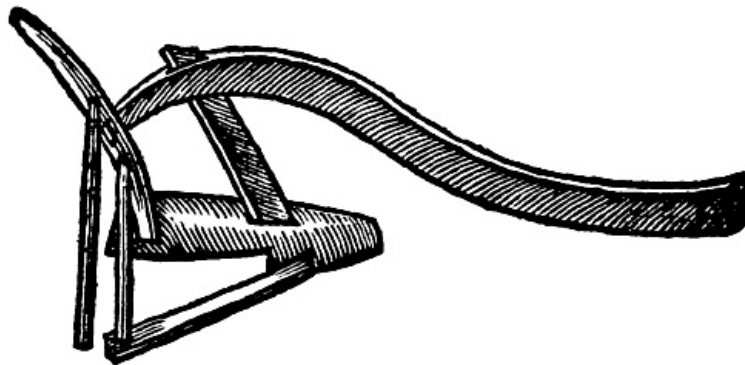
Now to speake of the Plough which is best and most proper for this gray or white clay, of which we now speake, you shall vnderstand that it differeth excéeding much from that of which we spake concerning the blacke clay: I, and in such sort, that there is but small alliance or affinitie betwéene them: as thus for example:

Of the Plough.

First, it is not so large and great as that for the blacke clay: for the head thereof is not aboue twentie inches in length, and not aboue one inch and a halfe in thicknesse, the maine beame thereof is not aboue fiue foot long, & the rest is broader by an inch and more then that for the blacke

clay: this Plough also hath but one hale, & that is onely the left hand Hale: for the Plough-staffe, or Aker-staffe serueth euer in stead of the right hand Hale, so that the Rough-staues are fixed, the vpper vnto the shelboard, and the neather vnto the Plough-rest, as for your better vnderstanding you may perceiue by this figure.

The Plough with one Hale.



Now you shall vnderstand that the especiall care which is to be held in the making of this Plough, is, that it be wide and open in the hinder part, that it may turne and lay the furrowes one vpon another: whereas if it should be any thing straitned in the hinder part, considering that this clay naturally is somewhat brittle of it selfe, and that the furrowes which you plow must of necessitie be very narrow and little, it were not possible so to lay them, but that they would fall downe backe againe, and inforce the Plow-man to lose his labour. Also you shall vnderstand that whereas in the former plough, which is for the blacke clay, you may turne the shelboard, that is, when the one end is worne, you may eftsoones turne the other, and make it serue the like season: in this Plough you must neuer turne the shelboard, because the rising wing of the Share will so defend it, that it will euer last as long as the Plough-head, without change or turning.

Now for the Irons belonging vnto this Plough, which is the Share and Coultre, there is more difference in them then in the Plough: for to speake first of the Share, whereas the former Share for the blacke clay, was made broad, plaine, and with a large wing, this Share must be made narrow, sharpe, and small, with no wing at all, hauing from the vpper part thereof, close by the shelboard, a certaine rising wing, or broad piece of Iron, which comming vp and arming that part of the shelboard which turnes ouer the land, defends the wood from the sharpe mould, which hauing the mixture of pible stone in it, would otherwise in lesse then one dayes worke consume the shelboard vnto nothing, forcing the Plow-man to much trouble and double cost. The fashion of the Share is presented in this Figure following.

The Share.



This Share is onely made that it may take a small furrow, and so by breaking the earth oftner then any other Share, causeth the land to yéeld

a good and plentiful mould, and also kéepe it from binding or choaking the séede when it is cast into it.

Now for the Coulture, it differeth from the former Coulture both in breadth and thicknesse, but especially in compasse: for whereas the former Coulture for the blacke clay, was made straight, narrow, and thicke, this must be compassed like an halfe bent bow: it must be broader then thrée fingers, and thinner then halfe an inche, according to this Figure.

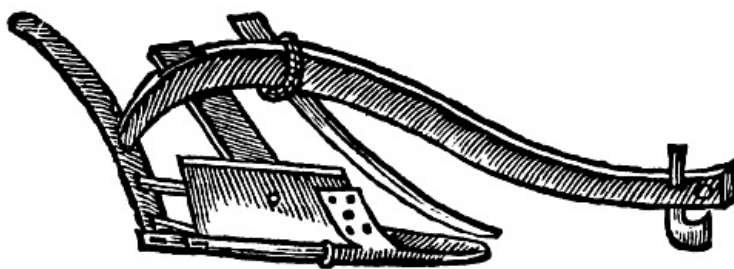
[E4r]

The Coulture.



Now when these Irons, the Shelboard, and other implements are fixed vnto the Plough, you shall perceiue that the Plough will carry the proportion of this Figure following.

The Plough for the gray Clay.



Hauing thus shewed you the substance, difference, and contraries of these two Ploughs, which belong to these two seuerall clayes, the blacke and gray, you shall vnderstand that there is no clay-ground whatsoever, which is without other mixture, but one of these Ploughs will sufficiently serue to eare and order it: for all clayes are of one of these tempers.

[E4v]

Now for the vse and manner of handling or holding this Plough, it differeth nothing in particular obseruation from the vse and handling of the Plough formerly described, more then in the largenesse and smalnesse of the furrowes: for as before I said, whereas the blacke clay must be raised with a great furrow, and a broad stitch, this gray clay must be raised with a small furrow, and a narrow stitch: and although this plough haue nothing but a left hand Hale, yet considering the Plough-staffe, vpon which the Plow-man resteth his right hand, it is all one as if he had a right. And indéede, to make your knowledge the more perfect, you shall know that these gray clayes are generally in their owne natures so wet, tough, and slimy, and doe so clogge, cleaue, and choake vp the Plough, that hée which holds it shall haue enough to doe with his right hand onely to clense and kéepe the Plough from choaking, insomuch that if there were another Hale, yet the Plow-man should haue no leasure to hold it.

The vse and handling.

Now for the Draught or Teame which should draw this Plough, they ought in all points, as well in strength as tryuing to be the same with those before shewed for the vse of the blacke clay: as namely, eyther Oxen or Horse, or Horse and Oxen mixt together, according to the

Of the draught or Teame.

custome of the soile wherein the Plow-man liues, or his abilitie in prouision, obseruing euer to kéepe his number of beasts for his Plough certaine, that is to say, for fallowing, and Pease-earth, neuer vnder sixe, and for all other Ardors foure at the least. And thus much for the plowing of this gray or white clay.

[F]

CHAP. VII.

The manner of plowing the red-Sand, his Earings, Plough, and Implements.



ext vnto these Clayes, which are soiles simple and vncompound, as being perfect in their owne natures, without the helpe of other mixtures, I place the Sand soiles, as being of like qualitie, not borrowing any thing but from their owne natures, nor bréeding any defects more then their owne naturall imperfections: and of Sands, sith the red Sand is the best and most fruitfull, therefore it is fit that it take prioritie of place, and be here first spoken of.

You shall then vnderstand that this red Sand, albeit it is the best of Sands, yet it is the worst of many soiles, as being of it selfe of such a hot and drie nature, that it scorcheth the séede, and dryeth vp that nutriment and fatnesse which should occasion increase: whereby it comes to passe, that the Barley which growes vpon this red Sand is euer more yealow, leane and withered, then that which growes vpon the clayes or other mixt earths. This Sand especially taketh delight in Rye, because it is a Graine which loues warmth aboue all other, and yet notwithstanding, if it be well ordered, manured and plowed, it will bring forth good store of Barley, albeit the Barley be not so good as Clay-Barley, either for the colour, or for the yéeld, whether it be in meale or in Malt.

Now for the manner of Earing or plowing this redde Sand, it differeth much from both the former soyles, insomuch that for your better vnderstanding, I must in many places alter my former methode, yet so little as may be, because I am loath to alter or clogge the memory of the Reader: wherefore to pursue my purpose. As soone as Christmas is ended, that is to say, about the middest of Ianuary, you shall goe with your Plough into that field where the Haruest before did grow your Rye, and there you shall in your plowing cast your lands downe-ward, and open the ridges well, for this yéere it must be your fallow field: for as in the former soiles, wée did diuide the fields either into thrée parts, that is, one for Barley and Wheate, another for Pease, and the third fallow, which is the best diuision: or into foure parts, that is, one for Wheate and Rye, another for Barley, a third for Pease, and a fourth fallow, which is the worst diuision and most toilesome, so in this red Sand soile, we must euer diuide it into thrée parts, that is, one for Barley, another for Rye, and a third fallow. For this Sand-soile being hot, drie, and light, will neither bring forth good Beanes nor good Pease, and therefore that Ardor is in this place but onely to be spoke of by way of discourse in vrgent necessitie.

Of Fallowing.

[F1v]

Wherefore (as before I said) about the middest of Ianuary you shall beginne to lay fallow that field, where formerly did grow your Rye, the manner of plowing whereof differeth nothing from the manner of plowing the clayes before written of, onely that the discretion of the Plow-man must thus farre forth gouerne him, that in as much as this

soile is lighter, dryer, and of a more loose temper, by so much the more he must be carefull to make his furrowes lesse, and to lay them the closer together: & also in as much as this soile, through his naturall warmth and temperate moisture, is excéeding apt to bring forth much wéede, especially Brakes, Ling, Brambles, and such like, therefore the Plow-man shall be very carefull to plow all his furrowes very cleane, without haukes or other impediments by which may be ingendred any of these inconueniences.

After you haue thus broke vp and fallowed your fallow or tilth-field, the limitation of which time is from the middest of Ianuary vntill the middest of February, you shall then at the middest of February, when the claymen begin to sow their Beanes and Pease, goe with your plough into your other fallow-field, which all the yéere before hath laine fallow and already receiued at your hands at least foure seuerall Ardors; as Fallowing, Summer-stirring, Foyling, and Winter-rigging; and there you shall plow all that field ouer the fift time, which is called the Spring-foyling: and in this Ardor you shall plow all your lands vpward, in such sort as when you Winter-ridge it, by which meanes you shall plow vp all those wéedes which haue sprung forth in the Winter season. For you must vnderstand that in these light, hot, sandy soiles, there is a continuall spring (though not of good fruits) yet of wéeds, quicks, and other inconueniences: for it is a rule amongst Husbandmen, that warme soiles are neuer idle, that is, they are euer bringing forth something.

Of Spring-foyling.

Now the limitation for this Ardor is from the middest of Februarie vntill the middest of March, at which time you shall, by comparing former experience with your present iudgement, take into your consideration the state, goodnesse, and powerfulnesse of your land, I meane especially of this fallow-field, which hath laine fallow the yéere before, and hath now receiued fiue Ardors: and if you finde any part of it, either for want of good ordoring in former times, or for want of manure in the present yéere, to be growne so leane and out of hart, that you feare it hath not strength enough to beare Barley, you shall then at this time, being the middest of March, sow such land with Rye, which of Husbandmen is called the sowing of March-Rye: and this Rye is to be sowne and harrowed in such sort as you did sow it vpon the clay soiles, that is to say, aboue furrow, and not vnder furrow, except the land be very full of quickes, that is, of Brakes, Ling, Brambles, Dockes, or such like, and then you shall first with a paire of Iron harrowes, that is, with harrowes that haue Iron téeth, first of all harrow the land ouer, and by that meanes teare vp by the rootes all those quickes, and so bring them from the land: which done, you shall sow the land ouer with Rye, and then plow it downward which is vnder furrow: & as soone as it is plowed, you shall then with a paire of Iron Harrowes harrow it all ouer so excéedingly, that the mould may be made as fine, and the land lie as smooth as is possible.

Of Sowing March-Rye.

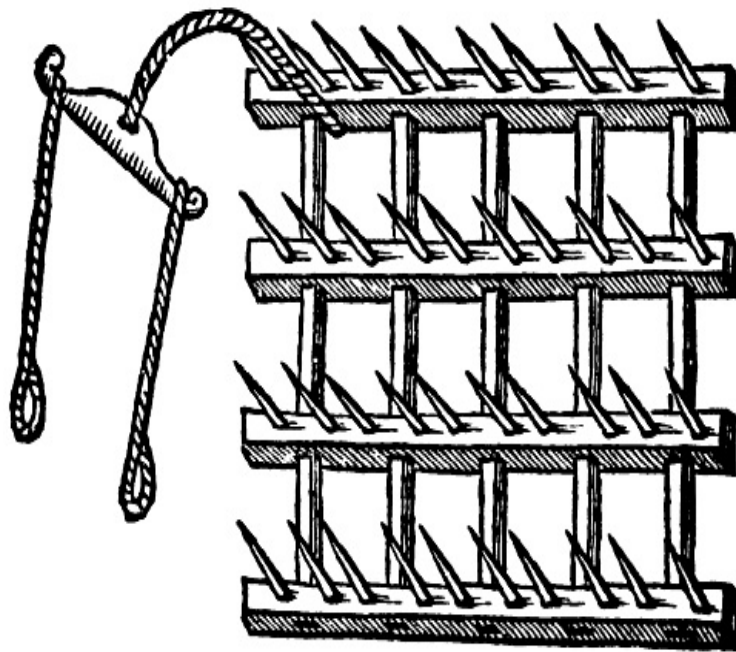
Now because I haue in the former Chapters spoke of Harrowes and harrowing, yet haue not deliuered vnto you the shape and proportion thereof, and because both the wooden harrow and the Iron harrow haue all one shape, and differ in nothing but the téeth onely, I thinke it not amisse before I procéede any further to shew you in this Figure the true shape of a right Harrow.

Of the harrow.

The Harrow.

[F2]

[F2v]



The parts of this Harrow consisteth of buls, staves, and téeth: of buls, which are broad thicke pieces eyther of well seasoned Willow, or Sallow, being at least thrée inches euery way square, into which are fastned the téeth: of staves, which are round pieces of well seasoned Ash, being about two inches and a halfe about, which going thorow the buls, holde the buls firmly in equall distance one from the other: and of téeth, which are either long pinnes of wood or Iron, being at least fiue inches in length, which are made fast, and set slope-wise through the buls.

[F3]

Now you shall vnderstand that Harrowes are of two kindes, that is, single and double: the single Harrow is called of Husbandmen the Horse-harrow, and is not about foure foote square: the double Harrow is called the Oxe-harrow, and it must be at least seauen foote square, and the téeth must euer be of Iron. Now whereas I spake of the Horse-harrow and the Oxe-harrow, it is to be vnderstood that the single Harrow doth belong to the Horse, because Horses drawing single, doe draw each a seuerall Harrow by himselfe, albeit in the common vse of harrowing, we couple two horses euer together, and so make them draw two single Harrowes: but Oxen not being in good Husbandry to be separated, because euer two must draw in one yoake, therefore was the double Harrow deuised, containing in substance and worke as much as two single Harrowes.

The diuersitie of Harrowes.

Now for the vse of Harrowes. The wooden Harrow which is the Harrow with wooden téeth, is euer to be vsed vpon clay grounds and light grounds, which through drynesse doth grow loose, and fals to mould of it owne nature, as most commonly Sand grounds doe also: and the Iron Harrow which is the Harrow with Iron téeth, is euer to be vsed vpon binding grounds, such as through drynesse grow so hard that they will not be sundered, and through wet turne soone to mire and loose durt. Now whereas there be mingled earths, which neither willingly yéeld to mould, nor yet bindes so sore, but small industry breaks it, of which earth I shall speake hereafter, to such grounds the best Husbands vse a mixture, that is to say, one wooden Harrow, and one Iron Harrow, that the wooden Harrow turning ouer and loosening the loosest mould, the Iron Harrow comming after, may breake the stiffer clots, and so consequently turne all the earth to a fine mould. And thus much for Harrowes.

The vse of Harrowes.

Now to returne to my former purpose touching the tillage of this red Sand: if (as before I said) you finde any part of your fallow-field too

Of the sowing of Pulse.

[F3v]

weake to beare Barley, then is your March-Rye, a graine which will take vpon a harder earth: but if the ground be too weake either for Barley or Rye, (for both those Séedes desire some fatnesse of ground) then shall you spare plowing it at all vntill this time of the yéere, which is mid-March, and then you shall plow it, and sow it with either the smallest Pease you can get, or else with our true English Fitches, which by forraine Authors are called *Lentles*, that is, white Fitches, or *Lupines*, which are red Fitches: for all these thrée sorts of Pulse will grow vpon very barraine soiles, and in their growth doe manure and make rich the ground: yet your Pease desire some hart of ground, your *Lentles*, or white Fitches, lesse, and your *Lupines*, or red Fitches, the least of all, as being apt to grow vpon the barrainest soile: so likewise your Pease doe manure barraine ground well, your *Lentles* better and your *Lupines* the best of all.

Of Pease, Lentles, and Lupines.

Now for the nature and vse of these graines, the Pease as all Husbandmen know, are both good for the vse of man in his bread, as are vsed in Leicester-shire, Lincolne-shire, Nottingham-shire, and many other Countries: and also for Horses in their Prouender, as is vsed generally ouer all England: for *Lentles*, or white Fitches, or the *Lupines* which are redde Fitches, they are both indifferent good in bread for man, especially if the meale be well scalded before it be knodden (for otherwise the sauour is excéeding rancke) or else they are a very good foode being sodden in the manner of Leaps-Pease, especially at Sea, in long iourneyes where fresh meate is most exceeding scarce: so that rather then your land should lye idle, and bring forth no profit, I conclude it best to sow these Pulses, which both bring forth commoditie, and also out of their owne natures doe manure and enrich your ground, making it more apt and fit to receiue much better Séede.

For the manner of sowing these thrée sorts of Pulse: you shall sow them euer vnder furrow, in such sort as is described for the sowing of Pease and Beanes vpon the white or gray clay which is of indifferent drinesse and apt to breake.

[F4r]

Now the limitation for this Ardor or séede time, is from the midst of March, till the midst of Aprill: then from the midst of Aprill, till the midst of May, you shall make your especial worke, to be onely the leading forth of your Manure to that field which you did fallow, or lay tilth that present yéere immediatelie after Christmas, and of which I first spake in this Chapter. And herein is to be vnderstood, that the best and principallest Manure for this redde-sand, is the ouldest Manure of beasts which can be gotten, which you shall know by the excéeding blacknesse and rottennesse thereof, being in the cutting both soft and smooth, all of one substance, as if it were well compact mortar, without any shew of straw or other stuffe which is vnrotted, for this dung is of all the fattest and coolest, and doth best agrée with the nature of this hot sand. Next to the dung of beasts, is the dung of Horses if it be old also, otherwise it is somewhat of the hottest, the rubbish of old houses, or the swéepings of flowres, or the scowrings of old Fish-ponds, or other standing waters where beasts and horses are vsed to drinke, or be washt, or wherevnto the water and moisture of dunghills haue recourse are all good Manures for this redde-sand: as for the Manure of Shéepe vpon this redde-sand, it is the best of all in such places as you meane to sow Rie, but not fully so good where you doe intend to sow your Barley: if it be a cold moist redde-sand (which is seldome found but in some particular low countries) then it doth not amisse to Manure it most with Shéepe, or else with Chaulke, Lime, or Ashes, of which you can get the greatest plentie: if this soile be subiect to much wéede and quickes, as generally it is, then after you haue torne vp the wéedes and quickes with Harrowes, you

Of Manuring.

shall with rakes, rake them together, and laying them in heapes vpon the land, you shall burne them and then spreading the ashes they will be a very good Manure, and in short space destroy the wéedes also; likewise if your land be much ouergrowne with wéedes, if when you sheare your Rie you leaue a good long stubble, and then mowing the stubble burne it vpon the land, it is both a good Manure and also a good meanes to destroy the wéedes.

After your Manure is lead forth and either spread vpon the lands, or set in great heapes, so as the land may be couered ouer with Manure (for it is to be obserued that this soile must be throughly Manured) then about the middest of May, which is the time when this worke should be finished, you shall repaire with your Plough into the other fallow field, which was prepared the yéere before for this yéeres Barley, & there you shall sow it all ouer with Barley aboue furrow, that is to say, you shall first Plough it, then sow it, and after Harrow it, making the mould as fine and smooth as may be, which is done with easie labour, because this sand of it owne nature is as fine as ashes.

Of sowing Barley.

Now the limitation for this séede time, is from the middest of May, till the middest of Iune, wherein if any man demand why it should not be sowne in March and Aprill, according as it is sowne in the former soiles, I answere, that first this redde-sand cannot be prepared, or receiue his full season in weather, and earings, before this time of the yéere, and next that these redde-sands, by how much they are hotter and drier then the other claies, by so much they may wel stay the longer before they receiue their séede, because that so much the sooner the séede doth sprout in them, & also the sooner ripen being kept warmer at the roote then in any could soile whatsoever. As soone as the middest of Iune approacheth, you shall then beginne to Summer-stirre your fallow field, and to turne your Manure into your land, in such sort as you did vpon your clay soiles, for this Ardor of Summer-stirring altereth in no soile, and this must be done from the middest of Iune, till the middest of Iuly, for as touching sleighting, clotting, or smoothing of this Barley field, it is seldome in vse, because the finenesse of the sand will lay the land smooth inough without sleighting: yet if you finde that any particular land lieth more rough then the rest, it shall not be amisse, if with your backe Harrowes you smooth it a little within a day or two after it is sowne.

Of Summer-stirring.

Of sleighting.

From the middest of Iuly vntill the middest of August, you shall foile and throw downe your fallow field againe, if your lands lie well and in good order, but if any of your lands doe lie in the danger of water, or by vse of Plowing are growne too flat, both which are hinderances to the growth of Corne, then when you foile your lands you shall Plow them vpward, and so by that meanes raise the ridges one furrow higher. After you haue foiled your land, which must be about the middest of August, then will your Barley be ready to mowe, for these hot soiles haue euer an earely haruest, which as soone as it is mowne and carried into the Barne, forthwith you shall with all expedition carry forth such Manure as you may conueniently spare, and lay it vpon that land from whence you receiued your Barley, which is most barraine: and if you want cart Manure, you shall then lay your fould of Shéepe thereupon, and as soone as it is Manured, you shall immediately Plow both it & the rest, which Ardor should be finished by the middest of September, and so suffered to rest vntill the beginning of October, at which time you shall beginne to sow all that field ouer with Rye in such sort as hath béene spoken of in former places.

Of Foiling.

Of sowing Rye.

Now in as much as the ignorant Husbandman may very easiely imagine that I reckon vp his labours too thicke, and therein leaue him no leasure

Obiection.

for his necessarie businesses, especially because I appoint him to foile his land from the middest of Iuly, till the middest of August, which is both a busie time for his Hay haruest, and also for his Rye shearing.

To this I make answere, that I write not according to that which poore men are able (for it were infinit to looke into estates) but according as euery good Husband ought, presupposing that he which will liue by the Plough, ought to pursue all things belonging vnto the Plough, and then he shall finde that there is no day in the yéere, but the Saboth, but it is necessarie that the Plough be going: yet to reconcile the poore and the rich together, they shall vnterstand, that when I speake of Plowing in the time of Haruest, I doe not meane that they should neglect any part of that principall Worke, which is the true recompence of their labour: but because whilst the dew is vpon the ground, or when there is either raine or mizling there is then no time for Haruest Worke, then my meaning is that the carefull Husbandman shall take those aduantages, and rising earelier in the mornings, be sure to be at his Plough two howers before the dew be from the ground, knowing that the getting but of one hower in the day compasseth a great worke in a month, neither shall hée néede to feare the ouer toiling of his cattell, sith at that time of the yéere Grasse being at greatest plenty, strongest and fullest of hart, Corne scattered almost in euery corner, and the mouth of the beast not being muzeld in his labour, there is no question but he will indure and worke more then at any other season.

Answer.

[G1v]

In the beginning of Nouember, you shall beginne to Winter-ridge your fallow, or tilth-field, which in all points shalbe done according to the forme described in the former soiles: for that Ardor of all other neuer altereth, because it is as it were a defence against the latter spring, which else would fill the lands full of wéedes, and also against the rigor of Winter, and therefore it doth lay vp the furrow close together, which taking the season of the frost, winde, and weather, makes the mould ripe, mellow, and light: and the limitation for this Ardor, is from the beginning of Nouember, vntill the middest of December.

Of Winter ridging.

Now as touching the Plough which is best and most proper for this redde-sand, it differeth nothing in shape and composure of members from that Plough which is described for the blacke Clay, hauing necessarily two haies, because the ground being loose and light, the Plough will with great difficulty hold land, but with the least disorder be euer ready to runne into the furrow, so that a right hand hales is most necessarie for the houlding of the plough euen, onely the difference of the two Ploughes consisteth in this, that the plough for this red-sand, must be much lesse then the plough for the blacke Clay houlding in the sizes of the timber the due proportion of the plough for the white or gray clay, or if it be somewhat lesse it is not amisse, as the head being eightéene inches, the maine beame not aboue foure foote, and betwéene the hinder part of the rest, and the out-most part of the plough head in the hinder end not aboue eight inches. Now for the Plough-Irons which doe belong vnto this plough, the Coulture is to be made circular, in such proportion as the coulture for the gray, or white clay, and in the placing, or tempering vpon the Plough it is to be set an inch at least lower then the share, that it may both make way before the share, and also cut déeper into the land, to make the furrow haue more easie turning.

Of the Plough.

Of the coulture.

Now for the share, it differeth in shape from both the former shares, for it is neither so large nor out-winged, as that for the gray Clay, for this share is onely made broad to the Plough ward, and small to the point of the share, with onely a little peake and no wing according to this figure.

Of the share.

[G2]

The share.

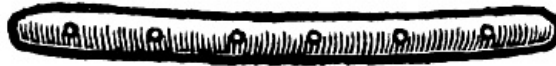


[G2v]

These Plough-irons, both coulter and share, must be well steeled and hardned at the points, because these sandy soiles being full of moisture and gréete, will in short space weare and consume the Irons, to the great hinderance and cost of the Husbandman, if it be not preuented by stéele and hardning, which notwithstanding will waste also in these soiles, so that you must at least twise in euery Ardor haue your Irons to the Smith, and cause him to reaire them both with Iron and stéele, besides these Irons, of coulter and share, you must also haue a long piece of Iron, which must be iust of the length of the Plough head, and as broad as the Plough head is thicke, and in thicnesse a quarter of an inch: and this piece of Iron must be nailed vpon the outside of the Plough head, next vnto the land, onely to saue the Plough head from wearing, for when the Plough is worne it can then no longer hould the land, and this piece of Iron is called of Husbandmen the Plough-slip and presenteth this figure.

Of the plough-slip.

The Plough-slip.



Ouer and besides this Plough-slip, there are certaine other pieces of Iron which are made in the fashion of broad thinne plates, and they be called Plough clouts, and are to be nailed vpon the shelboard, to defend it from the earth or furrow which it turneth ouer, which in very short space would weare the woode and put the Husbandman to double charge.

Of Plough clouts.

Thus hauing shewed you the parts, members, and implements, belonging to this Plough, it rests that I procéde vnto the teame or draught: for to speake of the vse and handling of this Plough, it is néedelesse, because it is all one with those Ploughes, of which I haue spoken in the former Chapters, and he which can hould and handle a Plough in stiffe clayes must néedes (except he be excéeding simple) hould a Plough in these light sands, in as much as the worke is much more easie and the Plough a great deale lesse chargeable.

The houlding of the Plough.

[G3]

Now for the Draught or Teame, they ought to be as in the former Soiles, Oxen or Horses, yet the number not so great: for foure Beasts are sufficient to plow any Ardor vpon this soile, nay, thrée Horses if they be of reasenable strength will doe as much as sixe vpon either of the Clay-soiles: asfor their attire or Harnessing, the Beare-gears, before described, are the best and most proper. And thus much concerning this red Sand, wherein you are to take this briefe obseruation with you, that the Graines which are best to be sowne vpon it, are onely Rye, Barley, small Pease, *Lentles* and *Lupines*, otherwise called Fitches, and the graines to which it is aduerse, are Wheat, Beanes and Maslin.

Of the draught.

CHAP. VIII.

The manner of plowing the white Sand, his Earings, Plough, and Implements.



ext vnto this red Sand, is the white sand, which is much



more barraine then the red Sand, yet by the industry of the Husbandman in plowing, and by the cost of Manure it is made to beare corne in reasonable plentie. Now of white Sands there be two kindes, the one a white Sand mixt with a kinde of Marle, as that in Norffolke, Suffolke, and other such like places butting vpon the Sea-coast: the other a white Sand with Pible, as in some parts of Surrey, about Ancaster in Lincolne shire, and about Salisbury in Wil-shire.

Now for this white Sand with Pible, it is the barrainest, and least fruitfull in bringing forth, because it hath nothing but a hot dustie substance in it. For the manner of Earing thereof, it agréeth in all points with the redde Sand, the Ardors being all one, the Tempers, Manurings and all other appurtenances: the Séede also which it delights in is all one with the red Sand, as namely, Rye, Barley, Pease and Fitches. Wherefore who so shall dwell vpon such a soile, I must referre him to the former Chapter of the red Sand, and therein he shall finde sufficient instruction how to behaue himselfe vpon this earth: remembring that in as much as it is more barraine then the red Sand, by so much it craueth more care and cost, both in plowing and manuring thereof, which two labours onely make perfect the ill ground.

Of the white Sand with Pible.

[G3v]

Now for the white Sand which hath as it were a certaine mixture, or nature of Marle in it, you shall vnderstand that albeit vnto the eye it be more dry and dustie then the red Sand, yet it is fully as rich as the red Sand: for albe it doe not beare Barley in as great plenty as the red Sand, yet it beareth Wheate abundantly, which the red Sand seldome or very hardly bringeth forth.

Of the white Sand with Marle.

Wherefore to procéede to the Earings or tillage of this white Marly sand, you shall vnderstand that about the middest of Ianuary is fit time to beginne to fallow your field which shall be tilth and rest for this yéere: wherein by the way, before I procéede further, you shall take this obseruation with you, that whereas in the former soiles I diuided the fields into thrée & foure parts, this soile cannot conueniently, if it be well husbanded, be diuided into any more parts then two, that is to say, a fallow field, and a Wheat-field: in which Wheate-field if you haue any land richer then other, you may bestow Barley vpon it, vpon the second you may bestow Wheat, vpon the third sort of ground Rye, and vpon the barrainest, Pease or Fitches: and yet all these must be sowne within one field, because in this white sand, Wheate and Rye will not grow after Barley or Pease, nor Barley and Pease after Wheate or Rye. Your fields being then diuided into two parts, that is, one for corne, the other for rest, you shall as before I said, about the middest of Ianuary beginne to fallow your Tith-field, which in all obseruations you shall doe according as is mentioned for the red sand.

Of Fallowing.

[G4r]

About the middest of March, if you haue any barraine or wasted ground within your fallow field, or if you haue any occasion to breake vp any new ground, which hath not béene formerly broake vp, in eyther of these cases you shall sow Pease or Fitches thereupon, and those Pease or Fitches you shall sow vnder furrow as hath béene before described.

Of sowing Pease.

About the middest of Aprill you shall plow your fallow-field ouer againe, in such manner as you plowed when you fallowed it first: and this is called Spring-fallowing, and is of great benefit because at that time the wéedes and quicke beginning to spring, nay, to flowrish, by reason that the heate of the climbe puts them forth sooner then in other soyles, if they should not be plowed vp before they take too strong roote, they would not onely ouer-runne, but also eate out the hart of the Land.

Of Spring-fallowing.

About the middest of May you shall beginne to sow your Barley vpon the

Of sowing Barley.

richest part of your old fallow-field, which at the Michaelmas before, when you did sow your Wheate, and Rye, and Maslin, you did reserue for that purpose: and this Barley you shall sow in such sort as is mentioned in the former Chapter of the red Sand, in so much that this Ardor being finished, which is the last part of your Séede-time, your whole field shall be furnished eyther with Wheate, if it hold a temperate fatnesse, or with Wheate and Barley, if it be rich and richer, or with Wheate, Barley and Pulse, if it be rich, poore or extreame barraine: and the manner of sowing all these seuerall séedes is described in the Chapters going before.

About the middest of Iune you shall beginne to Summer-stirre your fallow-field, in such sort as was spoken of in the former Chapters concerning the other soiles: for in this Ardor there is no alteration of methode, but onely in gouernment of the Plough, considering the heauinesse and lightnesse of the earth. During this Ardor you shall busily apply your labour in leading forth your Manure, for it may at great ease be done both at one season, neyther the Plough hindering the Cart, nor the Cart staying the Plough: for this soile being more light and easie in worke then any other soile whatsoever, doth euer preserue so many Cattell for other imployment that both workes may goe forward together, as shall be shewed when wee come to speake of the Plough, and the Teame which drawes it.

Of Summer-stirring.

[G4v]

Now as touching the Manures most fit for this soyle, they be all those of which we haue formerly written, ashes onely excepted, which being of an hot nature doe scald the Séede, and detaine it from all fruitfulnessse, being mixt with this hot soile, so is likewise Lyme, and the burning of stubble: other Manures are both good and occasion much fertilitie, as being of a binding and coole nature, and holding together that loosenesse which in his too much separation taketh all nutriment from the earth.

Of Manuring.

After you haue ledde forth your Manure, and Summer-stird your Land, you shall then about the beginning of Iulie looke into your Corne-field, and if you perceiue any Thistles, or any other superfluous wéedes to annoy your Corne, you shall then (as is before said) either cut, or plucke them vp by the rootes.

Of Weeding.

About the middest of August you shall beginne to foile or cast downe your fallow-field againe, and in that Ardor you shall be very carefull to plow cleane and leaue no wéedes vncut vp: for in these hot soiles if any wéedes be left with the least roote, so that they may knit and bring forth séede, the annoyance thereof will remaine for at least foure yéeres after, which is a double fallowing. And to the end that you may cut vp all such wéedes cleane, although both your Share and Coulture misse them, you shall haue the rest of your Plough in the vnder part which strokes alongst the earth filled all full of dragges of Iron, that is, of olde crooked nailes or great tenter-hookes, such as vpon the putting downe of your right hand when you come néere a wéed shall catch hold thereof and teare it vp by the rootes, as at this day is vsed be many particular Husbands in this kingdome, whose cares, skils, and industries are not inferiour to the best whatsoever.

Of Foyling.

[H]

About the middest of September, you shall beginne to sow your Wheate and Rye vpon your fallow field, which Graine vpon this soile is to be reckoned the most principall: and you shall sow it in the same manner that is described in the former Chapters, wherein your especiallest care is the choise of your séede: for in this soile your whole-straw Wheate, nor your great Pollard taketh any delight, neither your Organe, for all those thrée must haue a firme and a strong mould: but your Chilter-wheate,

Of Sowing Wheate and Rye.

The choise of Seede.

your Flaxen-wheate, your White-pollard, and your Red-wheate, which are the Wheates which yéeld the purest and finest meale, (although they grow not in so great abundance) are the séedes which are most proper and naturall for this soile. As for Rye or Maslin, according to the goodnesse of the ground so you shall bestow your séede: for it is a generall rule, that wheresoeuer your Wheate growes, there will euer Rye grow, but Rye will many times grow where Wheate will not prosper; and therefore for the sowing of your Rye, it must be according to the temper of the earth, and the necessitie of your household: for Wheate being a richer graine then Rye, if you be assured that your ground will beare Wheate well, it is small Husbandrie to sow more Rye or Maslin then for your house: but if it be too hot for Wheate, and kindly for Rye, then it is better to haue good Rye, then ill Wheate. Now for the sowing of your Rye or Maslin in this soile, it differeth nothing from the former soiles, either in plowing or any other obseruation, that is to say, it must be plowed about furrow: for Rye being the most tender graine, it can neither abide the waight of earth, nor yet moisture; the one, as it were, burying, and the other drowning the vigour and strength of the séede.

About the beginning of Nouember you shall Winter-ridge your fallow field, I meane that part which you doe preserue for Barley (for the other part is furnished with séede) and this Winter-ridging differeth nothing from the Winter ridging of other soiles, onely you shall a little more precisely obserue to set vp your lands more straight and high then in other soiles, both to defend them from wet, which this soile is much subiect vnto, because commonly some great riuer is neare it, and also for the preseruing of the strength and goodnesse of the Manure within the land which by lying open and vnclosed would soone be washt forth and consumed.

Of Winter-ridging.

Now sith I haue here occasion to speake something of the draining of lands, and the kéeping of them from the annoyance of superfluous wet, whether it be by invndation or otherwise, you shall vnderstand that it is the especiall office and dutie of euery good Husbandman, not onely in this soile, but in all other whatsoeuer, to haue a principall respect to the kéeping of his land dry, and to that end hée shall diligently (as soone as he hath Winter-rigged his land) take a carefull view how his lands lie, which way the descent goes from whence annoyance or water may possibly come, and so consequently from those obseruations, with a Spade or strong Plough, of extraordinary greatnesse, draw certaine déepe furrowes from descent vnto descent, by which meanes all the water may be conuayed from his lands, eyther into some common Sewer, Lake, Brooke, or other maine Riuer: and to this end it is both a rule in the common Lawes of our Land, and a laudable custome in the Commonwealth of euery Towne, that for as much as many Townes haue their lands lie in common, that is to say, mixed neighbour with neighbour, few or none hauing about two or three lands at the most lying together in one place, therefore euery man shall ioyne, and make their water-furrowes one from another, vntill such time as the water be conuayed into some common issue, as well hée whose lands be without all danger, as he that is troubled with the greatest annoyance, and herein euery one shall beare his particular charge: which is an Act of great vertue and goodnesse.

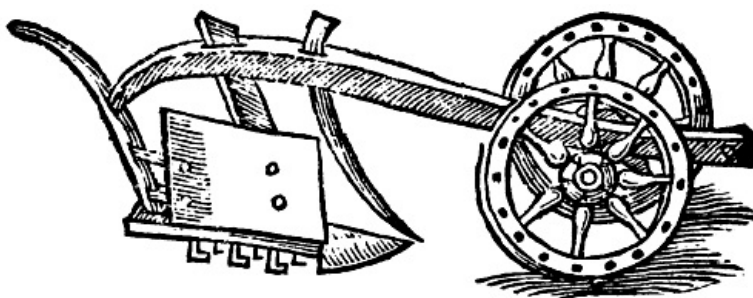
Of the clensing of lands, or drawing of water-furrowes.

Now for the Plough which is to plow this white sand it doth differ nothing in size, proportion, and vse of handling from the Plough described for the red Sand, onely it hath one addition more, that is to say, at the further end of the maine Beame of the Plough, where you fixe your Plough-foote, there you shall place a little paire of round whéeles, which bearing the Beame vpon a loose mouing Axletrée, being iust the

Of the Plough.

length of two furrows and no more, doth so certainly guide the Plough in his true furrow that it can neither lose the land by swaruing (as in these light soiles euery Plough is apt to doe) nor take too much land, eyther by the gréedinesse of the plough or sharpnesse of the Irons, neither can it drownd through the easie lightnesse of the earth, nor runne too shallow through the fussinesse of the mould, but the whéeles being made of a true proportion, which should not be aboue twelue inches from the centre, the Plough with a reasonable hand of gouernment shall runne in a direct and euen furrow: the proportion of which Plough is contained in this Figure.

The Plough with Wheeles.



This plough of all others I hold to be most ancient, and as being the modell of the first inuention, and at this day is preserued both in France, Germany, & Italy, and no other proportion of Ploughes knowne, both as we perceiue by our experience in séeing them plow, & also by reading of their writings: for neither in *Virgil*, *Columella*, *Xenophon*, nor any olde Writer: nor in *Heresbachius*, *Steuens*, nor *Libault*, being later Writers, finde wée any other Plough bequeathed vnto our memories. Yet it is most certaine, that in many of our English soiles, this Plough is of little profit, as we finde by daily experience both in our clayes, and many of our mixt earths: for in truth this Plough is but onely for light, sandy, or grauelly soiles, as for the most part these forraine Countries are, especially about the sea-coast, or the borders of great Cities, from whence these Writers most generally tooke the presidents for their writings.

[H2v]

Now for the parts of this Plough, it consisteth of the same members which the former Ploughs doe, onely that in stead of the Plough-foote it hath a paire of whéeles. It hath also but one Hale, in such sort as the Plough for the gray or white clay. The beame also of this Plough is much more straight then the former, by which meanes the Skeath is not full so long. The Irons belonging vnto this Plough are of the fashion of the former Irons, onely they be somewhat lesse, that is to say, the Coulture is not so long, neyther so full bent as that for the red Sand, nor so straight as that for the blacke clay, but as it were holding a meane betwéene both: so likewise the Share is not fully so broad as that for the red sand, nor so narrow as that for the gray clay, but holds as it were a middle size betwéene both, somewhat leaning in proportion to the shape of that for the blacke clay. As for the Plough-slip, Plough-clouts, and other implements which are to defend the wood from the hardnesse of the earth, they are the same, and in the same wise to be vsed as those for the red Sand.

Of the plough-Irons.

Now for the Draught or Teame which drawes this Plough, they are as in all other Draughts, Oxen or Horses, but for the number thereof they differ much from those which are formerly written of: for you shall vnderstand that in this white sandy soile, which is of all soiles the lightest, eyther two good Horses, or two good Oxen are a number sufficient to plow any Ardor vpon this soile whatsoever, as by daily

Of the draught.

[H3]

experience we may see in those countries whose soile consists of this white light Sand, of which we have now written: neyther shall the Plowman vpon this soile neede any person to driue or order his Plough more then himselfe: for the soile being so light and easie to cut, the Plough so nimble, and the Cattell so few and so neare him, hauing euer his right hand at libertie (because his plough hath but onely a left hand Hale) he hath liberty euer to carry a goade or whip in his right hand, to quicken and set forward his Cattell, and also a line which being fastned to the heads of the Beasts, hee may with it euer when hee comes to the lands end, stop them and turne them vpon which hand he pleases. And thus much for the tillage and ordering of this white Sand.

CHAP. IX.

The manner of plowing the Grauell with Pible stones, or the Grauell with Flint, their Earings, Plough, and implements.



auing in the plainest manner I can written sufficiently already of the foure simple and vncompounded soiles, to wit, two Clayes, blacke and gray, and two Sands, red and white, it now rests that I also giue you some perfect touch or taste of the mixt or compounded soiles, as namely, the grauell which is a kinde of hard sand, clay and stone mixt together: and of Grauels there be two kindes, that is to say, one that is mixt with little small Pible stones, as in many parts of Middlesex, Kent, and Surry: and the Grauell mixt with broad Flints, as in many parts of Hartford-shire, Essex, and sundry such places. These Grauels are both, in generall, subiect to much barrainnesse, especially if they be accompanied with any extraordinary moisture, yet with the good labour of plowing, and with the cost of much Manure, they are brought to reasonable fruitfulnessse, where it comes to passe that the Plow-man which is master of such a soile, if either he liue not neare some Citie or Market-towne, where great store of Manure, by the concourse of people, is daily bred, and so consequently is very cheape, or else haue not in his owne store and bréede, meanes to raise good store of Manure, hee shall seldome thriue and prosper thereupon. Now although in these grauell soiles there is a diuersity of mixture, as the one mingled with small Pibles, which indéede is the worst mixture, the other with broad Flints, which is the better signe of fruitfulnessse: yet in their order of tillage or Earings, in their wéeding and cleansing, and in all other ardors and obseruations, they differ nothing at all, the beginning and ending of each seuerall worke being all one.

[H3v]

Now for the manner of worke belonging vnto these two soiles, it altereth in no respect nor obseruation eyther in Plough, plowing, manuring, weeding, or any other thing whatsoever, from that of the white sand, the same times of the yéere, the same Séedes, and the same Earings being euer to be obserued, wherefore it shall be needlesse to write so amply of these soiles as of the former, because being all one with the white Sand, without alteration, it were but to write one thing twice, and therefore I referre the Reader to the former Chapter, and also the Husbandman that shall liue vpon either of these soiles, onely with these few caueats: First, that for the laying his lands, hee shall lay them in little small stiches, that is, not hauing about foure furrowes laid together, as it were for one land, in such sort as you see in Hartford-shire, Essex, Middlesex, Kent and Surry: for this soile being for the most part subiect to much moisture and hardnesse, if it should be laid in great lands, according to the

manner of the North parts, it would ouer-burden, choake and confound the séed which is throwne into it. Secondly, you shall not goe about to gather off the stones which séeme as it were to couer the lands, both because the labour is infinite and impossible, as also because those stones are of good vse, and as it were a certaine Manuring and helpe vnto the ground: for the nature of this Grauell being colde and moist, these stones doe in the winter time, defend and kéepe the sharpnesse of the Frosts and bleake windes from killing the heart or roote of the séedes, and also in the Summer it defends the scorching heate of the Sunne from parching and drying vp the Séede, which in this grauelly soile doth not lie so well couered, as in other soyles, especially if this kinde of earth be inuironed with any great hils (as most commonly it is) the reflection whereof makes the heate much more violent. And lastly, to obserue that there is no manure better or more kindly for this kinde of earth then Chaulke, white Marle, or Lyme: for all other matters whatsoeuer the former Chapter of the white Sand, will giue you sufficient instructions.

CHAP. X.

The manner of plowing the blacke Clay mixt with red Sand, and the white Clay mixt with white Sand, their Earings, Plough and Implements.



Next to these grauelly soiles, there be also two other compounded earths, as namely, the blacke Clay mixt with red Sand, and the white Clay mixt with white sand, which albe they differ in composition of mould, yet they hold one nature in their Tillage and Husbandry: wherefore first to speake of the blacke Clay mixt with red Sand, which (as before I said) is called of Husbandmen an hassell earth, you shall vnderstand that it is a very rich and good soile, very fruitfull both for Corne and Grasse: for Corne, being apt to beare any séede whatsoeuer: and for Grasse, as naturally putting it forth very earely in the yéere, by which your Cattell shall get reliefe sooner then in other soiles of colder nature: for both the blacke and white claies doe seldome flowrish with any store of Grasse before Iune, which is the time of wood-seare, and this soile will boast of some plenty about the beginning of Aprill at the furthest: but for Grasse we shall speake in his proper place.

Now for his tillage it is thus: you shall about the middest of Ianuary, beginne to fallow that field which you intend that yéere shall lye at rest or tilth, and you shall fallow it in such sort as is specified in the Chapter of the blacke clay: onely you shall raise small furrowes and Plow the land cleane, being sure to open and cast the land downeward if the land lie high and round, otherwise you shall neuer at any time cast the land downe but ridge it vp, that is to say, when you fallow it, you shall cast the first furrow downeward, and so likewise the second, which two furrowes being cleane ploughed, will lay the land open inough, that is, there wilbe no part of the ridge vnploughed: which done, by changing your hand and the gate of your Plough, you shall plough those furrowes backe againe and lay them vpward, and so plough the whole land vpward, also laying it round and high: the reason for this manner of plowing being this, that for as much as this land being mixt of clay and sand, must néedes be a sore binding land, therefore if it should be laid flat, if any great raine or wet should fall, and a present drought follow it, neither should you possibly force your Plough to enter into it and breake

Of fallowing.

it, or being broken should you get so much mould as to couer your Corne and giue the séede comfort, whereas vpon the contrary part, if it be laid high and vpright, it must necessarily be laid hollow and light, in so much that you may both Plough it at your pleasure, and also beget so perfect a mould as any other soile whatsoever, both because the wet hath liberty to auoide through the hollownesse, and also because the Sunne and weather hath power to enter and season it, wherefore in conclusion you shall fallow this field downward if it lye high and vpright, otherwise you shall fallow it vpward as the meanes to bring it to the best Ardor.

[11]

Now for this fallow field it must euer be made where the yéere before you did reape your Pease, in case you haue but thrée fields, or where you did reape your Wheate, Rye, and Maslin, in case you haue foure fields, according to the manner of the blacke clay.

About the middest of February, which is within a day or two of Saint *Valentines* day, if the season be any thing constant in fairenesse and drinesse, you shall then beginne to sow your Pease, for you must vnderstand that albeit this soile will beare Beanes, yet they are nothing so naturall for it as Pease, both because they are an hungry séede and doe much impaire and wast the ground, and also because they prosper best in a fat, loose, and tough earth, which is contrary to this hard and drie soile: but especially if you haue foure fields, you shall forbear to sow any Beanes at all, least you loose two commodities, that is, both quantitie of graine (because Beanes are not so long and fruitfull vpon this earth, as vpon the clayes) and the Manuring of your ground, which Pease out of their owne natures doe, both by the smothering of the ground and their owne fatnesse, when your Beanes doe pill and sucke the hart out of the earth.

Of sowing Pease.

Now for the manner of sowing your Pease, you shall sow them aboue furrow, that is, first plough the land vpward, then immediately sow your Pease, and instantly after Harrow them, the Plough, the Séedes-man, and the Harrower, by due course, following each other, and so likewise you may sow Oates vpon this soile.

About the middest of March, which is almost a fortnight before our Lady day, you shall beginne to sow your Barley, which Barley you shall sow neither vnder-furrow nor aboue, but after this order: first, you shall plow your land downward, beginning at the furrow and so assending vpward to the ridge of the land, which as soone as you haue opened, you shall then by pulling the plough out of the earth, and laying the shelboard crosse the ridge, you shall fill the ridge in againe with the same mould which you plowed vp: this done, your séedes-man shall bring his Barley and sow the land aboue furrow: after the land is sowne, you shall then Harrow it as small as may be, first with a paire of woodden Harrowes, and after with a paire of Iron Harrowes, or else with a double Oxe Harrow, for this earth being somewhat hard and much binding, will aske great care and dilligence in breaking.

Of sowing Barley.

[11v]

After your Barley is sowne, you shall about the latter end of Aprill beginne to smooth and sleight your land, both with the backe Harrowes and with the rouler, and looke what clots they faile to breake, you shall with clotting beetles beate them asunder, making your mould as fine and laying your land as smooth as is possible.

Of sleighting.

About the middest of May, you shall, if any wet fall, beginne to Summer-stirre your land, or if no wet fall, you shall doe your indeauour to Summer-stirre your land, rather aduenturing to breake two ploughes, then to loose one day in that labour, knowing this, that one land Summer-stird in a dry season, is better then thrée Summer-stird in a wet or moist weather, both because it giues the earth a better temper, and

Of Summer-stirring.

kils the wéedes with more assurednesse, and as I speake of Summer-stirring, so I speake of all other Ardors, that the drier they are done the better they are euer done: and in this season you shall also gather the stones from your ground.

Now it may be obiected, that if it be best to plough in drie seasons, it is then best to fallow also in a dry season, and by that meanes not to beginne to fallow vntill the beginning of May, as is prescribed for the blacke clay, and so to deferre the Summer-stirring till the next month after, sith of necessitie Ianuary must either be wet or else vnkindely.

Obiection.

To this I make answere, that most true it is, that the land which is last fallowed is euer the best and most fruitfull, yet this mixt earth which is compound of sand and clay, is such a binding earth, that if it be not taken and fallowed in a moist-time of the yéere, as namely, in Ianuary or February, but suffered to lye till May, at which time the drought hath so entered into him, that the greatest part of his moisture is decayed, then I say, the nature of the ground is such and so hard, that it wilbe impossible to make any plough enter into it, so that you shall not onely aduenture the losse of that speciall Ardor, but also of all the rest which should follow after, and so consequently loose the profit of your land: where contrary wise if you fallow it at the beginning of the yéere, as in Ianuary, and February, albe they be wet, yet shall you lay vp your furrowes and make the earth more loose, by which meanes you shall compasse all the other Earings which belong to your soile: for to speake briefly, late fallowing belongs vnto claies, which by drought are made loose and light, and earely fallowings vnto mixt soiles, such as these which by drinesse doe ingender and binde close together.

Answer.

[12]

About the middest of Iune, you shall beginne to wéede your Corne, in such sort as hath béene before described in the former Chapters: and although this soile naturally of it selfe (if it haue receiued his whole Ardor in due seasons, and haue béene Ploughed cleane, according to the office of a good Husband) doth neither put forth Thistle or other wéede, yet if it want either the one or the other, it is certaine that it puts them forth in great abundance, for by Thistles and wéedes, vpon this soile, is euer knowne the goodnesse and dilligence of the Husbandman.

Of weeding.

About the middest of Iuly, you shall beginne to foile your land, in such sort also as hath béene mentioned in the former Chapters, onely with this obseruation that if any of your lands lie flat, you shall then, in your foiling, plough those lands vpward and not downward, holding your first precept that in this soile, your lands must lie high, light, and hollow, which if you see they doe, then you may if you please in your foiling cast them downward, because at Winter ridging you may set them vp againe.

Of Foiling.

Now for as much as in this Chapter I haue hitherto omitted to speake of Manuring this soile, you shall vnderstand that it is not because I hold it so rich that it néedeth no Manure, but because I know there is nothing more néedfull vnto it then Manure, in so much that I wish not the Husbandman of this ground to binde himselfe vnto any one particular season of the yéere for the leading forth of his Manure, but to bestow all his leasurable houres and rest from other workes onely vpon this labor, euen through the circuit of the whole yéere, knowing this most precisely, that at what time of the yéere so euer you shall lay Manure vpon this earth it will returne much profit.

Of Manuring.

[12v]

As for the choise of Manures vpon this soile they are all those whatsoever, of which I haue formerly intreated in any of the other Chapters, no Manure whatsoever comming amisse to this ground: prouided that the Husbandman haue this respect to lay vpon his

moystest and coldest ground his hottest Manures, and vpon his hottest and driest earth his coolest and moistest Manures: the hot Manures being Shéepes-dung, Pigions-dung, Pullen-dung, Lyme, Ashes, and such like: the coole being Oxe-dung, Horse-dung, the scowrings of Ponds, Marle, and such like.

About the middest of September you shall beginne to Winter-ridge your Land, which in all points you shall doe according as is mentioned in the former Chapters of the Clayes: for in this Ardor there is neuer any difference, onely this one small obseruation, that you may aduenture to Winter-ridge this mixt earth sooner then any other: for many of our best English Husbandmen which liue vpon this soile doe hold this opinion, that if it be Winter-ridged so earely in the yéere, that through the vertue of the latter spring it put forth a certaine gréene wéede like mosse, bring short and soft, that the land is so much the better therefore, being as they imagine both fed and comforted by such a slender expression which doth not take from the land any hart, but like a warme couering doth ripen and make mellow the mould, and this cannot be effected but onely by earely Winter-ridging.

Of Winter-ridging.

At the end of September you shall beginne to sow your Wheate, Rye, and Maslin, all which Graines are very naturall, good, and profitable vpon this soile, and are to be sowne after the same manner, and with the same obseruations which are specified in the former Chapter of the blacke clay, that is to say, the Wheate vnder furrow, and vnharrowed, the Rye and Maslin aboue furrow, and well harrowed. And herein is also to be remembred all those precepts mentioned in the Chapter of the blacke Clay, touching the diuision of the fields, that is to say, if you haue three fields, you shall then sow your Wheate, Rye and Maslin in your fallow-field, and so saue both the Foyling and double manuring of so much earth: but if you haue foure fields, then you shall sow those graines vpon that land from whence the same yéere you did reape your Pease; your Wheate hauing no other Manure then that which came by the Pease, your Rye hauing, if possible, eyther Manure from the Cart, or from the Folde, in such sort as hath béene shewed in the Chapter of the blacke Clay, and this of Husbandmen is called Inam-wheate or Inam-rye, that is, white-corne sowne after white-corne, as Barley after Barley, or hard-corne after hard-corne, which is wheate after Pease.

Of Sowing of Wheate, Rye, and Maslin.

Now for the Plough which is most proper for this soile it is to be made of a middle size betwixt that for the blacke Clay, and that for the red Sand, being not all out so bigge and vnwiely as the first, nor so slender and nimble as the latter, but taking a middle proportion from them both, you shall make your Plough of a competent fitnessse.

Of the plough.

As for the Irons, the Share must be of the same proportion that the Share for the red Sand is, yet a little thought bigger, and the Coulture of the fashion of that Coulture, onely not full so much bent, but all-out as sharpe and as long: and these Irons must be euer well maintained with stéele, for this mixt earth is euer the hardest, and weareth both the Plough and Irons soonest, and therefore it is agréed by all Husbandmen that this Plough must not at any time want his Plough-slip, except at the first going of the Plough you shall finde that it hath too much land, that is to say, by the crosse setting on of the beame, that it runneth too gréedily into the land, which to helpe, you shall let your Plough goe without a plough-slip, till the plough-head be so much worne, that it take no more but an ordinary furrow, and then you shall set on your Plough-slips and Plough clouts also: but I write this in case there be imperfection in the Plough, which if it be otherwise, then this obseruation is néedlesse.

Of the plough-Irons.

Now for the Teame or Draught which shall draw this Plough, they are as the former, Oxen or Horses, and their number the same that is prescribed for the blacke Clay, as namely, eight or sixe Beasts for Pease-earth, for Fallowing, and Summer-stirring, and sixe or foure for all other Ardors: for you must vnderstand that this mixt and binding soile, through his hardnesse, and glutenous holding together, is as hard to plow as any clay-soile whatsoever, and in some speciall seasons more by many degrés.

Of the Teame.

Now for the white clay mixt with white sand, it is an earth much more barraine, then this former mixt earth, and bringeth forth nothing without much care, diligence, and good order: yet, for his manner of Earings, in their true natures euery way doe differ nothing from the Earings of this blacke clay and red Sand, onely the Séede which must be sowne vpon this soile differeth from the former: for vpon this soile in stead of Barley you must sow most Oates, as a Graine which will take much strength from little fertilitie: and in stead of Rye you shall sow more Wheate and more Pease, or in stead of Pease then you shall sow Fitches of eyther kinde which you please, and the increase will be (though not in abundance, yet) so sufficient as shall well quit the Plow-mans labour.

Of the white clay with white Sand.

[14r] Now for the Manuring of this ground, you shall vnderstand that Marle is the chiefest: for neyther will any man suppose that this hard soile should bring vp cattell sufficient to manure it, nor if it would, yet that Manure were not so good: for a barraine clay being mixt with a most barraine sand, it must consequently follow that the soile must be of all the barenest, insomuch that to giue perfect strength and life vnto it, there is nothing better then Marle, which being a fat and strong clay, once incorporated within these weake moulds, it must néedes giue them the best nourishment, loosening the binding substance, and binding that weaknesse which occasioneth the barrainnesse: but of this Marle I shall haue more occasion to speake hereafter in a particular Chapter, onely thus much I must let you vnderstand, that this soile, albe it be not within any degré of praise for the bringing forth of Corne, yet it is very apt and fruitfull for the bréeding of grasse, insomuch that it will beare you corne for at least nine yéeres together (without the vse of any fallow or Tilt-field) if it be well marled, and immediately after it will beare you very good bréeding grasse, or else reasonable Medow for as many yéeres after, as by daily experience we see in the Countries of Lancaster and Chester. So that the consequence being considered, this ground is not but to be held indifferent fruitfull: for whereas other soiles afore shewed (which beare abundance of Graine) are bound to be manured once in thrée yéeres, this soile, albe it beare neither so rich graine, nor so much plenty, yet it néedes marling not aboue once in sixtéene or eightéene yéeres: and albe Marle be a Manure of the greatest cost, yet the profit by continuance is so equall that the labour is neuer spent without his reward, as shall more largely appeare hereafter.

Of Manuring.

As touching the Plough, it is the same which is mentioned in the other soile of the blacke Clay, and red Sand, altering nothing eyther in quantitie of timber, or strength of Irons: so that to make any large description thereof, is but to double my former discourses, and make my writings tedious.

Of the Plough.

[14v] For to conclude briefly, these two soiles differ onely but in fatnesse and strength of nature, not in Earing, or plowing, so that the labours of tillage being equall there is not any alteration more then the true diligence of much manuring, which will bréede an affinitie or alyance betwixt both these soiles. And thus much for this blacke Clay and red Sand, or white Clay and white Sand.



THE
FIRST PART
OF THE ENGLISH
Husbandman:

Contayning, the manner of plowing
and Manuring all sorts of Soyles, together
with the manner of planting and
setting of Corne.

CHAP. I.

Of the manner of plowing all simple Earths, which are
vncompounded.



hat many famous and learned men, both in Fraunce, Spaine, Italy and Germany, haue spent all their best time in shewing vnto the world the excellencie of their experiences, in this onely renowned Arte of Husbandry, their large and learned Volumes, most excellently written, in that kinde, are witnesses: from whence we by translations haue gotten some contentment, though but small profit; because those forraine clymates, differing much from ours, both in nature of earth, and temper of Ayre, the rules and obseruations belonging vnto them can be little auailable to vs, more then to know what is done in such parts, a thing more appertaining to our conference then practise. But now, that other kingdomes may see though wee write lesse yet wee know as much as belongeth to the office of the English Husbandman, I, though the meanest of many millions, haue vndertaken to deliuer vnto the world all the true rudiments, obseruations and knowledges what soeuer, which hath any affinitie or alliance with English Husbandry. And for as much as the best and principallest part of Husbandry consisteth in the plowing and earring of the ground (for in that onely *Adam* began his first labours) I thinke it not vnmeete, first to treat of that subiect, proceeding so from branch to branch, till I haue giuen euery one sufficient knowledge.

To speake then first of the Tilling of Grounds. You shall well vnderstand, that it is the office of euery good Husbandman before he put his plough into the earth, truly to consider the nature of his Grounds, and which is of which quallitie and temper. To procede then to our purpose; all soyles what soeuer, in this our kingdome of England, are reduced into two kindes onely, that is to say, Simple or Compound. Simple, are those which haue no mixture with others of a contrary quallitie, as are your stiffe clayes, or your loose sands: your stiffe clayes are likewise diuers, as a blacke clay, a blew clay, and a clay like vnto Marble. Your sands are also diuers, as a red sand, a white sand, a yellow sand, and a sand like vnto dust. Your mixt earths are where any of these clayes and sands are equally or vnindifferently mixed together, as shalbe at large declared hereafter. Now as touching the tilling of your simple clayes, it is to be

noted, that the blacke clay, of all earth, is the most fruitfull, and demandeth from the Husbandman the least toyle, yet bringeth forth his increase in the greatest abundance: it will well and sufficiently bring forth thrée crops, eare it desire rest: namely, the first of Barly, the second of Pease, and the third of Wheate: It doth not desire much Manure, for it is naturally of it selfe so fat, rich, and fruitfull, that if you adde strength vnto his strength, by heaping Manure or Compasse thereupon, you make it either blast, and mildew the Corne that growes, with the too much fatnesse of the earth, or else through his extreame rankenesse, to bring it vp in such abundance that it is not able to stand vpright when it is shot vp, but falling downe flat to the ground, and the eares of Corne smothering one another, they bring forth nothing but light Corne, like an emptie huske, without a kirnell. The best Manure or Compasse therefore that you can giue such ground, is then to plow it in orderly and dew seasons, as thus: you shall begin to fallow, or breake vp this soyle, at the beginning of May, at which time you shall plow it déepe, & take vp a large furrow, and if your Lands lye any thing flat, it shalbe méete that you begin on the ridge of the land, and turne all your furrowes vpward, but if your Lands lye high and vpright, then shall you begin in the furrow and turne all your furrowes downeward, which is called of Husbandmen, the casting downe of Land. This first plowing of ground, or as Husbandmen tearme it, the first ardor, is called fallowing: the second ardor, which we call stirring of ground, or sommer stirring, you shall begin in Iuly, which is of great consequence, for by meanes of it you shall kill all manner of wéedes and thistells that would annoy your Land. In this ardor you must oft obserue that if when you fallowed you did set vp your Land, then now when you stirre you must cast downe your Land, and so contrarily, if before you did cast downe, then now you must set vp: your third ardor, which is called of Husbandmen, winter ridgeing, or setting vp Land for the whole yéere, you shall begin at the latter end of September, and you must euer obserue that in this third ardor you doe alwaies ridge vp your Land, that is to say, you most turne euery furrow vpward and lay them as close together as may be, for should you doe otherwise, that is to say, either lay them flat or loosely, the winter season would so beat and bake them together, that when you should sow your séede you would hardly get your plough into the ground.

Now your fourth and last ardor, which must be when you sow your séede, you shall begin euer about the midst of March, at least one wéeke before our Ladies day, commonly called the Annunciation of *Mary*, and this ardor you shall euer plow downeward, laying your ridges very well open, and you shall euer obserue in this ardor, first to sow your séede, and then after to plow your ground, turning your séede into the earth, which is called of Husbandmen, sowing vnderfurrow: as soone as your ground is plowed you shall harrow it with an harrow whose téeth are all of wood, for these simple earths are of easie temper and will of themselues fall to dust, then after you haue thus sowne your ground, if then there remaine any clots or lumpes of earth vnbroken, you shall let them rest till after the next shower of raine, at which time you shall either with a heauié rouler, or the backside of your harrowes, runne ouer your Lands, which is called the sleighting of ground, and it will not onely breake such clots to dust, but also lay your Land plaine and smoth, leauing no impediment to hinder the Corne from sprouting and comming forth. In this same ordor as you are appointed for this blacke clay, in this same manner you shall ordor both your blew clay & your clay which is like vnto marble. Now as touching the plough which is fittest for these clayes, it must be large and strong, the beame long and well bending, the head thicke and large, the skéeth broad, strong, and well sloaping, the

share with a very large wing, craueing much earth, and the coulter long, thicke and very straight.

[B3]

[5]

Now touching those lands which are simple and vncompounded, you shall vnderstand that euery good Husbandman must begin his first ardor (which is to fallow them) at the beginning of Ianuary, hée must sooner stirre them, which is the second ardor, at the latter end of Aprill, he shall cast them downe againe, which is called foyling of Land, at the beginning of Iuly, which is the third ardor, and wherein is to be noted, that how soeuer all other ardors are plowed, yet this must euer be cast downward: the fourth ardor, which is winter-stirring or winter-ridgeing, must euer begin at the end of September, and the fift and last ardor must be performed when you sow your ground, which would be at the middest of May, at the soonest, and if your leasure and abilitie will giue you leaue, if you turne ouer your ground againe in Ianuary, it will be much better, for these sands can neuer haue too much plowing, nor too much Manure, and therefore for them both, you shall apply them so oft as your leasure will conueniently serue, making no spare when either the way or opportunitie will giue you leaue. Now for as much as all sands, being of a hot nature, are the fittest to bring foorth Rye, which is a graine delighting in drynesse onely, you shall vnderstand, that then you shall not néed to plow your ground aboue foure times ouer, that is, you shall fallow, sommer stirre, foyle, and in September sow your Corne: and as these ardors serue the red sand, so are they sufficient for your white sand, and your yealow sand also. As touching the ploughes fit for these light earths, they would be little and strong, hauing a short slender beame and a crooked; a narrow and thinne head, a slender skéeth, a share without a wing, a coulter thinne and very crooked, and a paire of hales much bending forward towards the man; and with this manner of plough you may plow diuers mixt and compounded earths, as the blacke clay and red sand, or the red sand and white grauell: and thus much as touching earths that are simple and vncompounded.

[B3v]

[6]

CHAP. II.

Of the manner of plowing the blacke clay mixt with white sand, and the white clay mixt with red sand: their Earrings, Plough, and Implements.



As touching the mixture of these two seuerall soyles, that is to say, the blacke clay with white sand, and the white clay with red sand, they differ not in the nature of plowing, sowing, or in Manuring, from the soyle which is mixt of a blacke clay and red sand, of which I haue sufficiently intreated before: onely thus much you shall vnderstand, that the blacke clay mixt with white sand is so much better and richer then the white clay mixt with red sand, by as much as the blacke clay is better then the white clay: and although some Husbandmen in our Land, hould them to be both of one temper and goodnesse, reasoning thus, that by how much the blacke clay is better then the white, by so much the red sand is better then the white sand, so that what the mixture of the one addeth, the mixture of the other taketh away, and so maketh them all one in fruitfulnessse and goodnesse: but in our common experience it doth not so fall out, for wée finde that the blacke clay mixt with white sand, if it be ordered in the forme of good Husbandry, that is to say, be plowed ouer at least foure times, before it come to be sowne, and that it be Manured and compassed in Husbandly fashion, which is to allow at least

eight waine-load to an Aker, that if then vpon such Land you shall sow either Organe Wheat (in the south parts called red Wheat) or flaxen, or white Pollard Wheat, that such Wheat will often mildew, and turne as blacke as soote, which onely showeth too much richnesse and fatnesse in the earth, which the white clay mixt with red sand hath neuer beene séene to doe, especially so long as it is vsed in any Husbandly fashion, neither will the white clay mixt with red sand indure to be deuided into foure fields, that is to say, to beare thrée seuerall crops, one after another, as namely, Barly, Pease, and Wheat, without rest, which the blacke clay mixt with white sand many times doth, and thereby againe showeth his better fruitfulnessse: neuerthelesse, in generalitie I would not wish any good Husbandman, and especially such as haue much tillage, to deuide either of these soyles into any more then thrée fields, both because hee shall ease himselfe and his Cattell of much toyle, shall not at any time loose the best seasons for his best workes, and make his commodities, and fruit of his hands labours, by many degrés more certaine.

You shall also vnderstand, that both these soyles are very much binding, especially the white clay with red sand, both because the clay, procéding from a chaukie and limie substance, and not hauing in it much fatnesse or fertillitie (which occasioneth seperation) being mixt with the red sand, which is of a much more hardnesse and aptnesse to knit together, with such tough matter, it must necessarilie binde and cleaue together, and so likewise the blacke clay, from whence most naturally procéedeth your best limestone, being mixt with white sand, doth also binde together and stifle the séede, if it be not preuented by good Husbandry.

You shall therefore in the plowing and earring of these two soyles, obserue two especiall notes; the first, that by no meanes you plow it in the wet, that is, in any great glut of raine: for if you either lay it vp, or cast it downe, when it is more like mortar then earth, if then any sunshine, or faire weather, doe immediately follow vpon it, it will so drie and bake it, that if it be sowne, neither will the séede haue strength to sprout thorow it, nor being in any of your other summer ardors, shall you by any meanes make your plough enter into it againe, when the season falleth for other plowing. The second, that you haue great care you lay your Land high and round, that the furrowes, as it were standing vpright one by another, or lying light and hollow, one vpon another, you may with more ease, at any time, enter in your plough, and turne your moule which way you please, either in the heate of Sommer, or any other time of the yéere whatsoever.

Now as touching the plough, which is most best and proper for these soyles, it would be the same in sise which is formerly directed for the red sand, onely the Irons must be altered, for the Coulter would be more long, sharpe, and bending, and the share so narrow, sharpe, and small as can conueniently be made, according as is formerly expressed, that not hauing power to take vp any broad furrow, the furrowes by reason of there slendernesse may lye many, and those many both hollow, light and at any time easily to be broken.

As for the Teame which is best to worke in this soyle, they may be either Horses or Oxen, or Oxen and Horse mixt together, according to the Husbandmans abillitie, but if hée be a Lord of his owne pleasure and may commaund, and haue euery thing which is most apt and proper, then in these two soyles, I preferre the Teame of Horses single, rather then Oxen, especially in any winter or moist ardor, because they doe not tread and foyle the ground making it mirie and durtie as the Oxe doth, but going all in one furrow, doe kéepe the Land in his constant

firmeresse.

As touching the clotting, sleighting, wéeding, and dressing of these two soyles, they differ in nothing from the former mixt earths, but desire all one manner of dilligence: and thus much for these two soyles the blacke clay mixt with white sand, and the white clay with white red sand.

[C] [9]

CHAP. III.

A comparison of all the former soyles together, and most especiall notes for giuing the ignorant Husbandman perfect vnderstanding, of what is written before.



he reason why I haue thus at large discoursed of euery seuerall soyle, both simple and compounded, is to show vnto the industrious Husbandman, the perfect and true reason of the generall alteration of our workes in Husbandry, through this our Realme of England: for if all our Land, as it is one kingdome, were likewise of one composition, mixture, and goodnesse, it were then excéeding preposterous to see those diuersities, alterations, I, and euen contrary manners of procéedings in Husbandry, which are daily and hourelly vsed: but euery man in his owne worke knowes the alteration of clymates. Yet for so much as this labour of Husbandry, consisteth not for the most part in the knowing and vnderstanding breast, but in the rude, simple, and ignorant Clowne, who onely knoweth how to doe his labour, but cannot giue a reason why he doth such labour, more then the instruction of his parents, or the custome of the Countrie, where it comes to passe (and I haue many times séene the same to mine admiration) that the skillfullest Clowne which is bred in the clay soyles, when hée hath béene brought to the sandy ground, hée could neither hould the plough, temper the plough, nor tell which way in good order to driue the Cattell, the heauinesse of the one labour being so contrary to the lightnesse of the other, that not hauing a temperance, or vnderstanding in his hands, hée hath béene put euen vnto his wittes ends; therefore I thinke it conuenient, in this place, by a slight comparison of soyles together, to giue the simplest Husbandman such direct & plaine rules that he shall with out the study of his braines, attaine to absolute knowledge of euery seuerall mixture of earth: and albeit hée shall not be able distinctly to say at the first that it is compounded of such and such earths, yet hée shall be very able to deliuer the true reason and manner how such ground (of what nature soeuer) shall be Husbanded and tilled.

[C1v] [10]

Therefore to begin the Husbandman, is to vnderstand, that generally there are but two soyles for him to regard, for in them consisteth the whole Arte of Husbandry: as namely, the open and loose earth, and the close and fast binding earth, and these two soyles being meare opposites and contraries, most necessarily require in the Husbandman a double vnderstanding, for there is no soyle, of what simplicitie or mixture soeuer it be, but it is either loose or fast.

Now to giue you my meaning of these two words, *loose* and *fast*, it is, that euery soyle which vpon parching and dry weather, euen when the Sunne beames scorcheth, and as it were baketh the earth, if then the ground vpon such excéeding drought doe moulder and fall to dust, so that whereas before when it did retaine moisture it was heauie, tough, and not to be seperated, now hauing lost that glewinesse it is light, loose, and euen with a mans foote to be spurnd to ashes, all such

grounds are tearmed loose and open grounds, because at no time they doe binde in or imprison the séede (the frost time onely excepted, which is by accidence, and not from the nature of the soyle:) and all such grounds as in their moisture or after the fall of any sodaine raine are soft, plyable, light, and easie to be wrought, but after when they come to loose that moistnesse and that the powerfulnessse of the Sunne hath as it were drid vp their veynes, if then such earths become hard, firme, and not to be seperated, then are those soyles tearmed fast and binding soyles, for if there ardors be not taken in their due times, and their séede cast into them in perfect and due seasons, neither is it possible for the Plowman to plow them, nor for the séede to sprout through, the earth being so fastned and as it were stone-like fixt together. Now sithence that all soyles are drawne into these two heads, fastnes, and loosenesse, and to them is annexed the diuersitie of all tillage, I will now show the simple Husbandman which earths be loose, and which fast, and how without curiositie to know and to distinguish them.

[C2] [11]

Breifely, all soyles that are simple and of themselues vncompounded, as namely, all claies, as blacke, white, gray, or blew, and all sands, as either red, white, or blacke, are open and loose soyles: the claies because the body and substance of them being held together by moistnes, that moisture being dryed vp, their strength and stifnesse decayeth, and sands by reason of their naturall lightnesse, which wanting a more moist and fixt body to be ioyned with them doe loose all strength of binding or holding together. Now all mixt or compound earths (except the compositions of one and the same kinds, as clay with clay, or sand with sand) are euer fast and binding earths: for betwixt sand and clay, or clay & grauell, is such an affinitie, that when they be mixt together the sand doth giue to the clay such hardnesse and drynesse, and the clay to the sand such moisture and coldnesse, that being fixt together they make one hard body, which through the warmth of the Sunne bindeth and cleaueth together. But if it be so that the ignorance of the Husbandman cannot either through the subiltie of his eye sight, or the obseruations gathered from his experience, distinguish of these soyles, and the rather, sith many soyles are so indifferently mixt, and the colour so very perfect, that euen skill it selfe may be deceiued: as first to speake of what mixture some soyles consist, yet for as much as it is sufficient for the Husbandman to know which is loose and which is binding, hée shall onely when he is perplext with these differences, vse this experiment, hée shall take a good lumpe of that earth whose temperature hée would know, and working it with water and his wet hands, like a péce of past, he shall then as it were make a cake thereof, and laying it before an hot fire, there let it lye, till all the moisture be dried & backt out of it, then taking it into your hands and breaking it in péces, if betwéene your fingers it moulder and fall into a small dust, then be assured it is a loose, simple, and vncompounded earth, but if it breake hard and firme, like a stone, and when you crumble it betwéene your fingers it be rough, gréetie, and shining, then be assured it is a compounded fast-binding earth, and is compounded of clay and sand, and if in the baking it doe turne red or redish, it is compounded of a gray clay and red sand, but if it be browne or blewish, then it is a blacke clay & white sand, but if when you breake it you finde therein many small pibles, then the mixture is clay and grauell. Now there be some mixt soyles, after they are thus bak't, although they be hard and binding, yet they will not be so excéeding hard and stone-like as other soyles will be, and that is where the mixture is vnequall, as where the clay is more then the sand, or the sand more then the clay.

[C2v] [12]

When you haue by this experiment found out the nature of your earth, and can tell whether it be simple or compounded, you shall then looke to

the fruitfulness thereof, which generally you shall thus distinguish. First, that clays, simple and of themselves vncompounded, are of all the most fruitfull, of which, blacke is the best, that next to clays, your mixt earths are most fertill, and the mixture of the blacke clay and red sand, called a hasell earth, is the best, and that your sands are of all soyles most barraine, of which the red sand for profit hath euer the preheminance.

Now for the generall tillage and vse of these grounds, you shall vnderstand that the simple and vncompounded grounds, being loose and open (if they lye frée from the danger of water) the Lands may be layd the flattest and greatest, the furrowes turned vp the largest and closest, and the plough and plough-Irons, most large and massie, onely those for the sandy grounds must be more slender then those for the clays and much more nimble, as hath béene showed before. Now for the mixt earths, you shall lay your Lands high, round, and little, set your furrowes vp-right, open, and so small as is possible, and make your plough and plow Irons most nimble and slender, according to the manner before specified: and thus I conclude, that hée which knoweth the loose earth and the binding earth, can either helpe or abate the strength of the earth, as is néedfull, and knowes how to sorte his ploughes to each temper, knowes the ground and substance of all tillage.

[C3] [13]

CHAP. III.

Of the planting or setting of Corne, and the profit thereof.



Not that I am conceited, or carried away with any nouelty or strange practise, vnusually practised in this kingdome, or that I will ascribe vnto my selfe to giue any iudiciall approbation or allowance to things mearely vnfrequented, doe I publish, within my booke, this relation of the setting of Corne, but onely because I would not haue our English Husbandman to be ignorant of any skill or obscure faculty which is either proper to his profession, or agréable with the fertillitie and nature of our clymates, and the rather, since some few yéeres agoe, this (as it then appeared secret) being with much admiration bruted through the kingdome, in so much that according to our weake accustomed dispositions (which euer loues strange things best) it was held so worthy, both for generall profit and perticular ease, that very feine (except the discret) but did not alone put it in practise, but did euen ground strong beleifes to raise to themselves great common-wealthes by the profits thereof; some not onely holding insufficient arguments, in great places, of the invtilitie of the plough, but euen vtterly contemning the poore cart lade, as a creature of no necessitie, so that Poulters and Carriers, were in good hope to buy Horse-flesh as they bought egges, at least fiue for a penie; but it hath proued otherwise, and the Husbandman as yet cannot loose the Horses seruice. But to procéede to the manner of setting or planting of Corne, it is in this manner.

[C3v] [14]

Hauing chosen out an aker of good Corne ground, you shall at the beginning of March, appoint at least sixe diggers or laborers with spades to digge vp the earth gardenwise, at least a foote and thrée inches déepe (which is a large spades graft) and being so digged vp, to rest till Iune, and then to digge it ouer againe, and in the digging to trench it and Manure it, as for a garden mould, bestowing at least sixtéene Waime-load of Horse or Oxe Manure vpon the aker, and the Manure to be well

Of setting Wheate.

couered within the earth, then so to let it rest vntill the beginning of October, which being the time for the setting, you shall then digge it vp the third time, and with rakes and béetells breake the moule somewhat small, then shall you take a board of sixe foot square, which shalbe bored full of large wimble holes, each hole standing in good order, iust sixe inches one from another, then laying the board vpon the new digged ground, you shall with a stick, made for the purpose, through euery hole in the board, make a hole into the ground, at least fore inches déepe, and then into euery such hole you shall drop a Corne of Wheate, and so remouing the board from place to place, goe all ouer the ground that you haue digged, and so set each seuerall Corne sixe inches one from another, and then with a rake you shall rake ouer and couer all the holes with earth, in such sort that they may not be discerned. And herein you are to obserue by the way that a quarte of Wheate will set your aker: which Wheate is not to be taken as it falles out by chance when you buy it in the market, but especially culd and pickt out of the eare, being neither the vppermost Cornes which grow in the toppes of the eares, nor the lowest, which grow at the setting on of the stalke, both which, most commonly are light and of small substance, but those which are in the midst, and are the greatest, fullest, and roundest.

[C4r] [15]

Now in the selfe-same sort as you dresse your ground for your Wheate, in the selfe same manner you shall dresse your ground for Barly, onely the first time you digge it shalbe after the beginning of May, the second time and the Manuring about the midst of October, wherein you shall note that to your aker of Barly earth, you shall alow at least foure and twentie Waine-load of Manure, and the last time of your digging and setting shalbe at the beginning of Aprill.

Of setting Barly, or Pease.

Now for the dressing of your earth for the setting of Pease, it is in all things answerable to that for Barly, onely you may saue the one halfe of your Manure, because a dosen Waine-load is sufficient, and the time for setting them, or any other pulse, is euer about the midst of February.

Now for the profit which issueth from this practise of setting of Corne, I must néeds confesse, if I shall speake simply of the thing, that is, how many foulds it doubleth and increaseth, surely it is both great and wonderfull: and whereas ingenerall it is reputed that an aker of set Corne yéeldeth as much profit as nine akers of sowne Corne, for mine owne part I haue séene a much greater increase, if euery Corne set in an aker should bring forth so much as I haue séene to procéede from some thrée or foure Cornes set in a garden, but I feare me the generalitie will neuer hould with the particular: how euer, it is most certaine that earth in this sort trimmed and inriched, and Corne in this sort set and preserued, yéeldeth at least twelue-fold more commoditie then that which by mans hand is confusedly throwne into the ground from the Hopper: whence it hath come to passe that those which by a few Cornes in their gardens thus set, séeing the innumerable increase, haue concluded a publike profit to arise thereby to the whole kingdome, not looking to the intricacie, trouble, and casualtie, which attends it, being such and so insupportable that almost no Husbandman is able to vndergoe it: to which we néed no better testimony then the example of those which hauing out of meare couetousnesse and lucre of gaine, followed it with all gréedinesse, séeing the mischiefes and inconueniences which hath incountred their workes, haue euen desisted, and forgotten that euer there was any such practise, and yet for mine owne part I will not so vtterly condemne it, that I will depriue it of all vse, but rather leaue it to the discretion of iudgement, and for my selfe, onely hould this opinion, that though it may very wel be spared from the generall vse of Wheat and Barly in this kingdome, yet for hastie-Pease,

[C4v] [16]

Of the profit of setting Corne.

French Beanes, and such like pulse, it is of necessary employment, both in rich and poore mens gardens. And thus much for the setting of Corne.

CHAP. V.

Of the choice of seede-Corne, and which is best for which soyle.



auing thus showed vnto you the seuerall soyles and temperatures of our English land, together with the order of Manuring, dressing and tillage of the same, I thinke it méete (although I haue in generall writ something already touching the séede belonging to euery seuerall earth) now to procéede to a particular election and choice of séede-Corne, in which there is great care and diligence to be vsed: for as in Men, Beasts, Fowle, & euery mouing thing, there is great care taken for the choice of the bréeders, because the creatures bred doe so much participate of the parents that for the most part they are séene not onely to carry away their outward figures and semblances, but euen their naturall conditions and inclinations, good issuing from good, and euill from euill: so in the choise of séede-Corne, if their be any neglect or carelesnesse, the crop issuing of such corrupt séede must of force bring forth a more corrupt haruest, by as much as it excédeth in the multiplication.

[D] [17]

To procéede therefore to the choise of séede-Corne, I will begin with Wheate, of which there are diuers kindes, as your whole straw Wheate, the great browne Pollard, the white Pollard, the Organe or red Wheate, the flaxen Wheate, and the chilter Wheate. Your whole straw Wheate, and browne Pollard, are knowne, the first, by his straw, which is full of pith, and hath in it no hollownesse (whence it comes that Husbandmen estéeme it so much for their thacking, allowing it to be as good and durable as réede:) the latter is knowne by his eare, which is great, white, and smooth, without anes or beard vpon it: in the hand they are both much like one to another, being of all Wheates the biggest, roundest and fullest: they be somewhat of a high colour, and haue vpon them a very thicke huske, which making the meale somewhat browne causeth the Baker not all together to estéeme them for his purest manchet, yet the yéeld of flower which cometh from them is as great and greater then any other Wheate whatsoever. These two sortes of Wheate are to be sowne vpon the fallow field, as crauing the greatest strength and fatnesse of ground, whence it comes that they are most commonly séene to grow vpon the richest and stiffest blacke clayes, being a graine of that strength that they will seldome or neuer mildew or turne blacke, as the other sortes of Wheate will doe, if the strength of the ground be not abated before they be throwne into the earth. Now for the choise of these two Wheates, if you be compelled to buy them in the market, you must regard that you buy that which is the cleanest and fairest, being vtterly without any wéedes, as darnell, cockell, tares or any other foulnesse whatsoever: you shall looke that the Wheate, as neare as may be, hould all of one bignesse and all of one colour, for to beholde it contrary, that is to say, to see some great Cornes, some little, some high coloured, some pale, so that in their mixture they resemble changeable taffata, is an apparant signe that the Corne is not of one kinde but mixt or blended, as being partly whole-straw, partly Pollard, partly Organe, and partly Chelter. For the flaxen, it is naturally so white that it cannot be mixt but it may easily be discerned, and these mixt séedes are neuer good, either for the ground or the vse of man. Againe you shall carefully

[D1v] [18]

*The choise of seede
Wheate.*

looke that neither this kinde of Wheate, nor any other that you buy for séede be blacke at the ends, for that is a signe that the graine comming from too rich a soyle was mildewed, and then it will neuer be fruitfull or proue good séede, as also you shall take care that it be not too white at the ends, showing the Corne to be as it were of two colours, for that is a signe that the Wheate was washt and dried againe, which vtterly confoundeth the strength of the Corne and takes from it all abilitie of bringing forth any great encrease. Now if it be so that you haue a crop of Wheate of your owne, so that you haue no néed of the market, you shall then picke out of your choisest sheafes, and vpon a cleane floare gently bat them with a flaile, and not thresh them cleane, for that Corne which is greatest, fullest, and ripest, will first flie out of the eare, and when you haue so batted a competent quantitie you shall then winnow it and dresse it cleane, both by the helpe of a strong winde and open siues, and so make it fit for your séede.

I haue séene some Husbands (and truely I haue accounted them both good and carefull) that haue before Wheate séede time both themselues, wiues, children, and seruants at times of best leasure, out of a great Wheate mow or bay, to gleane or pull out of the sheafes, eare by eare, the most principall eares, and knitting them vp in small bundells to bat them and make their séede thereof, and questionlesse it is the best séede of all other: for you shall be sure that therein can be nothing but the cleanest and the best of the Corne, without any wéedes or foulnesse, which can hardly be when a man thresheth the whole sheafe, and although some men may thinke that this labour is great and troblesome, especially such as sowe great quantities of Wheate, yet let them thus farre encourage themselues, that if they doe the first yéere but gleane a bushell or two (which is nothing amongst a few persons) and sowe it vp on good Land, the encrease of it will the next yéere goe farre in the sowing the whole crop: for when I doe speake of this picking of Wheate, eare by eare, I doe not intend the picking of many quarters, but of so much as the increase thereof may amount to some quarter.

Now there is also another regarde to be had (as available as any of the former) in chusing of your séede Wheate, and that is to respect the soyle from whence you take your séede, and the soyle into which you put it, as thus.

If the ground whereon you meane to sowe your Wheat be a rich, blacke, clay, stiffe and full of fertillitie, you shall then (as neare as you can) chuse your séede from the barrainest mixt earth you can finde (so the Wheate be whole-straw or Pollard) as from a clay and grauell, or a clay and white sand, that your séede comming from a much more barraine earth then that wherein you put it, the strength may be as it were redoubled, and the encrease consequently amount to a higher quantitie, as we finde it proueth in our daylie experience; but if these barraine soyles doe not afforde you séede to your contentment, it shall not then be amisse (you sowing your Wheate vpon fallow or tilth ground) if you take your séede-Wheate either from an earth of like nature to your owne, or from any mixt earth, so that such séede come from the niams, that is, that it hath béene sowne after Pease, as being the third crop of the Land, and not from the fallow or tilth ground, for it is a maxime amongst the best Husbands (though somewhat proposterous to common sence) bring to your rich ground séede from the barraine, and to the barraine séede from the rich, their reason (taken from their experience) being this, that the séede (as before I said) which prospereth vpon a leane ground being put into a rich, doth out of that superfluitie of warmth, strength and fatnesse, double his increase; and the séede which commeth from the fat ground being put into the leane, hauing all the vigour, fulnesse and iuyce

[D2] [19]

[D2v] [20]

of fertlnes, doth not onely defend it selfe against the hungrinesse of the ground but brings forth increase contrary to expectation; whence procéedeth this generall custome of good Husbands in this Land, that those which dwell in the barraine woode Lands, heathes and high mountaine countries of this kingdome, euer (as néere as they can) séeke out their séeede in the fruitfull low vales, and very gardens of the earth, & so likewise those in the vales take some helpes also from the mountaines.

Now for your other sortes of Wheate, that is to say, the white Pollard and the Organe, they are graines nothing so great, full, and large, as the whole straw, or browne Pollard, but small, bright, and very thinly huskt: your Organe is very red, your Pollard somewhat pale: these two sorts of Wheate are best to be sowne vpon the third or fourth field, that is to say, after your Pease, for they can by no meanes endure an ouer rich ground, as being tender and apt to sprout with small moisture, but to mildew and choake with too much fatnesse, the soyles most apt for them are mixt earths, especially the blacke clay and red sand, or white clay and red sand, for as touching other mixtures of grounds, they are for the most part so barraine, that they will but hardly bring forth Wheate vpon their fallow field, and then much worse vpon a fourth field. Now for any other particular choise of these two séeses, they are the same which I shewed in the whole straw, and great Pollard. As for the flaxen Wheate, and chilter Wheate, the first, is a very white Wheate both inward and outward, the other a pale red or déepe yellow: they are the least of all sortes of Wheate, yet of much more hardnes and toughnesse in sprouting, then either the Organe or white Pollard, and therefore desire somewhat a more richer soyle, and to that end they are for the most part sowne vpon fallow fields, in mixt earths, of what natures or barrainenesse soeuer, as is to be séene most generally ouer all the South parts of this Realme: and although vncompounded sands out of their owne natures, doe hardly bring forth any Wheate, yet vpon some of the best sands and vpon the flintie grauels, I haue séene these two Wheates grow in good abundance, but being seldome it is not so much to be respected.

[D3] [21]

After your Wheate you shall make choise of your Rie, of which there is not diuers kindes although it carrie diuers complections, as some blackish, browne, great, full and long as that which for the most part growes vpon the red sand, or red clay, which is thrée parts red sand mixt with blacke clay, and is the best Rie: the other a pale gray Rie, short, small, and hungry, as that which growes vpon the white sand, or white clay and white sand, and is the worst Rie. Now you shall vnderstand that your sand grounds are your onely naturall grounds for Rie, as being indéede not principally apt for any other graine, therefore when you chuse your Rie for séeede, you shall chuse that which is brownest, full, bould, and longest, you shall haue great care that it be frée from wéedes or filth, sith your sand grounds, out of their owne naturall heat, doth put forth such store of naughtie wéeds, that except a man be extraordinarily carefull, both in the choise and dressing of his Rie, he may easily be deceiued and poyson his ground with those wéedes, which with great difficultie are after rooted out againe. Now for your séeses to each soyle, it is euer best to sow your best sand-Rie vpon your best clay ground, and your best clay-Rie vpon your best sand ground, obseruing euer this generall principle, not onely in Rie, but euen in Wheat, Barly, Pease and other graine of account, that is, euer once in thrée yéeres, to change all your séeede, which you shall finde both to augment your encrease and to returne you double profit.

[D3v] [22]

*The choise of seede
Rye.*

Now for the choise of your séeede-Barly, you shall vnderstand, that for as much as it is a graine of the greatest vse, & most tendernesse, therefore

*The choise of seede-
Barly.*

there is the greatest diligence to be vsed in the election thereof. Know then that of Barly there be diuers sorts, as namely, that which wée call our common Barly, being long eares with two rankes of Corne, narrow, close, and vpright: another called spike or batteldore-Barly, being a large eare with two rankes of Corne, broad, flat, and in fashion of a batteldore: and the third called beane-Barly, or Barly big, being a large foure-square eare, like vnto an eare of Wheate.

Of these thrée Barlyes the first is most in vse, as being most apt and proper to euery soyle, whether it be fruitfull or barraine, in this our kindome, but they haue all one shape, colour and forme, except the soyle alter them, onely the spike-Barly is most large and plentifull, the common Barly hardest and aptest to grow, and the beane-Barly least, palest, & tenderest, so that with vs it is more commonly séene in gardens then in fields, although in other Countries, as in Fraunce, Ireland, and such like, they sowe no other Barly at all, but with vs it is of no such generall estimation, and therefore I will neither giue it precedencie nor speake of it, otherwise then to referre it to the discreation of him who takes delight in many practises: but for the common Barly, or spike-Barly, which our experience findes to be excellent and of great vse, I will knit them in one, and write, my full opinion of them, for their choise in our séede. You shall know then that when you goe into the market to chuse Barly for your séede, you shall to your best power elect that which is whitest, fullest, and roundest, being as the ploughman calles it, a full bunting Corne, like the nebbe or beake of a Bunting, you shall obserue that it be all of one Corne, and not mingled, that is, clay Barly, and sand Barly together, which you shall distinguish by these differences: the clay Barly is of a palish, white, yellow colour; smoth, full, large, and round, and the sand Barly is of a déepe yellow, browne at the neather end, long, slender, and as it were, withered, and in generall no sand Barly is principall good for séede: but if the Barly be somewhat of a high colour, and browne at the neather end, yet notwithstanding is very full, bould, and bigge, then it is a signe that such Barly comes not from the sand, but rather from an ouer fat soyle, sith the fatnesse of the earth doth euer alter the complection of the Barly; for the whiter Barly euer the leaner soyle, and better séede: you shall also obserue, that there be not in it any light Corne, which is a kinde of hungry graine without substance, which although it filleth the séeds-mans hand, yet it deceiueth the ground, and this light Corne will commonly be amongst the best Barly: for where the ground is so rich that it bringeth forth the Barly too rankely, there the Corne, wanting power to stand vpon roote, falleth to the ground, and so robde of kindly ripening, bringeth forth much light and insufficient graine. Next this, you shall take care that in your séede-Barly there be not any Oates, for although they be in this case amongst Husbandmen accounted the best of wéede, yet are they such a disgrace, that euery good Husband will most diligently eschew them, and for that cause onely will our most industrious Husbands bestow the tedious labour of gleaning their Barly, eare by eare, by which gleanings, in a yéere, or two, they will compasse their whole séede, which must infallibly be without either Oates or any wéede whatsoever: and although some grounds, especially your richest blacke clayes, will out of the abundance of their fruitfulnessse (as not induring to be Idle) bring forth naturally a certaine kinde of wilde Oates, which makes some ignorant Husbands lesse carefull of their séede, as supposing that those wilde ones are a poisoning to their graine, but they are infinety deceiued: for such wilde Oates, wheresoeuer they be, doe shake and fall away long before the Barly be ready, so that the Husbandman doth carry of them nothing into the Barne, but the straw onely. Next Oates, you must be carefull that there be in your Barly no other foule wéede: for whatsoever you sow, you

[D4r] [23]

[D4v] [24]

must looke for the increase of the like nature, and therefore as before I said in the Wheate, so in the Barly, I would wish euery good Husband to imploy some time in gleaning out of his Mow the principall eares of Barly, which being batted, drest, and sowne, by it selfe, albeit no great quantitie at the first, yet in time it may extend to make his whole séede perfect, and then hée shall finde his profit both in the market, where hée shall (for euery vse) sell with the déerest, and in his owne house where he shall finde his yeeld redoubled.

Now for fitting of seuerall séedes to seuerall soyles, you shall obserue, that the best séede-Barly for your clay field, is ninam Barly, sowne vpon the clay field, that is to say, Barly which is sowne where Barly last grew, or a second crop of Barly: for the ground hauing his pride abated in the first crophe, the second, though it be nothing néere so much in quantitie, yet that Corne which it doth bring forth is most pure, most white, most full, and the best of all séedes whatsoeuer, and as in case of this soyle, so in all other like soyles which doe hould that strength or fruitfulness in them that they are either able of themselues, or with some helpe of Manure in the latter end of the yéere, to bring forth two cropes of Barly, one after the other: but if either your soyle deny you this strength, or the distance of place bereaue you of the commoditie thereof, then you shall vnderstand that Barly from a hasell ground is the best séede, for the clay ground, and Barly from the clay ground is the best séede, not onely for the hasell earth, but euen for all mixt earths whatsoeuer, and the Barly which procéedes from the mixt earths is the best séede for all simple and vncompounded sands or grauells, as wée finde, both by their increasings and dayly experience.

[E] [25]

Now for the choise of séede-Beanes, Pease, or other Pulse, the scruple is nothing néere so great as of other séedes, because euery one that knowes any graine, can distinguish them when hée sées them: besides they are of that massie waight, and so well able to indure the strength of the winde, that they are easie to be seuered from any wéede or filth whatsoeuer: it resteth therefore that I onely giue you instruction how to imploy them.

*The choise of seede-
Beanes, Pease, and
Pulse.*

You shall vnderstand therefore, that if your soyle be a stiffe, blacke, rich, clay, that then your best séede is cleane Beanes, or at the least thrée partes Beanes, and but one part Pease: if it be a gray, or white clay, then Beanes and Pease equally mixt together: if the best mixt earths, as a blacke clay and red sand, blacke clay and white sand, or white clay and red sand, then your séede must be cleane Pease onely: if it be white clay and white sand, blacke clay and blacke sand, then your séede must be Pease and Fitches mixt together: but if it be grauell or sand simple, or grauell and sand compounded, then your séede must be either cleane Fitches, cleane Bucke, or cleane Tares, or else Fitches, Bucke and Tares mixt together.

Now to conclude with the choise of your Oates. You shall vnderstand that there be diuers kindes of them, as namely, the great long white Oate, the great long blacke Oate, the cut Oate, and the skegge: the two first of these are knowne by their greatnesse and colours, for they are long, full, bigge, and smooth, and are fittest to be sowne vpon the best of barraine grounds, for sith Oates are the worst of graine, I will giue them no other prioritie of place. The next of these, which is the cut Oate, it is of a pale yealow colour, short, smooth, and thicke, the increase of them is very great, and they are the fittest to be sowne vpon the worst of best grounds, for most commonly where you sée them, you shall also sée both good Wheate, good Barly, and good Beanes and Pease also. Now for the skegge Oate, it is a little, small, hungry, leane Oate, with a beard at the small end like a wilde Oate, and is good for small vse more then Pullen

*The choise of seede-
Oates.*

[E1v] [26]

onely: it is a séede méete for the barrainest and worst earth, as fit to grow but there where nothing of better profit will grow. And thus much for those séedes which are apt and in vse in our English soyles: wherein if any man imagine me guiltie of errour, in that I haue omitted particularly to speake of the séede of blend-Corne, or Masline, which is Wheate and Rye mixt together, I answere him, that sith I haue shewed him how to chuse both the best Wheate and the best Rye, it is an easie matter to mixe them according to his owne discretion.

CHAP. VI.

Of the time of Haruest and the gathering in of Corne.



ext vnto plowing, it is necessary that I place Reaping, sith it is the end, hope, and perfection of the labour, and both the merit and incouragement which maketh the toyle both light and portable: then to procéede vnto the time of Haruest.

You shall vnderstand that it is requisite for euery good Husband about the latter end of Iuly, if the soyle wherein he liueth be of any hot temper, or about the beginning of August, if it be of temperate warmth, with all dilligence constantly to beholde his Rye, which of all graines is the first that ripeneth, and if he shall perceiue that the hull of the eare beginneth to open, and that the blacke toppes of the Corne doth appeare, he may then be assured that the Corne is fully ripe, and ready for the Sickle, so that instantly he shall prouide his Reapers, according to the quantitie of his graine: for if hée shall neglect his Rye but one day more then is fit, it is such a hasty graine, that it will shale forth of the huske to the ground, to the great losse of the Husbandman. When hée hath prouided his shearers, which he shall be carefull to haue very good, he shall then looke that neither out of their wantonnesse nor emulation, they striue which shall goe fastest, or ridd most ground, for from thence procéedeth many errors in their worke, as namely, scattering, and leauing the Corne vncut behind them, the cutting the heads of the Corne off so that they are not possible to be gathered, and many such like incommodities, but let them goe soberly and constantly, and sheare the Rye at least fourtéene inches aboue the ground. Then he must looke that the gatherers which follow the Reapers doe also gather cleane, & the binders binde the Sheafes fast from breaking, then if you finde that the bottomes of the Sheafes be full of gréenes, or wéedes, it shall not be amisse to let the Sheafes lye one from another for a day, that those gréenes may wither, but if you feare any Raine or foule weather, which is the onely thing which maketh Rye shale, then you shall set it vp in Shockes, each Shocke containing at least seauen Sheafes, in this manner: first, you shall place foure Sheafes vpright close together, and the eares vpwards, then you shall take other thrée Sheafes and opening them and turning the eares downward couer the other foure Sheafes that stooode vpwards, and so let them stand, vntill you may with good conueniencie lead them home, which would be done without any protraction. Next after your cleane Rye, you shall in the selfe-same sort reape your blend-Corne, or Masline: and albeit your Wheate will not be fully so ripe as your Rye, yet you shall not stay your labour, being well assured that your Rye is ready, because Wheate will harden of it selfe after it is shorne, with lying onely. After you haue got in your Rye and blend-Corne, you shall then looke vnto your cleane Wheate, and taking heare and there an eare thereof, rubbe them in your hand, and if you finde that the Corne hath all perfection saue a little hardning onely, you

The getting in of Masline.

The getting in of Wheate.

[E2] [27]

[E2v] [28]

shall then forthwith set your Reapers vnto it, who shall sheare it in all things as they did sheare your Rye, onely they shall not put it in Shockes for a day or more, but let the Sheafes lye single, that the winde and Sunne may both wither the gréenes, and harden the Corne: which done, you shall put the Sheafes into great Shockes, that is to say, at least twelue or fouretéene Sheafes in a Shocke, the one halfe standing close together with the eares vpward, the other halfe lying crosse ouerthwart those eares, and their eares downward, and in this sort you shall let your Wheate stand for at least two dayes before you lead it.

Now it is a custome in many Countries of this kingdome, not to sheare their Wheate, but to mow it, but in my conceit and in generall experience, it is not so good: for it both maketh the Wheate foule, and full of wéede, and filleth vp a great place with little commoditie, as for the vse of thacking, which is the onely reason of such disorderly cutting, there is neither the straw that is shorne, nor the stubble which is left behinde, but are both of sufficiencie inough for such an employment, if it passe through the hands of a workman, as we see in dayly experience.

Next to your Wheate, you shall haue regard to your Barly, for it sodainely ripeneth, and must be cut downe assoone as you perceiue the straw is turned white, to the bottome, and the eares bended downe to the groundward. Your Barly you shall not sheare, although it is a fashion in some Country, both because it is painefull and profitlesse, but you shall Mowe it close to the ground, and although in generall it be the custome of our kingdome, after your Barly is mowen and hath lyne a day or two in swathe, then with rakes to racke it together, and make it into great cockes, and so to leade it to the Barne, yet I am of this opinion that if your Barly be good and cleane without thistles or wéedes, that if then to euery sitheman, or Mower you alot two followers, that is to say, a gatherer, who with a little short rake and a small hooke shall gather the Corne together, and a binder, who shall make bands and binde vp the Barly in smale Sheafes, that questionlesse you shall finde much more profit thereby: and although some thinke the labour troublesome and great, yet for mine owne part, I haue séene very great croppes inned in this manner, and haue séene two women, that with great ease, haue followed and bound after a most principall Mower, which made me vnderstand that the toyle was not so great as mine imagination; and the profit ten-fold greater then the labour: but if your Corne be ill Husbanded, and full of thistles, wéedes, and all filthinesse, then this practise is to be spared, and the loose cocking vp of your Corne is much better. Assoone as you haue cleansed any Land of Barly, you shall then immediatly cause one with a great long rake, of at least thirtie téeth, being in a sling bound bauticke-wise crosse his body, to draw it from one end of the Land to the other, all ouer the Land, that he may thereby gather vp all the loose Corne which is scattered, and carry it where your other Corne standeth, obseruing euer, as your cheifest rule, that by no meanes you neither leade Barly, nor any other graine whatsoever, when it is wet, no although it be but moistned with the dew onely: for the least dankishnesse, more then the sweate which it naturally taketh, will soone cause it to putrifie.

*The getting in of
Barly.*

[E3] [29]

Now for the gathering in of your Oates, they be a graine of such incertaintie, ripening euer according to the weather, & not after any setled or naturall course, that you are to looke to no constant season, but to take them vpon the first show of ripenesse, and that with such diligence that you must rather take them before, then after they be ripe, because if they tarry but halfe a day too long, they will shed vpon the ground, & you shal loose your whole profit. The time then fittest to cut your Oates is, assoone as they be somewhat more then halfe changed,

*The getting in of
Oates.*

but not altogether changed, that is, when they are more then two parts white, and yet the gréene not vtterly extinguished, the best cutting of them is to mow them (albeit I haue séene them shorne in some places) & being mowen to let them dry and ripen in the swathe, as naturally they will doe, and then if you bind them vp in Sheafes, as you should binde your Barly, it is best: for to carry them in the loose cocke, as many doe, is great losse and hindrance of profit.

After you haue got in your white Corne, you shall then looke vnto your Pulse, as Beanes, Pease, Fitches, and such like, which you shall know to be ready by the blacknesse of the straw: for it is a rule, whensoever the straw turnes, the Pulse is ripe. If then it be cleane Beanes, or Beanes and Pease mixt, you shall mowe them, and being cleane Beanes rake them into heapes, and so make them vp into cockes, but if they be mixt you shall with hookes fould the Beanes into the Pease, and make little round reapes thereof, which after they haue béene turned and dryed, you may put twenty reapes together, and thereof make a cocke, and so lead them, and stacke them: but if they be cleane Pease, or Pease and Fitches, then you shall not mowe them, but with long hookes cut them from the ground, which is called Reaping, and so foulding them together into small reapes, as you did your Pease and Beanes, let them be turned and dryed, and so cocked, and carried either to the Barne, stacke, or houell.

The getting in of Pulse.

Now hauing thus brought in, and finished your Haruest, you shall then immediately mowe vp the stubble, both of your Wheate, Rye, and Masline, and with all expedition there-with thacke, and couer from Raine and weather, all such graine as for want of house-roume, you are compeld to lay abroad, either in stacke, or vpon houell: but if no such necessitie be, and that you haue not other more necessary employment for your stubble, it shall be no part of ill Husbandry to let the stubble rot vpon the Land, which will be a reasonable Manuring or fattening of the earth.

Now hauing brought your Corne into the Barne, it is a lesson néedlesse to giue any certaine rules how to spend or vtter it forth, sith euery man must be ruled according to his affaires, and necessitie, yet sith in mine owne experience I haue taken certaine setled rules from those who haue made themselues great estates by a most formall and strickt course in their Husbandry, I thinke it not amisse to show you what I haue noted from them, touching the vtterance and expence of their graine: first, for your expence in your house, it is méete that you haue euer so much of euery seuerall sort of graine thresht, as shall from time to time maintaine your family: then for that which you intend shall returne to particular profit, you shall from a fortnight before Michaelmas, till a fortnight after, thresh vp all such Wheate, Rye, & Masline, as you intend to sell for séede, which must be winnowed, fand, and drest so cleane as is possible, for at that time it will giue the greatest price; but as soone as séede-time is past, you shall then thresh no more of those graines till it be neare Midsummer, but begin to thresh vp all such Barly as you intend to conuert and make into Malt, and so from Michaelmas till Candlemas, apply nothing but Malting, for in that time graine is euer the cheapest, because euery Barne being full, some must sell for the payment of rents, some must sell to pay seruants wages, and some for their Christmas prouisions: in which time Corne abating and growing scarce, the price of necessitie must afterwards rise: at Candlemas you shall begin to thresh all those Pease which you intend to sell for séede, because the time being then, and euery man, out of necessitie, inforced to make his prouision, it cannot be but they must néedes passe at a good price and reckoning.

After Pease séede-time, you shall then thresh vp all that Barly which you

meane to sell for séede, which euer is at the dearest reckoning of any graine whatsoever, especially if it be principally good and cleane. After your séede-Barly is sould, you may then thresh vp all such Wheate, Rye, and Masline, as you intend to sell: for it euer giueth the greatest price from the latter end of May vntill the beginning of September. In September you shall begin to sell your Malt, which being old and hauing lyne ripening the most part of the yéere, must now at the latter end of the yéere, when all old store is spent, and the new cannot be come to any perfection, be most deare, and of the greatest estimation: and thus being a man of substance in the world, and able to put euery thing to the best vse, you may by these vsuall obseruations, and the helpe of a better iudgement, imploy the fruits of your labours to the best profit, and sell euery thing at the highest price, except you take vpon you to giue day and sell vpon trust, which if you doe, you may then sell at what vnconscionable reckoning you will, which because such vnnaturall exactions neither agrée with charitie, nor humanitie, I will forbear to giue rules for the same, and referre euery man that is desirous of such knowledge, to the examples of the world, wherein he shall finde presidents inough for such euill customes. And thus much for the first part of this worke, which containeth the manner of Plowing and tillage onely.



THE SECOND PART
OF THE FIRST BOOKE OF
the English Husbandman,

Contayning the Art of Planting, Grafting
and Gardening, either for pleasure or profit;
together with the vse and ordering of
Woods.

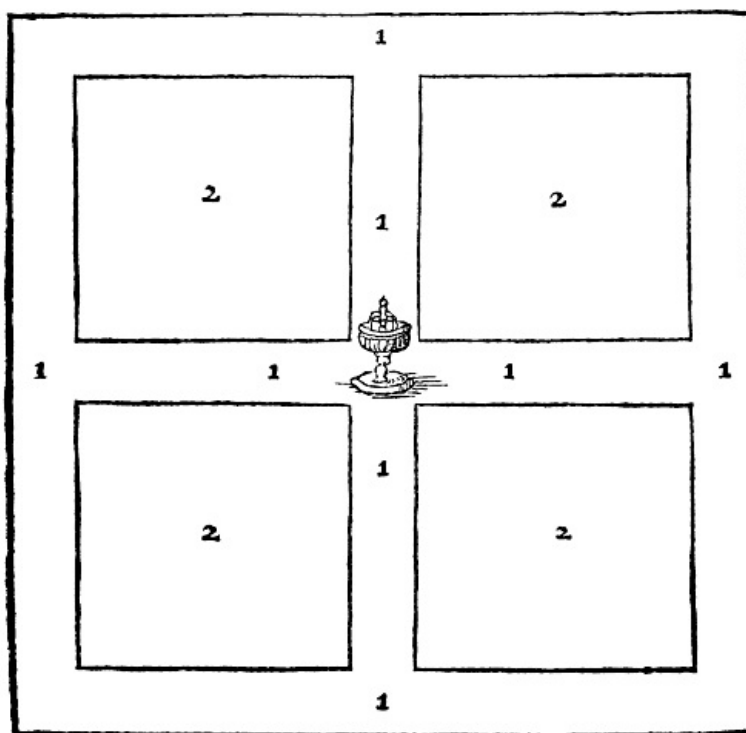
CHAP. I.

Of the Scyte, Modell, Squares, and Fashion of a perfect
Orchard.



Although many authors which I haue read, both in Italian, French, and Dutch, doe make a diuersitie and distinguishment of Orchardes, as namely, one for profit, which they fashion rudely and without forme, the other for delight, which they make comely, decent, and with all good proportion, deuiding the quarters into squares, making the alleyes of a constant breadth, and planting the fruit-trées in arteficiall rowes: yet for as much as the comelinesse and well contriuing of the ground, doth nothing abate, but rather increase the commoditie, I will therefore ioyne them both together, and make them onely but one Orchard. Now for the scyte and placing of this Orchard, I haue in the modell of my Country

house, or Husbandmans Farme, shewed you where if it be possible it should stand, and both what Sunne & ayre it should lye open vpon: but if the scyte or ground-plot of your house will not giue you leauē to place your Orchard according to your wish, you shall then be content to make a vertue of necessitie, and plant it in such a place as is most conuenient, and nearest alyed to that forme before prescribed.



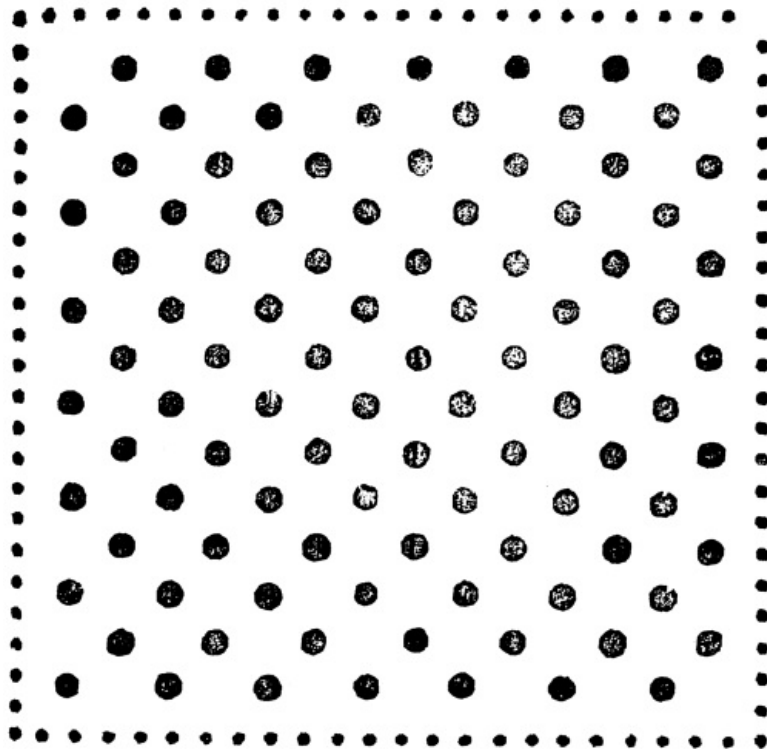
Now when you haue found out a perfect ground-plot, you shall then cast it into a great large square, which you shall fence in either with a stone or bricke wall, high, strong pale, or great ditch with a quicke-set hedge, but the wall is best and most durable, and that wall would haue vpon the inside within twelue or fourtéene foote on of another, James or outshoots of stone or bricke, betweene which you may plant and plash those fruit-trées which are of greatest tendernesse, the South and West Sunne hauing power to shine vpon them.

When you haue thus fenc'st in this great square, you shall then cast foure large alleyes, at least fourtéene foote broad, from the wall round about, and so likewise two other alleyes of like breadth, directly crosse ouerthwart the ground-plot, which will deuide the great square into foure lesser squares, according to the figure before set downe.

The figure 1. sheweth the alleyes which both compasse about, and also crosse ouer the ground-plot, and the figure 2. sheweth the foure quarters where the fruit-trées are to be planted.

Now if either the true nature and largnesse of the ground be sufficient, or your owne abilitie of pursse so great that you may compasse your desires in these earthly pleasures, it shall not be amisse, but a matter of great state, to make your ground-plot full as bigge againe, that is to say, to containe eight large quarters, the first foure being made of an euen leuell, the other foure being raysed at least eight foote higher then the first, with conuenient stayres of state for ascending to the same, to be likewise vpon another euen leuell of like forme, and if in the center of the alleyes, being the mid-point betwéene the squares, might be placed any quaint fountaines or any other antique standard, the platforme would be more excellent and if vpon the ascent from one leuell to another there might be built some curious and arteficiall banquetting house, it would giue luster to the Orchard.

Now for the planting and furnishing of these quarters: you shall vnderstand that if your Orchard containe but foure quarters, then the first shalbe planted with Apple-trées of all sorts, the second with Peares and Wardens of all sorts, the third with Quinces & Chesnutes, the fourth with Medlars & seruices. Against the North side of your Orchard wall against which the South sunne reflects, you shall plant the Abricot, Verdochio, Peach, and Damaske-plumbe: against the East side of the wall, the whit Muskadine Grape, the Pescod-plumbe, and the Emperiall-plumbe: against the West side the grafted Cherries, and the Oliue-trée: and against the South side the Almond, & Figge trée. Round about the skirts of euery other outward or inward alley, you shall plant, the Wheate-plumbe, both yealow & redde, the Rye-plumbe, the Damson, the Horse-clog, Bulleys of all kindes, ordinary french Cherryes, Filberts, and Nuts of all sorts, together with the Prune-plumbe, and other such like stone fruits. But if your Orchard be of state and prospect, so that it containe eight quarters or more (according to the limitation of the earth) then you shall in euery seuerall quarter plant a seuerall fruit, as Apple-trées in one quarter, Peares in another, Quinces in another, Wardens in another, and so forth of the rest. Also you shall obserue in planting your Apples, Peares, and Plumbes, that you plant your summer or early fruit by themselues, and the Winter or long lasting fruit by themselues. Of Apples, your Ienitings, Wibourns, Pomederoi, and Quéene-Apples are reckoned the best earely fruits, although their be diuers others, and the Pippin, Peare-maine, Apple-Iohn, and Russetting, your best Winter and long lasting fruit, though there be a world of other: for the tastes of Apples are infinite, according to there composition and mixture in grafting. Of Peares your golden Peare, your Katherine-Peare, your Lording, and such like, are the first, and your stone-Peare, Warden-Peare, and choake-Peare, those which indure longest. And of Plumbes the rye-plumbe is first, your Wheate-plumbe next, and all the other sorts of plumbes ripen all most together in one season, if they haue equall warmth, and be all of like comfortable standing.



Now for the orderly placing of your trées, you shall vnderstand that your Plumbe-trées (which are as it were a fence or guard about your great quarters) would be placed in rowes one by one, aboue fiue foote distance one from another, round about each skirt of euery alley: your Apple-trées

& other greater fruit which are to be planted in the quarters, would be placed in such arteficiall rowes that which way soeuer a man shall cast his eyes yet hée shall see the trées euery way stand in rowes, making squares, alleyes, and deuisions, according to a mans imagination, according to the figure before, which I would haue you suppose to be one quarter in an Orchard, and by it you may easily compound the rest: wherein you shall vnderstand that the lesser prickes doe figure your Plumbe-trées, & the greater prickes your Apple trées, and such other large fruit.

Now you shall vnderstand that euery one of these great trées which furnish the maine quarter, shall stand in a direct line, iust twelue foote one from another, which is a space altogether sufficient inough for there spreading, without waterdropping or annoying one another; prouided that the Fruiterer, according to his duty, be carefull to preserue the trees vpriight and to vnderprope them when by the violence of the winde they shall swarue any way. Vpon the ascent or rising from one leuell to another, you may plant the Barberry-trées, Feberries, and Raspberries, of all sorts, which being spreading, thorny and sharpe trées, take great delight to grow thicke and close together, by which meanes often times they make a kinde of wall, hedge, or fencing, where they stand.

Hauing thus shewed you the ground-plot and proportion of your Orchard, with the seuerall deuisions, ascents, and squares, that should be contained therein, and the fruits which are to furnish euery such square and deuision, and their orderly placing, it now rests that you vnderstand that this Orchard-plot, so neare as you can bring it to passe, doe stand most open and plaine, vpon the South and West sunne, and most defended from the East and North windes and bitterness, which being obserued your plot is then perfect and absolute.

Now forasmuch as where nature, fruitfulness, and situation doe take from a man more then the halfe part of his industrie, and by a direct and easie way doth lead him to that perfection which others cannot attaine to without infinit labour and trauell: and whereas it is nothing so commendable to maintaine beautie, as to make deformitie beautifull, I will speake something of the framing of Orchard-plots there where both nature, the situation, and barrainnesse, doe vtterly deny the enjoying of any such commoditie, as where the ground is vneuen, stonie, sandy, or in his lownesse subiect to the ouerflow of waters, all being apparant enemies to these places of pleasure and delight. First, for the vneuenesse of the ground, if that be his vttermost imperfection, you shall first not onely take a note with your eye, but also place a marke vpon the best ascent of the ground to which the leuell is fittest to be drawne, and then plowing the ground all ouer with a great common plough, by casting the furrowes downward, seeke to fill in and couer the lesser hollowneses of the ground, that their may not any thing appeare but the maine great hollowes, which with other earth which is free from stones, grauell, or such like euils, you shall fill vp and make leuell with that part where your marke standeth, and being so leuelled, forthwith draw the plot of your Orchard: but if the ground be not onely vneuen but also barraine, you shall then to euery loade of earth you carry to the leuelling adde a loade of Manure, either Oxe Manure, or Horse Manure, the rubbish of houses, or the clensings of olde ditches, or standing pooles, and the earth will soone become fertill and perfect; but if the ground be stonie, that is, full of great stones, as it is in Darbeshire about the Peake or East Mores, for small pibbles or small lime-stones are not very much hurtfull, then you shall cause such stones to be digd vp, and fill vp the places where they lay either with marle, or other rich earth, which after it hath béene setled for a yéere or two you shall then plough,

and leuell it, and so frame forth the plot of your Orchard. If the ground be onely a barraine sand, so that it wanteth strength either to maintaine or bring forth, you shall then first digge that earth into great trenches, at least foure foote déepe, and filling them vp with Oxe Manure, mixe it with the sand, that it may change some part of the colour thereof and then leuelling it fashion out your Orchard. But lastly, and which is of all situations the worst, if you haue no ground to plant your Orchard vpon, but such as either through the neighbourhood of riuers, descent of Mountaines, or the earths owne naturall quallitie in casting and vomiting out water and moysture, is subiect to some small ouerflowes of water, by which you cannot attaine to the pleasure you séeke, because fruit-trées can neuer indure the corruption of waters, you shall then in the dryest season of the yéere, after you haue marked out that square or quantitie of ground which you intend for your Orchard, you shall then cast therein sundry ditches, at least sixtéene foote broad, and nine foote déepe, and not aboue twelue foote betwixt ditch and ditch, vpon which reserued earth casting the earth that you digged vp, you shall raise the banckes at least seauen foote high of firme earth, and kéepe in the top the full breadth of twelue foote, with in a foote or little more: and in the casting vp of these banckes you shall cause the earth to be beaten with maules and broad béetels that it may lye firme, fast, and leuell, and after these banckes haue rested a yéere or more, and are sufficiently setled, you may then at the neather end of the banke, neare to the verge of the water plant store of Osyers, which will be a good defence to the banke, and vpon the top and highest part of the banke you shall plant your Orchard and fruit-trées, so that when any inundation of water shall happen, the ditches shalbe able inough to receiue it; or else making a passage from your Orchard into some other sewer, the water excéeding his limits may haue a frée current or passage: besides these ditches being neatly kept, and comforted with fresh water, may make both pleasant and commodious fish-ponds. Also you must be carefull in casting these banckes that you doe not place them in such sort that when you are vpon one you cannot come to the other, but rather like a maze, so that you may at pleasure passe from the one to the other round about the ground, making of diuers banckes to the eye but one banke in substance, and of diuers ponds in appearance, but one in true iudgement. And thus much for the plot or situation of an Orchard.

CHAP. II.

Of the Nurserie where you shall set all manner of Kernels,
and Stones, for the furnishing of the Orchard.



lthough great persons, out of their greatnesse and abilitie, doe buy their fruit trées ready grafted, and so in a moment may plant an Orchard of the greatest quantitie, yet sith the Husbandman must raise euery thing from his owne indeauours, and that I onely write for his profit, I therefore hould it most conuenient to beginne with the nursery or store-house of fruits, from whence the Orchard receiueth his beauty and riches.

This Nursery must be a piece of principall ground, either through Art or Nature, strongly fenced, warme, and full of good shelter: for in it is onely the first infancy and tendernesse of fruit-trées, because there they are first kernells, or stones, after sprigs, and lastly trées.

Now for the manner of chusing, sowing, and planting them in this

nursery, I differ some thing from the french practise, who would chuse the kernells from the cider presse, sow them in large bedds of earth, and within a yeere after replant them in a wilde Orchard: now for mine owne part, though this course be not much faulty, yet I rather chuse this kinde of practise, first: to chuse your kernells either of Apples, Peares, or Wardens, from the best and most principallest fruit you can taste, for although the kernell doe bring forth no other trée but the plaine stocke vpon which the fruit was grafted, as thus, if the graft were put into a Crab-stocke the kernell brings forth onely a Crab-trée, yet when you taste a perfect and delicate Apple, be assured both the stocke and graft were of the best choise, and so such kernells of best reckoning. When you haue then a competent quantitie of such kernells, you shall take certaine large pots, in the fashion of milke-boules, all full of hoales in the bottome, through which the raine and superfluous moysture may auoyde, and either in the Months of March or Nouember (for those are the best seasons) fill the pots three parts full of the finest, blackest, and richest mould you can get, then lay your kernells vpon the earth, about foure fingars one from another, so many as the vessell can conueniently containe, and then with a siue sift vpon them other fine moulds almost thrée fingars thicke, and so let them rest, filling so many pots or vessells as shall serue to receiue your quantitie of kernells of all sorts. Now if any man desire to know my reason why I rather desire to set my kernells rather in vessells then in beds of earth, my answeere is, that I haue often found it in mine experience, that the kernell of Apples, Peares, Quinces, and such like, are such a tender and dainty séede that it is great oddes but the wormes will deuoure and consume them before they sprout, who naturally delight in such séedes, which these vessels onely doe preuent: but to proceede.

[G1v] [42]

After your kernells are sprouted vp and growne to be at least seauen or eight inches high, you shall then within your nursery digge vp a border about two foote and an halfe broad, more then a foote déepe, and of such conuenient length as may receiue all your young plants, and hauing made the mould fine and rich with Manure, you shall then with your whole hand gripe as much of the earth that is about the plant as you can conueniently hould, and so take both the plant and the mould out of the vessell, and replant it in the new drest border: and you shall thus doe plant after plant, till you haue set euery one, and made them firme and fast in the new mould: wherein you are to obserue these two principles, first that you place them at least fiue foote one from another, and secondly, that such kernells as you set in your vessels in March, that you replant them in borders of earth in Nouember following, and such as you set in Nouember to replant in March following, and being so replanted to suffer them to grow till they be able to beare grafts, during which time you shall diligently obserue, that if any of them chance to put forth any superfluous branches or cyons, which may hinder the growth of the body of the plant, that you carefully cut them away, that thereby it may be the sooner inabled to beare a graft: for it is euer to be intended that whatsoeuer procéedeth from kernells are onely to be preserued for stockes to graft on, and for no other purpose.

[G2r] [43]

Now for the stones of Plumbes, & other stone fruit, you shall vnderstand that they be of two kindes, one simple and of themselues, as the Rye-plumbe, Wheate-plumbe, Damson, Prune-plumbe, Horse-clogge, Cherry, and such like, so that from the kernells of them issueth trées of like nature and goodnesse: the other compounded or grafted plumbes, as the Abricot, Pescod, Peach, Damaske, Verdochy, Emperiall, and such like, from whose kernells issueth no other trées but such as the stockes were vpon which they were grafted. Now, for the manner of setting the first, which are simple and vncompounded, you shall digge vp a large bedde of

rich and good earth a month or more before March or Nouember, and hauing made the mould as fine as is possible, you shall flat-wise thrust euery stone, a foote one from another, more then thrée fingars into the mould, and then with a little small rake, made for the purpose, rake the bedde ouer and close vp the holes, and so let them rest till they be of a yéeres groath, at which time you shall replant them into seuerall borders, as you did your Apple-trée plants and others.

Now for the kernells of your compounded or grafted Plumbes, you shall both set them in beddes and replant them into seuerall borders, in the same manner as you did the other kernells of Plumbes, onely you shall for the space of eight and forty houres before you set them stéepe them in new milke, forasmuch as the stones of them are more hard, and with greater difficulty open and sprout in the earth, then any other stone whatsoeuer: and thus hauing furnished your Nursery of all sorts of fruits and stockes, you shall when they come to full age and bignesse graft them in such order as shalbe hereafter declared.

[G2v] [44]

CHAP. III.

Of the setting or planting of the Cyons or Branches of most sorts of Fruit-trees.



As you are to furnish your nursery with all sorts of kernells and stones, for the bréeding of stockes where on to graft the daintiest fruits you can compasse, so shall you also plant therein the cyons and branches of the best fruit trées: which cyons and branches doe bring forthe the same fruit which the trées doe from whence they are taken, and by that meanes your nursery shall euer afford you perfect trées, wherewith either to furnish your owne grounds, or to pleasure your neighbours. And herein by the way you shall vnderstand that some trées are more fit to be set then to be sowne, as namely, the Seruice-trée, the Medler, the Filbert and such like. Now for the Seruice-trée, hée is not at all to be grafted, but set in this wise: take of the bastard cyons such as be somewhat bigger then a mans thumbe, and cutting away the branches thereof, set it in a fine loose moule, at least a foote déepe, and it will prosper exceedingly, yet the true nature of this trée is not to be remoued, and therefore it is conuenient that it be planted where it should euer continue: in like manner to the Seruice-tree, so you shall plant the bastard cyons of the Medlar-trée either in March or October, and at the waine of the moone.

Now for the Filbert, or large Hassell-nut, you shall take the smallest cyons or wands, such as are not aboue two yéeres groath, being full of short heauie twigges, and grow from the roote of the maine trée, and set them in a loose mould, a foote déepe, without pruning or cutting away any of the branches, and they will prosper to your contentment. Now for all sorts of Plumbe-trées, Apple-trées or other fruit-trées which are not grafted, if you take the young cyons which grow from the rootes cleane from the rootes, and plant them either in the spring, or fall, in a fresh and fine mould, they will not onely prosper, but bring forth fruit of like nature and qualitie to the trées from whence they were taken.

[G3] [45]

Now for your grafted fruit, as namely, Apples, Plumbes, Cherryes, Mulberries, Quinces, and such like, the cyons also and branches of them also will take roote and bring forth fruit of the same kinde that the trées did from whence they were taken: but those cyons or branches must euer be chosen from the vpper parts of the trées, betwixt the feast of all-

Saints and Christmas, they must be bigger then a mans finger, smooth, straight, and without twigges: you shall with a sharpe chissell cut them from the body or armes of the trée with such care, that by no meanes you raise vp the barke, and then with a little yealow waxe couer the place from whence you cut the cyon: then hauing digged and dunged the earth well where you intend to plant them, and made the mould easie, you shall with an Iron, as bigge as your plant, make a hoale a foote déepe or better, and then put in your cyon and with it a few Oates, long stépt in water, and so fixe it firme in the mould, and if after it beginneth to put forth you perceiue any young cyons to put forth from the root thereof, you shall immediatly cut them off, & either cast them away or plant them in other places, for to suffer them to grow may bréede much hurt to the young trées. Now where as these cyons thus planted are for the most part small and weake, so that the smallest breath of winde doth shake and hurt their rootes, it shalbe good to pricke strong stakes by them, to which, fastning the young plant with a soft hay rope it may the better be defended from stormes and tempests.

[G3v] [46]

Next to these fruit-trées, you shall vnderstand that your bush-trées, as Barberries, Gooseberries, or Feberryes, Rasperryes, and such like, will also grow vpon cyons, without rootes, being cut from their maine rootes in Nouember, & so planted in a new fresh mould. And here by the way I am to giue you this note or caueat, that if at any time you finde any of these cyons which you haue planted not to grow and flourish according to your desire, but that you finde a certaine mislike or consumption in the plant, you shall then immediatly with a sharpe knife cut the plant off slope-wise vpward, about three fingars from the ground, and so let it rest till the next spring, at which time you shall beholde new cyons issue from the roote, which will be without sicknesse or imperfection; and from the vertue of this experiment I imagine the gardners of antient time found out the meanes to get young cyons from olde Mulberry-trées, which they doe in this manner: first, you must take some of the greatest armes of the Mulberry-trée about the midst of Nouember, and with a sharpe sawe to sawe them into bigge truncheons, about fiuetéene inches long, and then digging a trench in principall good earth, of such depth that you may couer the truncheons, being set vp on end, with Manure and fine mould, each truncheon being a foote one from another, and couerd more then foure fingars about the wood, not fayling to water them whensoever néede shall require, and to preserue them from wéeds and filthinesse, within lesse then a yéeres space you shall behold those truncheons to put forth young cyons, which as soone as they come to any groath and be twigged, then you may cut them from the stockes, and transplant them where you please, onely the truncheons you shall suffer to remaine still, and cherish them with fresh dunge, and they will put forth many moe cyons, both to furnish your selfe and your friends. And thus much for the planting and setting of cyons or branches.

[G4r] [47]

CHAP. IIII.

Of the ordinary and accustomed manner of Grafting all sorts of Fruit-trees.



As soone as your nursery is thus amply furnished of all sorts of stockes, procéeding from kernells and of all sorts of trées procéeding from cyons, branches or vndergrowings, and that through strength of yéeres they are growne to sufficient abilitie to receiue grafts, which is to be intended

that they must be at the least six or eight inches in compasse, for although lesse many times both doth and may receiue grafts, yet they are full of debilitie and danger, and promise no assurance to the workemans labour, you shall then beginne to graft your stockes with such fruits as from art and experience are méete to be conioyned together, as thus: you shall graft Apples vpon Apples, as the Pippin vpon the great Costard, the Peare-maine vpon the Ienetting, and the Apple-Iohn or blacke annet vpon the Pomewater or Crab-trée: to conclude, any Apple-stocke, Crab-tree, or wilding, is good to graft Apples vpon, but the best is best worthy. So for Peares, you shall graft them vpon Peare stockes, Quinces vpon Quinces or Crab-trées, and not according to the opinion of the frenchman, vpon white thorne or willow, the Medlar vpon the Seruice-trée, and the Seruice vpon the Medlar, also Cherryes vpon Cherryes, & Plumbe vpon Plumbe, as the greater Abricots vpon the lesser Abricots, the Peach, the Figge, or the Damson-trée, and to speake generally without wasting more paper, or making a long circumstance to slender purpose, the Damson-trée is the onely principall best stocke whereupon to graft any kinde of Plumbe or stone fruit whatsoever.

The mixing of Stockes and Grafts.

[G4v] [48]

After you haue both your stockes ready, and know which grafts to ioyne with which stockes, you shall then learne to cut and chuse your grafts in this manner: looke from what trée you desire to take your grafts, you shall goe vnto the very principall branches thereof, and looke vp to the vpper ends, and those which you finde to be fairest, smoothest, and fullest of sappe, hauing the little knots, budds, or eyes, standing close and thicke together, are the best and most perfect, especially if they grow vpon the East side of the trée, whereon the Sunne first looketh; these you shall cut from the trée in such sort that they may haue at least thrée fingars of the olde woode ioyning to the young branch, which you shall know both by the colour of the barke, as also by a little round seame which maketh as it were a distinction betwixt the seuerall growths. Now you shall euer, as néere as you can, chuse your grafts from a young trée, and not from an olde, and from the tops of the principall branches, and not from the midst of the trée, or any other superfluous arme or cyon; now if after you haue got your grafts you haue many dayes Iourneys to carry them, you shall fould them in a few fresh mouldes, and binde them about with hay, and hay ropes, and so carry them all day, and in the night bury them all ouer in the ground and they will containe their goodnesse for a long season.

The choise of Grafts.

Hauing thus prepared your grafts, you shall then beginne to graft, which worke you shall vnderstand may be done in euery month of the yéere, except Nouember and October, but the best is to beginne about Christmas for all earely and forward fruit, and for the other, to stay till March: now hauing all your implements and necessaryes about you, fit for the Grafting, you shall first take your grafts, of what sort soeuer they be, and hauing cut the neather ends of them round and smoth without raysing of the barke, you shall then with a sharp knife, made in the proportion of a great pen-knife slice downe each side of the grafts, from the seame or knot which parts the olde woode from the new, euen to the neather end, making it flat and thinne, cheifely in the lowest part, hauing onely a regardfull eye vnto the pith of the graft, which you may by no meanes cut or touch, and when you haue thus trimmed a couple of grafts, for moe I doe by no meanes alow vnto one stocke, although sundry other skilfull workmen in this Art alow to the least stocke two grafts, to the indifferent great thrée, and to the greatest of all foure, yet I affirme two are sufficiently inough for any stocke whatsoever, and albeit they are a little the longer in couering the head, yet after they haue couered it the trée prospereth more in one yéere then that which containeth foure grafts shall doe in two, because they cannot haue sap

How to graft in the Cleft.

[H] [49]

inough to maintaine them, which is the reason that trées for want of prosperitie grow crooked and deformed: but to my purpose. When you haue made your grafts ready, you shall then take a fine thinne sawe, whose téeth shalbe filed sharpe and euen, and with it (if the stocke be excéeding small) cut the stocke round off within lesse then a foote of the ground, but if the stocke be as bigge as a mans arme, then you may cut it off two or thrée foote from the ground, and so consequently the bigger it is the higher you may cut it, and the lesser the nearer vnto the earth: as soone as you haue sawne off the vpper part of the stocke, you shall then take a fine sharpe chissell, somewhat broader then the stocke, and setting it euen vpon the midst of the head of the stocke somewhat wide of the pith, then with a mallet of woode you shall stricke it in and cleaue the stocke, at least foure inches déepe, then putting in a fine little wedge of Iron, which may kéepe open the cleft, you shall take one of your grafts and looke which side of it you intend to place inward, and that side you shall cut much thinner then the out side, with a most héedfull circumspection that by no meanes you loosen or rayse vp the barke of the graft, cheifly on the out side, then you shall take the graft, and wetting it in your mouth place it in one side of the cleft of the stocke, and regard that the very knot or seame which goes about the graft, parting the olde woode from the new, do rest directly vpon the head of the stocke, and that the out side of the graft doe agrée directly with the out side of the stocke, ioyning barke vnto barke, and sappe vnto sappe, so euen, so smooth, and so close, that no ioyners worke may be discerned to ioyne more arteficially: which done, vpon the other side of the stocke, in the other cleft, you shall place your other graft, with full as much care, diligence, and euery other obseruation: when both your grafts are thus orderly and arteficially placed, you shall then by setting the haft of your chissell against the stocke, with all lenitie and gentlenesse, draw forth your wedge, in such sort that you doe not displace or alter your grafts, and when your wedge is forth you shall then looke vpon your grafts, and if you perceiue that the stocke doe pinch or squize them, which you may discern both by the straitnesse and bending of the outmost barke, you shall then make a little wedge of some gréene sappy woode, and driuing it into the cleft, ease your grafts, cutting that wedge close to the stocke. When you haue thus made both your grafts perfect, you shall then take the barke of either Apple-trée, Crab-trée or Willow-trée, and with that barke couer the head of the stocke so close that no wet or other annoyance may get betwixt it and the stocke, then you shall take a conuenient quantitie of clay, which indéede would be of a binding mingled earth, and tempering it well, either with mosse or hay, lay it vpon the barke, and daube all the head of the stocke, euen as low as the bottome of the grafts, more then an inch thicke, so firme, close, and smooth as may be, which done, couer all that clay ouer with soft mosse, and that mosse with some ragges of wollen cloath, which being gently bound about with the inward barkes of Willow, or Osyar, let the graft rest to the pleasure of the highest: and this is called grafting in the cleft.

[H1v] [50]

Now there be certaine obseruations or caueats to be respected in grafting, which I may not neglect: as first, in trimming and preparing your grafts for the stocke: if the grafts be either of Cherry, or Plumbe, you shall not cut them so thinne as the grafts of Apples, Quinces, or Medlars, because they haue a much larger and rounder pith, which by no meanes must be toucht but fortiefied and preserued, onely to the neather end you may cut them as thinne as is possible, the pith onely preserued.

Notes.

[H2] [51]

Secondly, you shall into your greatest stockes put your greatest grafts, and into your least, the least, that there may be an equall strength and conformitie in their coniunction.

Thirdly, if at any time you be inforced to graft vpon an olde trée, that is great and large, then you shall not graft into the body of that trée, because it is impossible to kéepe it from putrifaction and rotting before the grafts can couer the head, but you shall chuse out some of the principall armes or branches, which are much more slender, and graft them, as is before shewed, omitting not dayly to cut away all cyons, armes, branches, or superfluous sprigs which shall grow vnder those branches which you haue newly grafted: but if there be no branch, small or tender enough to graft in, then you shall cut away all the maine branches from the stocke, and couering the head with clay and mosse, let it rest, and within thrée or foure yéeres it will put forth new cyons, which will be fit to graft vpon.

Fourthly, if when you either sawe off the top of your stocke, or else cleaue the head, you either raise vp the barke or cleaue the stocke too déepe, you shall then sawe the stocke againe, with a little more carefulnesse, so much lower as your first errour had committed a fault.

Fiftly, you shall from time to time looke to the binding of the heads of your stockes, in so much that if either the clay doe shrinke away or the other couerings doe losen, by which defects ayre, or wet, may get into the incission, you shall presently with all spéede amend and repaire it.

Lastly, if you graft in any open place where cattell doe graze, you shall not then forget as soone as you haue finisht your worke to bush or hedge in your graft, that it may be defended from any such negligent annoyance. And thus much for this ordinary manner of grafting, which although it be generall and publike to most men that knoweth any thing in this art, yet is it not inferiour, but the principallest and surest of all other.

[H2v] [52]

CHAP. V.

Of diuers other wayes of grafting, their vses and purposes.



Although for certainty, vse, and commodity, the manner of grafting already prescribed is of sufficiency inough to satisfie any constant or reasonable vnderstanding, yet for nouelty sake, to which our nation is infinitely addicted, and to satisfie the curious, who thinke their iudgements disparaged if they heare any authorised traoueller talke of the things which they haue not practised, I will procéde to some other more quaint manners of grafting, and the rather because they are not altogether vnecessary, hauing both certainty in the worke, pleasure in the vse, and benefit in the serious employing of those howers which else might challenge the title of idlenesse, besides they are very well agréeing with the soyles and fruits of this Empyre of great Brittain and the vnderstandings of the people, for whose seruice or benefit, I onely vndergoe my trauell.

You shall vnderstand therefore, that there is another way to graft, which is called grafting betwéene the barke and tree, and it is to be put in vse about the latter end of February, at such time as the sappe beginnes to enter into the trées: and the stockes most fit for this manner of grafting are those which are oldest and greatest, whose graine being rough and vneuen, either through shaking or twinding, it is a thing almost impossible to make it cleaue in any good fashion, so that in such a case it is meete that the grafter exercise this way of grafting betwixt the barke and the trée, the manner whereof is thus.

[H3] [53]

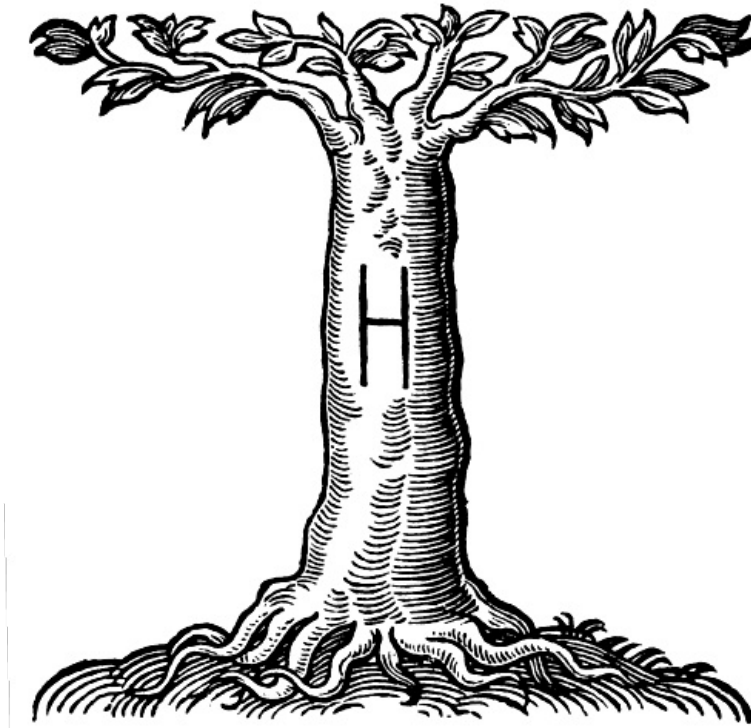
First, you shall dresse your grafts in such sort as was before discribed when you grafted in the cleft, onely they shall not be so long from the knot or seame downward by an inch or more, neither so thicke, but as thinne as may be, the pith onely preserued, and at the neather end of all you shall cut away the barke on both sides, making that end smaller and narrower then it is at the ioynt or seame, then sawing off the head of the stocke, you shall with a sharpe knife pare the head round about, smooth and plaine, making the barke so euen as may be, that the barke of your grafts and it may ioyne like one body, then take a fine narrow chissell, not excéeding sharpe, but somewhat rebated, and thrust it hard downe betwixt the barke and the trée, somewhat more then two inches, according to the iust length of your graft, and then gently thrust the graft downe into the same place, euen close vnto the ioynt, hauing great care that the ioynt rest firme and constant vpon the head of the stocke, and thus you shall put into one stocke not aboue thré grafts at the most, how euer either other mens practise, or your owne reading doe perswade you to the contrary. After your grafts are fixt and placed, you shall then couer the head with barke, clay, and mosse, as hath béene formerly shewed: also you shall fasten about it some bushes of thorne, or sharpe whinnes, which may defend and kéepe it from the annoyance of Pye-annats, and such like great birds.

There is another way of grafting, which is called grafting in the scutchion, which howsoeuer it is estéemed, yet is it troublesome, incertaine, and to small purpose: the season for it is in summer, from May till August, at what time trées are fullest of sappe and fullest of leaues, and the manner is thus: take the highest and the principallest branches of the toppe of the trée you would haue grafted, and without cutting it from the olde woode chuse the best eye and budding place of the cyon, then take another such like eye or budde, being great and full, and first cut off the leafe hard by the budde, then hollow it with your knife the length of a quarter of an inch beneath the budde, round about the barke, close to the sappe, both aboue and below, then slit it downe twice so much wide of the budde, and then with a small sharpe chissell raise vp the scutchion, with not onely the budde in the midst but euen all the sappe likewise, wherein you shall first raise that side which is next you, and then taking the scutchion betwéene your fingars, raise it gently vp without breaking or brusing, and in taking it off hould it hard vnto the woode, to the end the sappe of the budde may abide in the scutchion, for if it depart from the barke and cleaue to the woode, your labour is lost, this done you shall take another like cyon, and hauing taken off the barke from it, place it in the others place, and in taking off this barke you must be carfull that you cut not the woode, but the barke onely, and this done you shall couer it all ouer with redde waxe, or some such glutenous matter; as for the binding of it with hemepe and such trumpery it is vtterly dissalowed of all good grafters: this manner of grafting may be put in practise vpon all manner of cyons, from the bignesse of a mans little fingar to the bignesse of a slender arme.

Not much vnlike vnto this, is the grafting with the Leafe, and of like worth, the art whereof is thus: any time betwixt midst May, vntill the midst of September, you shall chuse, from the toppe of the sunne-side of the trée, the most principall young cyon you can sée, whose barke is smoothest, whose leaues are greatest, and whose sappe is fullest, then cutting it from the trée note the principall leafe thereof, and cut away from it all the woode more then about an inch of each side of the leafe, then cutting away the vndermost part of the barke with your knife, take péece meale from the barke all the woode and sappe, saue onely that little part of woode and sappe which féedeth the leafe, which in any wise must be left behind, so that the graft will carry this figure.



Then goe to the body, arme, or branch of that trée which you intend to graft, which is to be presupposed must euer haue a smooth and tender barke, and with a very sharpe knife slit the barke, two slits at least, two inches long a péece, and about halfe an inch or more distance betwéene the two slits: then make another slit crosse-wise ouerthwart, from long slit to long slit, the figure whereof will be thus:



Then with your knife raise the barke gently from the trée, without breaking, cracking, or brusing: then take your graft, and putting it vnder the barke lay it flat vnto the sappe of the trée, so as that little sappe which is left in the leafe, may without impediment cleaue to the sappe of the trée, then lay downe the barke close againe and couer the graft, and with a little vntwound hempe, or a soft wollen list, binde downe the barke close to the graft, and then couer all the incisions you haue made with greene waxe: by this manner of grafting you may haue vpon one trée sundry fruits, as from one Apple-tree, both Pippins, Peare-maines, Russetings and such like, nay, you may haue vpon one tree, ripe fruit all summer long, as Ienettings from one branch, Cislings from another, Wibourns from another, Costards and Quéene-Apples from others, and Pippins and Russetings, from others, which bringeth both delight to the eye, and admiration to the sence, and yet I would not haue you imagine that this kinde of grafting doth onely worke this effect, for as before I shewed you, if you graft in the cleft (which is the fastest way of all grafting) sundry fruits vpon sundry armes or bowes, you shall likewise haue procéeding from them sundry sorts of fruits, as either Apples, Plumbes, Peares or any other kind, according to your composition and industry; as at this day we may dayly sée in many great mens Orchards.

There is yet another manner of grafting, and it is of all other especially vsed much in Italy, and yet not any thing disagréeable with our climate, and that is to graft on the small cyons which are on the toppes of fruit trées, surely an experience that carryeth in it both difculty and wonder,

*Grafting on the toppes
of trees.*

yet being put to approbation is no lesse certaine then any of the other, the manner whereof is thus: you shall first after you haue chosen such and so many grafts as you doe intend to graft, and trimd them in the same manner as you haue béene taught formerly for grafting within the cleft, you shall then mount vp into the toppe of the trée, vpon which you meane to graft, and there make choise of the highest and most principallest cyons (being cleane barkt and round) that you can perceiue to grow from the trée, then laying the graft, and the cyon vpon which you are to graft, together, sée that they be both of one bignesse and roundnesse: then with your grafting knife cut the cyon off betwéene the olde woode and the new, and cleaue it downe an inch and an halfe, or two inches at the most: then put in your graft (which graft must not be cut thinner on one side, then on the other, but all of one thickness) and when it is in, sée that the barke of the graft both aboue and below, that is, vpon both sides, doe ioyne close, euen, and firme with the barke of the branch or cyon, and then by foulding a little soft towe about it, kéepe them close together, whilst with clay, mosse, and the in-most barke of Osyars you lappe them about to defend them from ayre, winde, and tempests. And herein you shall obserue to make your graft as short as may be, for the shortest are best, as the graft which hath not aboue two or thrée knots, or buddes, and no more. You may, if you please, with this manner of grafting graft vpon euery seuerall cyon, a seuerall fruit, and so haue from one trée many fruits, as in case of grafting with the leafe, and that with much more spéede, by as much as a well-growne graft is more forward and able then a weake tender leafe. And in these seuerall wayes already declared, consisteth the whole Art and substance of Grafting: from whence albeit many curious braines may, from preuaricating trickes, beget shoues of other fashions, yet when true iudgement shall looke vpon their workes, he shall euer finde some one of these experiments the ground and substance of all their labours, without which they are able to doe nothing that shall turne to an assured commoditie.

Now when you haue made your selfe perfect in the sowing, setting, planting and grafting of trées, you shall then learne to know the effects, wonders, and strange issues which doe procéde from many quaint motions and helps in grafting, as thus: if you will haue Peaches, Cherryes, Apples, Quinces, Medlars, Damsons, or any Plumbe whatsoeuer, to ripen earely, as at the least two months before the ordinary time, and to continue at least a month longer then the accustomed course, you shall then graft them vpon a Mulberry stocke: and if you will haue the fruit to tast like spice, with a certaine delicate perfume, you shall boyle Honey, the powder of Cloues and Soaxe together, and being cold annoynt the grafts there-with before you put them into the cleft, if you graft Apples, Peares, or any fruit vpon a Figge-tree stocke, they will beare fruit without blooming: if you take an Apple graft, & a Peare graft, of like bignesse, and hauing clouen them, ioyne them as one body in grafting, the fruit they bring forth will be halfe Apple and halfe Peare, and so likewise of all other fruits which are of contrary tastes and natures: if you graft any fruit-tree, or other trée, vpon the Holly or vpon the Cypresse, they will be greene, and kéepe their leaues the whole yéere, albeit the winter be neuer so bitter.

The effects of Grafting.

If you graft either Peach, Plumbe, or any stone-fruit vpon a Willow stocke, the fruit which commeth of them will be without stones.

If you will change the colour of any fruit, you shall boare a hole slope-wise with a large auger into the body of the trée, euen vnto the pith, and then if you will haue the fruit yealow you shal fill the hole with Saferne dissolued in water: if you will haue it redde, then with Saunders, and of

any other colour you please, and then stoppe the hole vp close, and couer it with red or yealow waxe: also if you mixe the coulour with any spice or perfume, the fruit will take a rellish or tast of the same: many other such like conceits and experiments are practised amongst men of this Art, but sith they more concerne the curious, then the wise, I am not so carefull to bestow my labour in giuing more substantiall satisfaction, knowing curiosity loues that best which procéedes from their most paine, and am content to referre their knowledge to the searching of those bookes which haue onely strangnesse for their subiect, resoluéd that this I haue written is fully sufficient for the plaine English husbandman.

[12] [59]

CHAP. VI.

Of the replanting of Trees, and furnishing the Orchard.



As soone as your séedes, or sets, haue brought forth plants, those plants, through time, made able, and haue receiued grafts, and those grafts haue couered the heads of the stockes and put forth goodly branches, you shall then take them vp, and replant them, (because the sooner it is done the better it is done) in those seuerall places of your Orchard which before is appointed, and is intended to be prepared, both by dungging, digging, and euery orderly labour, to receiue euery seuerall fruit. And herein you shall vnderstand, that as the best times for grafting are euery month (except October and Nouember) and at the change of the moone, so the best times for replanting, are Nouember and March onely, vnlesse the ground be cold and moist and then Ianuary, or February must be the soonest all wayes, excepted that you doe not replant in the time of frost, for that is most vnholseme.

Now when you will take vp your trées which you intend to replant in your Orchard, you shall first with a spade bare all the maine branches of the roote, and so by degrés digge and loosen the earth from the roote, in such sort that you may with your owne strength raise the young trée from the ground, which done, you shall not, according to the fashion of Fraunce, dismember, or disroabe the trée of his beauties, that is to say, to cut off all his vpper branches and armes, but you shall diligently preserue them: for I haue séene a trée thus replanted after the fall of the leafe to bring forth fruit in the summer following: but if the trée you replant be olde then it is good to cut off the maine branches with in a foote of the stocke, least the sappe running vpward, and so forsaking the roote too sodainely doe kill the whole trée.

The taking vp of trees.

[12v] [60]

When you haue taken your trée vp, you shall obserue how, and in what manner, it stooode, that is, which side was vpon the South and receiued most comfort from the sunne, and which side was from it and receiued most shadow and bleaknesse, and in the same sort as it then stooode, so shall you replant it againe: this done you shall with a sharpe cutting-knife, cut off all the maine rootes, within halfe a foote of the trée, onely the small thriddes or twist-rootes you shall not cut at all: then bringing the plant into your Orchard, you shall make a round hole in that place where you intend to set your trée (the rankes, manner, distance and forme whereof hath béene all ready declared, in the first Chapter:) and this hole shalbe at least foure foote ouerthwart euery way, and at least two foote déepe, then shall you fill vp the hole againe, fiftéene inches déepe, with the finest blacke mould, tempered with Oxe dunge that you can get, so that then the hole shalbe but nine inches déepe, then you

shall take your trée and place it vpon that earth, hauing care to open euery seuerall branch and thrid of the roote, & so to place them that they may all looke downe into the earth, and not any of them to looke backe and turne vpward: then shall you take of the earth from whence your trée was taken, and tempering it with a fourth part of Oxe dunge and slekt sope-asshes (for the killing of wormes) couer all the roote of your trée firmly and strongly: then with gréene soddes, cut and ioyned arteficially together, so sodde the place that the hole may hardly be discerned. Lastly take a strong stake, and driuing it hard into the ground neare vnto the new planted trée, with either a soft hay rope, the broad barke of Willow, or some such like vnfretting band, tye the trée to the stake, and it will defend it from the rage of winde and tempests, which should they but shake or trouble the roote, being new planted, it were enough to confound and spoyle the trée for euer.

[13] [61]

Now, although I haue vnder the title and demonstration of replanting one trée giuen you a generall instruction for the replanting of all trées whatsoever, yet, for as much as some are not of that strength and hardnesse to indure so much as some others will, therefore you shal take these considerations by the way, to fortifie your knowledge with.

First, you shall vnderstand that all your dainty and tender grafted Plumbes, and fruits, as Abricots, Peaches, Damaske-Plumbes, Verdochyos, Pescods, Emperialls, and diuers such like, together with Orrenge, Cytrons, Almonds, Oliues, and others, which indéede are not familiar with our soyles, as being nearer neighbours to the sunne, doe delight in a warme, fat, earth, being somewhat sandy, or such a clay whose coldnesse by Manure is corrected, and therefore here with vs in the replanting of them you cannot bestow too much cost vpon the mould: as for the Damson, and all our naturall english Plumbes, they loue a fat, cold, earth, so that in the replanting of them if you shall lay too much dunge vnto their roote, you shall through the abundant heate, doe great hurt vnto the trée. The cherry delighteth in any clay, so that vpon such soyle you may vse lesse Manure, but vpon the contrary you cannot lay too much. The Medlar estéemeth all earths alike, and therefore whether it be Manured or no it skilles not, sunne and shadow, wet and drinesse, being all of one force or efficacy. The Peare and Apple-trée delights in a strong mixt soyle, and therfore indureth Manure kindly, so doth also the Quince and Warden: lastly the Filbert, the Hasell, and the Chesnut, loue cold, leane, moist, and sandy earths, in so much that there is no greater enimy vnto them then a rich soyle: so that in replanting of them you must euer séeke rather to correct then increase fertillity.

[13v] [62]

You shall also vnderstand that all such fruit-trées as you doe plant against the walles of your Orchard (of which I haue spoken already & deciphered out their places) you shall not suffer to grow as of themselues, round, and from the wall, but at the times of pruning and dressing of them (which is euer at the beginning of the spring and immediately after the fall) you shall as it were plash them, and spread them against the wall, foulding the armes in loopes of leather, and naying them vnto the wall: and to that end you shall place them of such a fit distance one from another, that they may at pleasure spread and mount, without interruption: the profit whereof is at this day seene almost in euery great mans Orchard: and although I haue but onely appointed vnto the wall the most quaint fruits of forraine nations; yet there is no fruit of our owne, but if it be so ordered it will prosper and bring forth his fruit better and in greater abundance. And thus much for the replanting of trées and furnishing of a well proportioned Orchard.

Of the Dressing, Dungging, Proyning, and Preseruing of
Trees.

ith after all the labour spent of ingendring by séede, of fortifying and inabling by planting, and of multiplying by grafting it is to little or no purpose if the trées be not maintained and preserued by dressing, dungging and proyning, I will therefore in this place shew you what belongs to that office or duty, and first, for the dressing of trees: you shall vnderstand that it containeth all whatsoever is méete for the good estate of the trée, as first, after your trée is planted, or replanted, if the season shall fall out hot, dry, and parching, insomuch that the moisture of the earth is sucked out by the attraction of the Sunne, and so the trée wanteth the nutriment of moisture, in this case you shall not omit euery morning before the rising of the sunne, and euery euening after the set of the sunne, with a great watring-pot filled with water, to water & bath the rootes of the trées, if they be young trées, and newly planted, or replanted, but not otherwise: for if the trées be olde, and of long growth, then you shall saue that labour, and onely to such olde trées you shall about the midst of Nouember, with a spade, digge away the earth from the vpper part of the rootes and lay them bare vntill it be midde-March, and then mingling such earth as is most agréable with the fruit and Oxe-dunge and sope-ashes together, so couer them againe, and tread the earth close about them: as for the vncovering of your trées in summer I doe not hold it good, because the reflection of the sunne is somewhat too violent and dryeth the roote, from whence at that time the sappe naturally is gone: you shall also euery spring and fall of the leafe clense your fruit trées from mosse, which procéding from a cold and cankerous moisture, bréedeth dislike, and barrainnesse in trées: this mosse you must take off with the backe of an olde knife and leaue the barke smooth, plaine, and vnaced: also if you shall dunge such trées with the dunge of Swine, it is a ready way to destroy the mosse.

After you haue drest and trimmed your trées, you shall then proyne them, which is to cut away all those superfluous branches, armes, or cyons, which being either barraine, bruised or misplaced, doe like drones, steale-away that nutriment which should maintaine the better deseruing sinewes, and you shall vnderstand that the best time for proyning of trées, is in March and Aprill, at which time the sappe assending vpward, causeth the trées to budde: the branches you shall cut away are all such as shall grow out of the stocke vnderneath the place grafted, or all such as by the shaking of tempests shall grow in a disorderly and ill fashioned crookednesse, or any other, that out of a well tempered iudgement shall séeme superfluous and burdensome to the stocke from whence it springs, also such as haue by disorder béene brooken, or maimed, and all these you shall cut away with a hooke knife, close by the trée, vnlesse you haue occasion by some misfortune to cut away some of the maine and great armes of the trée, and then you shall not vse your knife for feare of tearing the barke, but taking your sawe you shall sawe off those great armes close by the trée, neither shall you sawe them off downward but vpward, least the waight of the arme breake the barke from the body: And herein you shall also vnderstand that for as much as the mischances which beget these dismembings doe happen at the latter end of Summer, in the gathering of the fruit, and that it is not fit such maymed and broken boughes hang vpon the trée till the Spring, therefore you shall cut them off in the Winter time, but not close to the trée by almost a foote, and so letting them rest vntill the spring, at that time cut them off close by the trée. Now if you finde the

Proyning of Trees.

[14r] [63]

[14v] [64]

superfluitie of branches which annoy your trées to be onely small cyons, springing from the rootes of the trées, as it often hapneth with all sorts of Plumbe-trées, Cherry-trées, Nut-trées, and such like, then you shall in the winter, bare the rootes of those trées, and cut off those cyons close by the roote: but if your trées be broused or eaten by tame-Deare, Goates, Shéepe, Kine, Oxen, or such like, then there is no help for such a misfortune but onely to cut off the whole head and graft the stocke anew.

Next to the proyning of trées, is the preseruing, phisicking, and curing of the diseases of trées: to which they are subiect as well as our naturall bodyes: and first of all, there is a disease called Barke-bound, which is when the barke, through a mislike and leperous drynesse, bindeth in the trée with such straitnesse that the sappe being denied passage the body growes into a consumption: it is in nature like vnto that disease which in beasts is called hide-bound, and the cure is thus: at the beginning of March take a sharpe knife, and from the toppe of the body of the trée, to the very roote, draw downe certaine slits, or incissions, cleane through the barke, vnto the very sappe of the trée, round about the trée, & then with the backe of your knife open those slits and annoint them all through with Tarre, and in short space it will giue libertie vnto the trée to increase & grow: this disease commeth by the rubbing of cattell against the trée, especially Swine, who are very poyson vnto all plants.

Of Barke-bound.

[K] [65]

There is another disease in fruit-trées, called the Gall, and it eateth and consumeth the barke quit away, and so in time kills the trée: the cure is to cut and open the barke which you see infected, and with a chissell to take away all that is foule and putrefied, and then to clappe Oxe dunge vpon the place, and it will helpe it, and this must be done euer in winter.

Of the Gall.

The Canker in fruit trées is the consumption both of the barke and the body, & it commeth either by the dropping of trées one vpon another, or else when some hollow places of the trée retaineth raine water in them, which fretting through the barke, poysoneth the trée: the cure is to cut away all such boughes as by dropping bréede the euill, and if the hollow places cannot be smooth and made euen, then to stoppe them with clay, waxe, and sope-ashes mixt together.

Of the Canker.

If the barkes of your trées be eaten with wormes, which you shall perceiue by the swelling of the barke, you shall then open the barke and lay there-vpon swines dunge, sage, and lime beaten together, and bound with a cloath fast to the trée, and it will cure it: or wash the trée with cowes-pisse and vinegar and it will helpe it.

Of worme-eaten barkes.

If your young trées be troubled with Pismiers, or Snailles, which are very noysome vnto them, you shall take vnsleckt lime and sope-ashes and mingling them with wine-lées, spread it all about the roote of the trées so infected, and annoint the body of the trée likewise therewith, and it will not onely destroy them but giue comfort to the trée: the soote of a chimney or Oake sawe-dust spread about the roote will doe the same.

Of Pismiers and Snailles.

If Caterpillers doe annoy your young trées, who are great deuourers of the leaues and young buddes, and spoylers of the barke, you shall, if it be in the summer time, make a very strong brine of water and salt, and either with a garden pompe, placed in a tubbe, or with squirts which haue many hoales you shall euery second day water and wash your trées, and it will destroy them, because the Caterpillar naturally cannot indure moisture, but if neuerthelesse you see they doe continue still vpon your trees in Winter, then you shall when the leaues are falne away take dankish straw and setting it on fire smeare and burne them from the trée, and you shall hardly euer be troubled with them againe vpon the same trées: roules of hay layd on the trées will gather vp Earewigges and kill them.

Of Caterpillers, and Earewigges.

[K1v] [66]

If your trées be barraine, and albeit they flourish and spread there leaues brauely, yet bring forth no fruit at all, it is a great sicknesse, and the worst of all other: therefore you shall vnderstand it procéedeth of two causes: first, of two much fertillitie, and fatnesse of the ground, which causeth the leafe to put forth and flourish in such vnnaturall abundance, that all such sappe and nutriment as should knit and bring forth fruit, turnes onely vnto leafe, cyons, and vnprofitable branches, which you shall perceiue both by the abundance of the leaues and by the colour also, which will be of a more blacker and déeper gréene, and of much larger proportion then those which haue but their naturall and proper rights: and the cure thereof is to take away the earth from the roote of such trées and fill vp the place againe with other earth, which is of a much leaner substance: but if your trée haue no such infirmitie of fatnesse, but beareth his leaues and branches in good order and of right colour and yet notwithstanding is barraine and bringeth forth little or no fruit, then that disease springeth from some naturall defect in the trée, and the cure thereof is thus: first, you shall vnbare the roote of the trée, and then noting which is the greatest and principallest branch of all the roote, you shall with a great wimble boare a hole into that roote and then driue a pinne of olde dry Ashe into the same (for Oake is not altogether so good) and then cutting the pinne off close by the roote, couer all the head of the pinne with yealow waxe, and then lay the mould vpon the roote of the trée againe, and treade it hard and firmly downe, and there is no doubt but the trée will beare the yéere following: in Fraunce they vse for this infirmitie to boare a hoale in the body of the trée slope-wise, somewhat past the hart, and to fill vp the hoale with life honey and Rose-water mixt together, and incorporated for at least xxiiij. howers, and then to stoppe the hole with a pinne of the one woode: also if you wash the rootes of your trées in the drane water which runneth from your Barley when you stéepe it for Malt, it will cure this disease of barrainenesse.

*Of the barrainenesse
of Trees.*

[K2] [67]

If the fruit which is vpon your trées be of a bitter and sootie tast, to make it more pleasant and swéet you shall wash your trée all ouer with Swines dunge and water mixt together, & to the rootes of the trées you shall lay earth and Swines dunge mixt together, which must be done in the month of Ianuary and February onely, and it will make the fruit tast pleasantly. And thus much for the dressing and preseruing of trées.

*Of the bitterness of
Fruit.*

CHAP. VIII.

Of the Vine, and of his ordering.



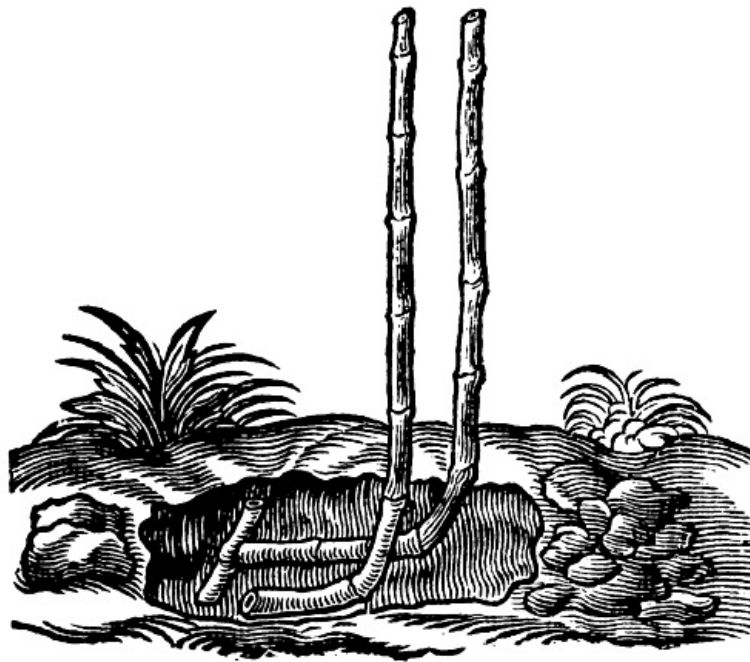
or as much as the nature, temperature, and clymate, of our soyle is not so truely proper and agréeing with the Vine as that of Fraunce, Italy, Spaine, and such like, and sith wée haue it more for delight, pleasure, and prospect, then for any peculyar profit, I will not vndertake *Monsiuer Lybaults* painefull labour, in discribing euery curious perfection or defect that belongs thereunto, as if it were the onely iewell and commoditie of our kingdome, but onely write so much as is fitting for our knowledge touching the maintaynance, increase, and preseruation thereof, in our Orchards, Gardens, and other places of recreation.

First then to speake of the planting or setting of the Vine, your greatest diligence must be to séeke out the best plants, and if that which is most strange, rare, great and pleasant be the best, then is that grape which is

*Of planting or setting
the Vine.*

[K2v] [68]

called the Muskadine, or Sacke grape, the best, and haue their beginning either from Spaine, the Canary Ilands, or such like places: next to them is the French grape, of which there be many kindes, the best whereof is the grape of Orleance, the next the grape of Gascoynie, the next of Burdeaux, and the worst of Rochell, and not any of these but by industry will prosper in our English gardens: when therefore you chuse your plants, you shall chuse such of the young cyons as springing from the olde woode, you may in the cutting cut at least a ioynt or two of olde woode with the young: for the olde will take soonest, and this olde woode must be at least seauen or eight inches long, and the young cyon almost a yard, and the thicker and closer the ioynts of the young cyon are, so much the better they are: and the fit time for cutting and gathering these sets are in midde-January, then hauing prepared, digged, and dunged your earth the winter before, you shall at the latter end of Ianuary take two of these sets, or plants, placing them according to this figure:



[K3] [69]

And lay them in the earth slope-wise, at least a foote déepe, leauing out of the earth, vncouered, not aboue foure or fiue ioynts, at the most, and then couer them with good earth firmly, closely, and strongly, hauing regard to raise those cyons which are without the earth directly vpward, obseruing after they be set, once in a month to wéede them, and kéepe them as cleane as is possible: for nothing is more noysome vnto them then the suffocating of wéeds: also you shall not suffer the mould to grow hard or bind about the rootes, but with a small spade once in a fortnight to loosen and breake the earth, because there rootes are so tender that the least straytning doth strangle and confound them. If the season doe grow dry, you may vse to water them, but not in such sort as you water other plants, which is to sprinkle water round about the earth of the rootes, but you shall with a round Iron made for the purpose somewhat bigger then a mans finger, make certaine holes into the earth, close vpon the roote of the Vine, and powre therein either water, the dregges of strong-Ale, or the léés of Wine, or if you will you may mixe with the léés of Wine either Goats-milke, or Cowes-milke, and power it into the holes and it will nourish the Vine excéedingly, and not the Vine onely, but all sorts of dainty grafted Plumbes, especially Peaches.

Now for proyning the Vine, you shall vnderstand that it is euer to be done after the fall of the leafe, when the sappe is desended downward, for if you shall proyne, or cut him, either in the spring, or when the

Of proyning the Vine.

sappe is aloft, it will bléede so excéedingly, that with great difficulty you shall saue the body of the trée from dying: and, in proyning of the Vine you shall obserue two things, the first, that you cut away all superfluous cyons and branches, both aboue and below, which either grow disorderly aboue, or fruitlessly below, and in cutting them you shall obserue, neither to cut the olde woode with the young cyon, nor to leaue aboue one head or leader vpon one branch: secondly, you shall in proyning, plash and spread the VINE thinnely against the wall, giuing euery seuerall branch and cyon his place, and passage, and not suffer it to grow loosely, rudely, or like a wilde thorne, out of all decency and proportion: for you must vnderstand that your Grapes doe grow euer vpon the youngest cyons, and if of them you shall preserue too many, questionlesse for want of nourishment they will lose their vertue, and you your profit. Now if your Vine be a very olde Vine, and that his fruit doth decay, either in quantitie or proportion; if then you finde he haue any young cyons which spring from his roote, then when you proyne him you shall cut away all the olde stocke, within lesse then an handfull of the young cyons, and make them the leaders, who will prosper and continue in perfection a long time after, especially if you trimme the rootes with fresh earth, and fresh dunge. Againe, if you be carefull to looke vnto your Vine, you shall perceiue close by euery bunch of grapes certaine small thridde-like cyons, which resemble twound wyars, curling and turning in many rings, these also take from the grapes very much nutriment, so that it shall be a labour very well imployd to cut them away as you perceiue them.

Now from the Vine there is gathered sundry experiments, as to haue it tast more pleasant then the true nature of the grape, and to smell in the mouth odoriferously, or as if it were perfumed, which may be done in this sort: Take damaske-Rose-water and boyle therein the powder of Cloaues, Cynamon, thrée graines of Amber, and one of Muske, and when it is come to be somewhat thicke, take a round goudge and make a hole in the maine stocke of the Vine, full as déepe as the hart thereof, and then put therein this medicine, then stopping the hole with Cypresse, or Iuniper, lay gréene-waxe thereupon, and binde a linnen cloath about it, and the next grapes which shall spring from that Vine will tast as if they were preserued or perfumed.

Experiments of the Vine.

If you will haue grapes without stones, you shall take your plants and plant the small ends downward and be assured your desire is attained.

The Vine naturally of himselfe doth not bring forth fruit till it haue béene thrée yéeres planted: but if euening and morning for the first month you will bath his roote with Goats-milke or Cowes-milke, it will beare fruit the first yéere of his planting. Lastly, you may if you please graft one Vine vpon another, as the swéet vpon the sower, as the Muskadine grape, or gréeke, vpon the Rochell or Burdeaux, the Spanish, or Iland grape, on the Gascoyne, and the Orleance vpon any at all: and these compositions are the best, and bring forth both the greatest and pleasantest grapes: therefore whensoever you will graft one grape vpon another, you shall doe it in the beginning of January, in this sort: first, after you haue chosen and trimmed your grafts, which in all sorts must be like the grafts of other fruits, then with a sharpe knife, you shall cleaue the head of the Vine, as you doe other stockes and then put in your graft, or cyon, being made as thinne as may be and sée that the barks and sappes ioyne euen and close together, then clay it, mosse it, and couer it, as hath béene before declared.

If your Vine grow too ranke and thicke of leaues, so that the sappe doth wast it selfe in them, and you thereby lose the profit of the fruit, you shall then bare all the rootes of the Vine, and cast away the earth, filling

The medicining of the Vine.

vp the place againe with sand & ashes mingled together: but if the Vine be naturally of it selfe barraine, then with a goudge you shall make a hole halfe way through the maine body of the Vine, and driue into the hole a round pible stone, which although it goe straitly in, yet it may not fill vp the hole, but that the sicke humour of the Vine may passe thorow thereat: then couer the roote with rich earth, and Oxe dunge mixt together, and once a day for a month water it with olde pisse, or vrine of a man, and it will make the trée fruitfull: if the Vine be troubled with Wormes, Snailles, Ants, Earewigges, or such like, you shall morning and euening sprinkle it ouer with cowes-pisse and vinegar mixt together & it will helpe it: & thus much for ordering the Vine.

[K4v] [72]

CHAP. IX.

The office of the Fruiterrer, or the Gatherer, and keeper, of Fruit.



fter you haue planted euery seuerall quarter, allye, and border within your Orchard, with euery seuerall fruit proper vnto his place, and that you haue placed them in that orderly and comely equipage which may giue most delight to the eye, profit to the trée, and commendations to the workeman, (according to the forme and order prescribed in the first Chapter) and that now the blessing of the highest, time, and your indeuours hath brought forth the haruest and recompence of your trauell, so that you behould the long-expected fruit hang vpon the trées, as it were in their ripenesse, wooing you to plucke, tast, and to deliuer them from the wombes of their parents, it is necessary then that you learne the true office of the Fruiterrer, who is in due season and time to gather those fruits which God hath sent him: for as in the husbanding of our grayne if the Husbandman be neuer so carefull, or skilfull, in ploughing, dungging, sowing, wéeding and preseruing his crop, yet in the time of haruest be negligent, neither regarding the strength or ripnesse thereof, or in the leading and mowing respects not whether it be wet or dry, doth in that moments space loose the wages of his whole yéeres trauell, getting but durt from durt, and losse from his negligence: so in like case houlds it with all other fruits, if a man with neuer so great care and cost procure, yet if he be inrespectiue in the gathering, all his former businesse is vaine and to no purpose; and therefore I hould nothing more necessary then the relation of this office of the Fruiterrer, which is the consummation and onely hope of our cost, and diligence, teaching vs to gather wisely what wée haue planted wearily, and to eate with contentment what we haue preserued with care.

[L] [73]

Know then, that of all fruits (for the most part) the Cherry is the soonest ripe, as being one of the oldest children of the summer, and therefore first of all to be spoken of in this place, yet are not all Cherries ripe at one instant, but some sooner then other some, according to the benefit of the Sunne, the warmth of the ayre, and the strength of sappe in the branch on which the Cherry hangeth: they are a fruit tender and pleasant, and therefore much subiect to be deuoured and consumed with Byrds of the smallest kindes, as Sparrowes, Robins, Starlings, and such like, especially the Iay, and the Bull-finch, who deuoure them stoness and all, euen so fast as they rypen: for preuention whereof; if you haue great abundance of Cherry trées, as maine holts that be either one or many akers in compasse, you shall then in diuers places of your holts, as well in the midst, as out-corners, cause to be erected vp certaine long poles

Of gathering and preseruing Cherries.

[L1c] [74]

of Fyrre, or other woode, which may mount somewhat about the toppes of the trées, and one the toppes of those poales you shall place certaine clappe-milles made of broken trenchers ioyned together like sayles, which being moued and carryed about with the smallest ayre, may haue vnderneath the sayles a certaine loose little board, against which euery sayle may clap and make a great noyse, which will afright and scare the Byrds from your trées: these milles you shall commonly see in Husbandmens yards placed on their stackes or houells of Corne, which doth preserue them from fowle and vermine: but for want of these clap-milles you must haue some boy or young fellow that must euery morning from the dawning of the day till the Sunne be more then an houre high, and euery euening from fiue of the clocke till nine, runne vp and downe your ground, whooping, showtying, and making of a great noyse, or now and then shooting of some Harqueebush, or other Péece: but by no meanes to vse slings or throwing of stones, least by the miscarriage of his hand hee either beate downe the fruit or bruise the trees. In this sort hauing preserued your Cherries from destruction, you shall then know there ripenesse by their colours, for euer those which are most red, are most ripe, and when you see any that are ripe, you shall take a light ladder, made either of fyrrer or sallow, and setting it carefully against the branches, so as you neither bruise them nor the fruit, you shall gather those you finde ripe, not taking the fruit from the stalke, but nipping the stalke and fruit both together from the trée: also you shall be carefull in gathering to handle or touch the Cherry so little as may be, but the stalke onely, especially if your hands be hot, or sweaty, for that will change the colour of your Cherries, and make them looke blacke: if there be any ripe Cherries which hang out of the reach of your hands, then you shall haue a fine small gathering hooke of woode, whose bout shall be made round, and smooth, for nipping the barke of the branches, and with it you shall gently pull vnto you those branches you cannot reach: you shall also haue a little round basket of almost a foote déepe, made with a siue bottome, hauing a handle thwarte the toppe, to which a small hooke being fastned, you shall with that hooke hang the basket by you on some conuenient cyon, and as you gather the Cherries, gently lay them downe into the same, and when you haue filled your basket you shall descend and empty it into larger great baskets made of the same fashion, with siue bottomes, and hauing vnderneath two broad lathes or splinters, at least thrée fingers broad a péece, within foure inches one of the other, and going both one way crosse ouerthwart the basket, that if either man or woman shall carry them vpon their heads, which is the best manner of cariage, then the splinters may defend the bottome of the basket from the head of the party, and kéepe the Cherries from hurt or bruising, and if you haue occasion to carry your Cherries farre, and that the quantitie grow beyond the support of a man, then you shall packe them in hampers or panniers made with false bottoms like siues, and finely lyned on the out side with white straw, and so being closely trust on each side a Horses-backe, to carry them whether you please. You shall by no meanes suffer your Cherries to lye in any great or thicke heapes one vpon another, but vntill you sell them, or vse them, lay them as thinne as may be, because they are apt of themselues to sweat and catch heate, and that heate doth soone deprivue them of the glory of their colour. When you gather any Cherries to preserue, you shall gather those which are the greatest, the ripest, you shall pull them from their stalkes one by one, and vse them at furthest within xxiiij. howers after the time they are gotten.

[L2] [75]

For the gathering of Plumbes in generall, it is in the same manner as you did gather your Cherries, both with such a like ladder, such a like hooke, and such like vessels, onely some more speciall obseruations are to be

*The gathering of
stone Fruit.*

observed in gathering your dainty grafted Plumbes, then of the others, which are of a more hard and induring nature. You shall know then that for gathering of Abricots, Peaches, Date-Plumbes, and such like grafted Plumbes, you shall duely consider when they are perfectly ripe, which you shall not iudge by their dropping from the trée, which is a signe of ouer-much ripnesse, tending to rottennesse, but by the true mixture of their colour, and perfect change from their first complexion: for when you shall perceiue that there is no gréenenesse nor hardnesse in their out-sides, no, not so much as at the setting on of the stalke, you may then iudge that they are ready to be gathered, and for a perfecter tryall thereof you may if you please, take one which you thinke ripest from the trée, and opening it if you see the stone comes cleane and dry away and not any of the in-part of the fruit cleauing vnto it, then you may assure your selfe that the fruit is ready to be gathered, which you shall with great deligence and care gather, not by any meanes laying one Plumbe vpon another, but each seuerally by another, for these dainty Plumbes are naturally so tender that the least touch, though of themselues, doth bruise them, and occasion rottennesse. Now when you haue gathered them, if either you haue desire to send them any iourney, as in gratulation to your friends, or for other priuate commoditie, you shall take some close, smooth, boxe, answerable to the store of fruit you are to send, and first line it within all ouer with white paper, then lay your Plumbes one by one all ouer the bottome of the boxe, then couering them all ouer with white paper, lay as many moe vpon the toppe of them, and couer them likewise with paper, as before, and so lay row vpon row with papers betwéene them, vntill the boxe be sufficiently filled, and then closing it vp sende it whether you please, and they will take the least hurt, whereas if you should line the boxe either with hay or straw, the very skinnes are so tender that the straw would print into them and bruise them excéedingly, and to lay any other soft thing about them, as either wooll or bumbast, is excéeding euill, because it heateth the Plumbes, and maketh them sweat, through which they both loose their colour and rot spéedily. As touching the gathering of Plumbes when they are hard, and to ripen them afterward by laying them vpon nettles, to which consenteth the most of our London-Fruiterrers, I am vtterly against the opinion, because I both know Nature to be the perfectest worke-Mistris, and where she is abridged of her power there euer to follow disorders and imperfections, as also that when such things are done, as it were through an ouer-hasty constraint, there cannot procéde any thing but abortiuenesse, and a distastfull rellish: from whence I thinke it comes to passe that in London a man shall very seldome tast a delicate or well rellisht Plumbe, vnlesse it be from such as hauing fruit of their owne, make no commoditie thereof more then their owne pleasures: yet thus much I would perswade euery one, that if they haue moe Plumbes ripe at once then they can vse, or spend, that then after they are gathered, to spread them thinnely vpon Nettles or Vine-trée leaues, and it will preserue them sound and well coloured a long time together, but if your store be so superabundant that in no reasonable time you can spend them, then what you doe not preserue, or make Godiniake, or Maruulade of, the rest you shall take and sprinkling them ouer with swéet-worte, or growt, and then laying them one by one (yet so as they may not touch one another) vpon hurdles or fleakes made of wands, or twigges, and put them into an Ouen after bread or Pyes haue béene taine thereout, and so leasurely dry them, and they will not onely last, but tast pleasantly all the yéere after: and in this sort you may vse all kindes of Plumbes, or Peares, whatsoever. Now for the gathering of the other ordinary sorts of vngrafted Plumbes, which haue both much stronger rindes, and are lesse subiect to rotting, you shall gather them, carry, or transport them, in the same manner that you did your Cherries,

[L2v] [76]

*Of gathering hard
Plumbes.*

*Of keeping of
Plumbes.*

[L3] [77]

onely in these, as in all other sorts of fruit whatsoever, you shall not omit neuer to gather, or pull them from the trée, till the dewe be dryed cleane both from the grasse and from the trées, and that the day be dry, faire, and full of sunne-shine: for the least wet or moisture doth canker and rot the fruit.

As touching the gathering of Peares, though sundry Fruiterrers obserue sundry wayes in gathering them, as some making more hast then good-spéed, as either to haue the first tast, or the first profit, some vsing more negligence, thincking their store so great it will neuer be consumed, and some so curious that they will not gather till the Peares fall into their bosomes, all which are dispraisable fashions, yet I for my part would euer aduise all diligent husbands to obserue a mediocritie, and take the fittest season for the gathering of his fruit: as thus for example. If because you are vnexperienced or vnacquainted with the fruit you doe not know the due time of his ripening, you shall obserue the colour of the Peare, and if you see it doe alter, either in part, or in all, you shall be assured the fruit is neare ripening, for Peares doe neuer change their colours, but when they doe desire to be taken from the trée: and of all fruit the Peare may be gathered the hardest, because both his owne naturall heate and peculiar quallittie will ripen him best with lying: yet to be more strongly fortified in the knowledge of the ripenesse of your fruit, and because it is better to get a day too late, then an hower to earely, you shall before you gather your Peares, whether they be Summer fruit or Winter fruit, or whether you meane to spend them soone or preserue them long, take one of them from the trée, which is neither the ripest nor the gréenest, but betwixt both, and cut it through the midst with your knife, not longwise, but ouerthwart, and then looke into the coare where the kirnells lye, and if it be hollow so as the kirnells lye as it were hollow therein, the neather ends thereof being turned either blacke, or blackish, albeit the complexion of the Peare be little, or not at all altered, yet the Peares haue their full growth, and may very well be gathered: then laying them either vpon a bedde of ferne, or straw, one vpon another, in great thickness, their owne naturall heate will in short space ripen them, which you shall perceiue both by the spéedy changing of their colour, & the strength of their smell, which will be excéeding suffocating, which as soone as you perceiue, you shall then spread them thinner and thinner, vntill they be all ripe, and then lay them one by one, in such sort as they may not touch one another, and then they will last much the longer, you shall also after they be ripe, neither suffer them to haue straw nor ferne vnder them, but lay them either vpon some smooth table, boards or fleakes of wands, and they will last the longer.

Of the gathering of Peares.

[L3v] [78]

If you be to carry or transport Peares farre, you shall then gather them so much the sooner, and not suffer any ripe one to be amongst them, and then lynning great wicker baskets (such as will hould at least quarters a péce) finely within with white-straw, fill them vp with Peares, and then couer them with straw, and corde them aboue, and you may either transport them by land or Sea, whether you please, for they will ripen in their cariage: but when you come to your place of residence, then you must néeds vnpacke them and spread them thinner, or else they will rot and consume in a sodaine.

Of transporting, or carrying of Peares farre.

[L4r] [79]

There be sundry wayes of gathering Peares, or other fruit, as namely, to climbe into the trée and to haue a basket with a line fastned thereto, and so when it is filled to let it downe, and cause it to be emptied, which labour though some of our southerne Fruiterers doe not much commend, yet for mine owne part I doe not see much errour therein, but that it is both allowable and conuenient, both because it neither bruiseth the fruit,

Of gathering diuersly.

nor putteth the gatherer to any extraordinary labour, onely the imaginary euill is, that by climbing vp into the trée, hée that gathereth the fruit may indanger the breaking, slipping, and disbranching of many of the young cyons, which bréedeth much hurt and damage to the trée, but iudgement, and care, which ought to be aproprate to men of this quallitie, is a certaine preuenter of all such mischeifes. Now for such as in gathering of their fruit doe euery time that the basket is full bring it downe themselues from the trée, and empty it by powring the fruit rudely, and boystrously forth, or for beating of fruit downe with long poales, loggets, or such like, they are both most vilde and preposterous courses, the first being full of too much foolish and carelesse trouble, the latter of too much disorder, & cruelty, ruyning in a moment what hath béene many yéeres in building: as for the climbing the trée with a ladder, albeit it be a very good way for the gathering of fruit, yet if it be neuer so little indiskrétely handled, it as much hazardeth the breaking and bruising both of the fruit and the small cyons, as either climbing the trée, or any other way whatsoever.

Now for the gathering of your Apples: you shall vnderstand that your summer fruit, as your Ieniting, Wibourne, and such like, are first to be gathered, whose ripenesse, you may partly know by the change of colour, partly by the pecking of Birds, but cheifely by the course formerly discribed for your knowledge of the ripenesse of the Peare, which is the hollownesse of coare, and liberty of the kirnell onely, and when you doe perceiue they are ripe, you shall gather them in such wise as hath béene declared for the gathering of your Peares, without respecting the state of the Moone, or any such like obseruation, but when you come to gather your Winter-fruit, which is the Pippin, Peare-maine, Russetting, Blacke-annat, and such like, you shall in any wise gather them in the wane of the Moone, and, as before I said, in the dryest season that may be, and if it be so that your store be so great that you cannot gather all in that season, yet you shall get so much of your principall fruit, the youngest and fairest, as is possible to be gotten, and preserue it for the last which you intend either to spend, or vtter. Now for the manner of gathering your Apples I doe not thinke you can amend or approue a better way then that which hath béene discribed for the gathering of Peares, yet some of our late practitioners (who thinke themselues not cunning if they be not curious) dislike that way, and will onely haue a gathering apron, into which hauing gathered their fruit, they doe empty it into larger vessells: this gathering apron is a strong péece of Canuas at least an ell euery way, which hauing the vpper end made fast about a mans necke, & the neather end with thrée loopes, that is, one at each corner, & one in the midst, through which you shall put a string, and binde it about your waste, in so much that both the sides of your apron being open you may put your fruit therein with which hand you please: this manner of gathering Apples is not amisse, yet in my conceit the apron is so small a defence for the Apples, that if it doe but knocke against the boughes as you doe moue your selfe, it cannot chuse but bruise the fruit very much, which ought euer to be auoyded: therefore still I am of this opinion, there is no better way, safer, nor more easie, then gathering them into a small basket, with a long line thereat, as hath béene before declared in the gathering of Peares. Now you shall carefully obserue in emptying one basket into another, that you doe it so gently as may be, least in powring them out too rudely the stalkes of the fruit doe pricke one another, which although it doe appeare little or nothing at the first, yet it is the first ground, cause, and beginning of rottennesse, and therefore you shall to your vttermost power gather your Apples with as small stalkes as may be, so they haue any at all, which they must néedes haue, because that as too bigge stalkes doth pricke and bruise the fruit, so to haue none at

The gathering of Apples.

[L4v] [80]

[M] [81]

all makes the fruit rot first in the place where the stalke should be: you shall also kéepe your fruit cleane from leaues, for they being gréene and full of moisture, when by reason of their lying close together they beginne to wither they strike such an heate into the Apples, that they mil-dew and rot instantly.

As touching your Fallings, which are those Apples which fall from your trées, either through too much ripenesse, or else through the violence of winde, or tempests, you shall by no meanes match them, or mixe them, with your gathered fruit, for they can by no meanes last or indure so long, for the latter which falleth by force of winde, wanting the true nourishment of the earth and the kindly ripening vpon the trée, must necessarily shrinke wither, and grow riuelled, so that your best course is to spend them presently, with all spéeде possible: for the other which hath too much ripenesse from the earth, and the trée, though it be much better then the other, yet it cannot be long lasting, both because it is in the falling bruised, and also hath too much ripenesse, which is the first steppe to rottennesse, so that they must likewise be spent with all expedition. For the carriage of your Apples, if the place be not farre whether you should carry them, you shall then in those large baskets into which you last emptied them, carry them vpon cole-staues, or stangs, betwixt two men, and hauing brought them carefully into your Apple-loft, power them downe gently vpon bedds of ferne or straw, and lay them in reasonable large heapes, euery sort of Apples seuerall by themselues, without mixture, or any confusion: and for such Apples as you would haue to ripen soone, you shall couer them all ouer with ferne also, but for such as you would haue take all possible leasure in ripening, those you shall lay neither vpon ferne, nor straw, but vpon the bare boards, nay, if you lay them vpon a plaster floare (which is of all floares the coldest) till Saint Andrewes tide, it is not amisse, but very profitable, and the thinner you lay them so much the better. Now if you haue any farre iourney to carry your Apples, either by land, or by water, then trimming and linyng the insides of your baskets with ferne, or wheat-straw wouen as it were cleane through the basket, you shall packe, couer, and cord vp your Apples, in such sort as you did your Peares, and there is no danger in the transportation of them, be it by shippe, cart, waggon, or horse-backe. If you be inforced to packe sundry sorts of Apples in one basket, see that betwixt euery sort you lay a diuision of straw, or ferne, that when they are vnpackt, you may lay them againe seuerally: but if when they are vnpackt, for want of roome you are compeld to lay some sorts together, in any wise obserue to mixe those sorts together which are nearest of taste, likest of colour, and all of one continuance in lasting: as for the packing vp of fruit in hogsheads, or shooting them vnder hatches when you transport them by Sea, I like neither of the courses, for the first is too close, and nothing more then the want of ayre doth rot fruit, the other is subiect to much wet, when the breach of euery Sea indangereth the washing of the Apples, and nothing doth more certainly spoyle them. The times most vnseasonable for the transporting of fruit, is either in the month of March, or generally in any frosty weather, for if the sharpe coldenesse of those ayres doe touch the fruit, it presently makes them looke blacke, and riuelled, so that there is no hope of their continuance.

Of Fallings.

Of carriage and keeping Fruit.

[M1v] [82]

The place where you shall lay your fruit must neither be too open, nor too close, yet rather close then open, it must by no meanes be low vpon the ground, nor in any place of moistnesse: for moisture bréedes fustinesse, and such naughty smells easily enter into the fruit, and taint the rellish thereof, yet if you haue no other place but some low cellar to lay your fruit in, then you shall raise shelues round about, the nearest not within two foote of the ground, and lay your Apples thereupon,

[M2] [83]

hauing them first lyned, either with swéet Rye-straw, Wheate-straw, or dry ferne: as these vndermost roomes are not the best, so are the vppermost, if they be vnséeld, the worst of all other, because both the sunne, winde, and weather, peircing through the tiles, doth annoy and hurt the fruit: the best roome then is a well séeld chamber, whose windowes may be shut and made close at pleasure, euer obseruing with straw to defend the fruit from any moist stone wall, or dusty mudde wall, both which are dangerous annoyances.

Now for the seperating of your fruit, you shall lay those nearest hand, which are first to be spent, as those which will last but till Alhallontide, as the Cisling, Wibourne, and such like, by themselues: those which will last till Christmas, as the Costard, Pome-water, Quéene-Apple, and such like: those which will last till Candlemas, as the Pome-de-roy, Goose-Apple, and such like, and those which will last all the yéere, as the Pippin, Duzin, Russetting, Peare-maine, and such like, euery one in his seuerall place, & in such order that you may passe from bed to bed to clense or cast forth those which be rotten or putrefied at your pleasure, which with all diligence you must doe, because those which are tainted will soone poyson the other, and therefore it is necessary as soone as you see any of them tainted, not onely to cull them out, but also to looke vpon all the rest, and deuide them into thrée parts, laying the soundest by themselues, those which are least tainted by themselues, and those which are most tainted by themselues, and so to vse them all to your best benefit.

*The seperating of
Fruit.*

Now for the turning of your longest lasting fruit, you shall know that about the latter end of December is the best time to beginne, if you haue both got and kept them in such sort as is before sayd, and not mixt fruit of more earely ripening amongst them: the second time you shall turne them, shall be about the end of February, and so consequently once euery month, till Penticost, for as the yéere time increaseth in heate so fruit growes more apt to rot: after Whitsontide you shall turne them once euery fortnight, alwayes in your turning making your heapes thinner and thinner; but if the weather be frosty then stirre not your fruit at all, neither when the thaw is, for then the fruit being moist may by no meanes be touched: also in wet weather fruit will be a little dankish, so that then it must be forborne also, and therefore when any such moistnesse hapneth, it is good to open your windowes and let the ayre dry your fruit before it be turned: you may open your windowe any time of the yéere in open weather, as long as the sunne is vpon the skye, but not after, except in March onely, at what time the ayre and winde is so sharpe that it tainteth and riuelleth all sorts of fruits whatsoever.

[M2v] [84]

If the frost be very extreame, and you feare the indangering your fruit, it is good to couer them somewhat thicke with fine hay, or else to lay them couered all ouer either in Barley-chaffe, or dry Salte: as for the laying them in chests of Iuniper, or Cipresse, it is but a toy, and not worth the practise: if you hang Apples in nettes within the ayre of the fire it will kéepe them long, but they will be dry and withered, and will loose their best rellish.

*To keepe Fruit in
frost.*

Now for the gathering, kéeping, ordering, and preseruing of Wardens, they are in all sorts and in all respects to be vsed as you doe vse your Peares, onely you are to consider that they are a fruit of a much stronger constitution, haue a much thicker skinne, and will endure much harder season: neither ought you to séeke to ripen them in hast, or before the ordinary time of their owne nature, and therefore to them you shall vse neither straw, ferne, nor hay, but onely dry boards to lay them vpon, and no otherwise.

Of Wardens.

For your Medlars, you shall gather them about the midst of October, after such time as the frost hath nipt and bitten them, for before they will not be ready, or loosen from the stalke, and then they will be nothing ripe, but as hard as stones, for they neuer ripen vpon the trée, therefore as soone as you haue gathered them, you shall packe them into some close vessell, and couer them all ouer, and round about, with thicke woollen cloathes, and about the cloathes good store of hay, and some other waight of boards, or such like vpon them, all which must bring them into an extreame heate, without which they will neuer ripen kindly, because their ripenesse is indéed perfect rottennesse: and after they haue layne thus, at least a fortnight, you shall then looke vpon them, and turning them ouer, such as you finde ripe you shall take away, the rest you shall let remaine still, for they will not ripen all at once, and those which are halfe ripe you shall also remoue into a third place, least if you should kéepe them together, they should beginne to grow mouldy before the other were ready; and in the selfe same manner as you vse your Medlars, so you shall vse your Seruices, and they will ripen most kindly: or if you please to sticke them betwixt large clouen stickes, and to sprinkle a little olde beare vpon them, and so set them in a close roome, they will ripen as kindly as any other way whatsoeuer.

Now for Quinces, they are a fruit which by no meanes you may place neare any other kinde of fruit, because their sent is so strong and peircing, that it will enter into any fruit, and cleane take way his naturall rellish: the time of their gathering is euer in October, and the méetest place to lay them in is where they may haue most ayre, so they may lye dry (for wet they can by no meanes indure,) also they must not lye close, because the smell of them is both strong & vnwholsome: the beds whereon they must lye must be of swéet straw, and you must both turne them and shift them very often, or else they will rot spéedily: for the transporting or carying them any long iourney, you must vse them in all things as you vse your Peares, & the carriage will be safe.

For Nuts, of what sort soeuer they be, you shall know they are ripe as soone as you perceiue them a little browne within the huske, or as it were ready to fall out of the same, the skill therefore in preseruing of them long from drynesse, is all that can be desired at the Fruiterers hands: for as touching the gathering of them, there is no scruple to be obserued, more then to gather them cleane from the trée, with the helpe of hookes and such like, for as touching the bruising of them, the shell is defence sufficient. After they be gathered, you shall shale them, and take them cleane out of their huskes, and then for preseruing them from either Wormes or drynesse, it shall be good to lay them in some low cellar, where you may couer them with sand, being first put into great bagges or bladders: some french-men are of opinion that if you put them into vessels made of Wal-nut-trée, and mixe luy-berries amongst them, it will preserue them moist a long time: others thinke, but I haue found it vncertaine, that to preserue Nuts in Honey will kéepe them all the yéere as gréene, moist, and pleasant, as when they hung vpon the trée: The Dutch-men vse (and it is an excellent practise) to take the crusht Crabbes (after your verdiuyce is strained out of them) and to mixe it with their Nuts, and so to lay them in heapes, and it will preserue them long: or otherwise if they be to be transported, to put them into barrells and to lay one layre of crusht Crabbes, and another of Nuts, vntill the barrell be filled, and then to close them vp, and set them where they may stand coole. But aboue all these foresayd experiments, the best way for the preseruing of Nuts is to put them into cleane earthen pots, and to mixe with them good store of salt and then closing the pots close, to set them in some coole cellar, and couer them all ouer with sand, and there is no doubt but they will kéepe coole, pleasant, and moist, vntill new come

agaïne, which is a time fully conuenient.

Now to conclude, for the kéeping of Grapes, you shall first vnderstand that the best time for their gathering is in the wane of the Moone, and about the midst of October, as for the knowledge of his ripenesse it is euer at such time as his first colour is cleane altered, for all Grapes before they be ripe are of a déepe, thicke, greene, colour, but after they be ripe, they are either of a blewish redde, or of a bright shining pale gréene. Now for the preseruing them for our english vse, which is but onely for a fruit-dish at our Tables, for neither our store, nor our soyle, affords vs any for the wine-presse, some thinke it good, after they are gotten, to lay them in fine dry sand, or to glasse them vp in close glasses, where the ayre cannot peirce, will kéepe them long, both full, plumpe, and swéet, but in my conceit the best course is after they are gotten to hang them vpon strings bunch by bunch, in such places of your house as they may take the ayre of the fire, and they will last longest, and kéepe the swéetest.

Of Grapes.

[M4r] [87]

CHAP. X.

Of the making of Cyder, or Perry.



Cyder is a certaine liquor or drinke made of the iuyce of Apples, and Perrye the like, made of Peares, they are of great vse in France, and very wholsome for mans body, especially at the Sea, and in hot Countries: for they are coole and purgatiue, and doe preuent burning agues: with vs here in England Cyder is most made in the West parts, as about Deuon-shire & Cornwaile, & Perry in Worcester-shire, Gloucester-shire, & such like, where indéede the greatest store of those kindes of fruits are to be found: the manner of making them is, after your fruit is gotten, you shall take euery Apple, or Peare, by it selfe, and looking vpon them, picke them cleane from all manner of filthinesse, as bruising, rottennesse, worme-eating, and such like, neither leaue vpon them any stalkes, or the blacke buddes which are and grow vpon the tops of the fruit, which done you shall put them in to some very cleane vessell, or trough, and with béetells, made for the purpose, bruise or crush the Apples or Peares in péeces, & so remoue them into other cleane vessells, till all the fruit be bruised: then take a bagge of hayre-cloath, made at least a yard, or thrée quarters, square, and filling it full of the crusht fruit, put it in a presse of woode, made for the purpose, and presse out all the iuyce and moisture out of the fruit, turning and tossing the bagge vp and downe, vntill there be no more moisture to runne forth, and so baggefull after baggefull cease not vntill you haue prest all: wherein you are especially to obserue, that your vessells into which you straine your fruit be excéeding neate, swéet, and cleane, and there be no place of ill fauour, or annoyance neare them, for the liquour is most apt, especially Cyder, to take any infection. As soone as your liquor is prest forth and hath stooode to settle, about twelue houres, you shall then turne it vp into swéet hogsheads, as those which haue had in them last, either White-wine or Clarret, as for the Sacke vessell it is tollerable, but not excellent: you may also if you please make a small long bagge of fine linnen cloath, and filling it full of the powder of Cloues, Mace, Cynamon, Ginger, and the dry pils of Lemons, and hang it with a string at the bung-hole into the vessell, and it will make either the Cyder, or Perry, to tast as pleasantly as if it were Renish-wine, and this being done you shall clay vp the bung-hole with clay and salt mixt together, so close as is possible. And thus

[M4v] [88]

Of the Hoppe-garden, and first of the ground and situation thereof.



hat the Hoppe is of great vse and commoditie in this kingdome, both the Beare, which is the generall and perfect drinke of our Nation, and our dayly traffique, both with France, the low-Countries, and other nations, for this commoditie, is a continuall testimony, wherefore the first thing to be considered of in this worke, is the goodnesse and aptnesse of the ground for the bringing forth of the fruit thereof, wherein I thus farre consent with Maister *Scot*, that I doe not so much respect the writings, opinions, and demonstrations, of the Gréeke, Latine, or French authors, who neuer were acquainted with our soyles, as I doe the dayly practise and experience which I collect, both from my owne knowledge, and the labours of others my Countrymen, best séene and approued in this Art: therefore to come to my purpose, you shal vnderstand that the light sand, whether it be redde or white, being simple and vnmixed is most vnfit for the planting of Hoppes, because that through the barrainnesse, it neither hath comfort for the roote, nor through his seperate lightnesse, any strong hould to maintaine and kéepe vp the poales: likewise the most fertill rich, blacke clay, which of all soyles is the best and most fruitfull, is not to be allowed for a Hoppe garden, because his fatnesse and iuyce is so strong that the roote being as it were ouer-fedde, doth make the branches bring forth leaues in such infinite abundance that they leaue neither strength nor place for the fruit, either to knit, or put forth his treasure, as I haue séene by experience in many places: as for the earth which is of a morish, blacke, wet nature, and lyeth low, although I haue often times séene good Hoppes to grow thereupon, being well trencht, and the hils cast high to the best aduantage, yet it is not the principall ground of all others, because it is neuer long lasting, but apt to decay and grow past his strength of bearing. The grounds then which I haue generally séene to beare the best Hoppes, and whose natures doe the longest continue with such fruit, are those mixt earthes which are clayes with clayes, as blacke with white, or clayes and sands of any sorts, wherein the soyle is so corrected as neither too much fatnesse doth suffocate, nor too much leanness doth pine: for I had euer rather haue my Hoppe-garden desire increase, then continually labour in abatement. And although some doe excéedingly condemne the chauke-ground for this vse, yet I haue not at any time séene better Hoppes, or in more plenty, then in such places, as at this day may be séene in many places about Hartford-shire. To conclude, though your best mixt earths bring forth the best Hoppes, yet there is no soyle, or earth, of what nature soeuer it be (if it lye frée from inundation) but will bring forth good Hoppes, if it be put into the hands of an experienced workman.

Fit ground for Hoppes.

Now, for the situation or site of your Hoppe-garden: you shall so neare as you can place it neare some couer or shelter, as either of hils, houses, high-walles, woodes or trées, so those woodes or trées be not so neare that they may drop vpon your Hoppe hils, for that will kill them: also the nearer it is planted to your dwelling house it is somuch the better, both because the vigilance of your owne eye is a good garde thereunto, and also the labours of your work-Maister will be more carefull and diligent. A Hop-garden as it delighteth much in the pleasantnesse of the sunne, so

Of the Situation.

it cannot endure by any meanes, the sharpnesse of the windes, frosts, or Winter weather, and therefore your onely care is your defence and shelter. For the bignesse of your ground, it must be ordered according to your abillitie or place of trade for that commoditie, for if you shall haue them but for your owne vse, then a roode or two roodes will be inough, albeit your house kéeping match with Nobillitie: but if you haue them for a more particuler profit, then you may take an Aker, two or thrée, according to your owne discretion; wherein you shall euer kéepe these obseruations: that one mans labour cannot attend aboue two thousand fiue hundred hils, that euery roode will beare two hundred and fiftie hils, euery hill beare at least two pounds and an halfe of Hoppes, (which is the iust quantitie that will serue to brew one quarter of Malt) and that euery hundred waight of Hoppes, is at the least, in a reasonable yéere, worth foure-nobles the hundred: so that euery roode of ground thus employed, cannot be lesse worth, at the meanest reckoning, then sixe pounds by the yéere: for if the ground be principall good for the purpose, and well ordered, the profit will be much greater, in as much as the bells of the Hoppes will be much greater, full, and more waighty: And thus much for the ground and situation.

CHAP. XII.

Of the ordering of the Garden, and placing of the Hills.



As soone as you haue chosen out your platforme of ground, you shal either by ploughing, or digging, or by both, make it as flat & leuell as is possible, vnlesse it be any thing subiect vnto water, and then you shall giue it some small desent, and with little trenches conuaye the water from annoying it: you shall also the yéere before you either make hill or plant it with Hoppe-rootes, sowe it all ouer with hempe, which will not onely kill, and stifle all sorts of wéeds, but also rot the gréene-swarth, and make the mould mellow, and apt to receiue the rootes when they come to be planted.

Now, as soone as your ground is thus prepared, you shall then take a line, and with it measure your ground ouerthwart, and to euery hill allow at least thrée foote of ground euery way, and betwixt hill and hill, at the least sixe foote distance: and when you haue marked thus the number of thirty or forty places, where your hils shall be placed, intending euer that the time of yéere for this worke must be about the beginning of Aprill, you shall then in the center, or midde part of these places made for the site of your hils, digge small square holes of a foote square each way, and a full foote déepe, and in these holes you shall set your Hoppe-rootes, that is to say, in euery hole at least thrée rootes, and these thrée rootes you shall ioyne together in such wise that the toppes of them may be of one equall height, and agréeing with the face or vpper part of the earth, you shall set them straight and vpright, and not seperating them, as many doe, and setting at each corner of the hole a roote, neither shall you twist them, and set both ends vppward, nor lay them flat or crossewise in the earth, neither shall you make the hils first and set the rootes after, nor immediately vpon the setting cast great hils vpon them, all which are very vilde wayes for the setting of Hoppes, but, as before I sayd, hauing ioyned your rootes together, you shall place them straight and vpright, and so holding them in one hand, with the other put the moulds close, firme, and perfectly about them, especially to each corner of the hole, which done you shall likewise couer the sets themselues all

ouer with fine moulds, at least two fingers thicke, and in this sort you shall plant all your garden quite ouer, making the sites for your hill to stand in rowes and rankes, in such order that you may haue euery way betwéene the hils small alleyes and passages, wherein you may goe at pleasure from hill to hill, without any trouble or annoyance, according to that forme which I haue before prescribed touching the placing of your Apple-trées in each seuerall quarter in your Orchard: and herein you are to vnderstand, that in this first yéere of planting your Hoppe-garden you shall by no meanes fashion or make any great hils, but onely raise that part of the earth where your plants are set, some two or thrée fingers higher then the ordinary ground.

[N3] [93]

Now, before I procéede any further, I thinke it not amisse to speake some thing touching the choise, gathering and trimming of Hoppe-roots: wherefore you shall vnderstand that about the latter end of March is the best gathering of Hoppe-roots, which so neare as you can you shall select out of some garden of good reputation, which is both carefully kept, and by a man of good knowledge, for there euery thing being preserued in his best perfection, the rootes will be the greatest and most apt to take: and in the choise of your rootes you shall euer chuse those which are the greatest, as namely, such as are at the least thrée or foure inches about, & ten inches long, let euery roote containe about thrée ioynts, and no more, and in any case let them be the cyons of the last yéeres growth: if they be perfectly good they haue a great gréene stalke with redde streakes, and a hard, broad, long, gréene, bell; if they be otherwise, as namely, wilde-Hoppes, then they are small and slender, like thriddes, their colour is all redde, euen when it is at least thrée yards high, whereas the best Hoppe carieth his reddish colour not thrée foote from the earth. Now hauing gotten such rootes as are good and fit for your purpose, if the season of the weather, or other necessitie hinder you from presently setting them, you shall then either lay them in some puddle, neare to your garden, or else bury them in the ground, vntill fit time for their planting: and of the two it is better to bury them then lay them in puddle, because if you so let them lye about xxiiij. heures, the rootes will be spoyled.

The choise of Rootes.

Now after you haue in manner aforeshewed, planted your garden with rootes, it shall not be amisse, if the place be apt to such annoyance, to pricke vpon the site of euery hill a few sharpe Thornes to defend them from the scratching of poultry, or such like, which euer are busie to doe mischeife: yet of all house-fowle Géese be the worst, but if your fence be as it ought, high, strong, and close, it will both preuent their harme and this labour.

[N3v] [94]

Next vnto this worke is the placing of Poales, of which we will first speake of the choise thereof, wherein if I discent from the opinion of other men, yet imagine I set downe no Oracle, but referre you to the experience or the practise, and so make your owne discreation the arbiter betwéene our discentions. It is the opinion of some, that Alder-poales are most proper and fit for the Hoppe-garden, both that the Hoppe taketh, as they say, a certaine naturall loue to that woode, as also that the roughnesse of the rinde is a stay & benefit to the growth of the Hoppe: to all which I doe not disagreee, but that there should be found Alder-poales of that length, as namely, xvj. or xvij. foote long, nine, or ten, inches in compasse, and with all rush-growne, straight, and fit for this vse, séemeth to mée as much as a miracle, because in my life I haue not beheld the like, neither doe I thinke our kingdome can afford it, vnlesse in some such especiall place where they are purposely kept and maintained, more to shew the art of their maintenance, then the excellency of their natures: in this one benefit, and doutlesse where they

Of Poales.

are so preserued, the cost of their preseruation amounteth to more than the goodnesse of their extraordinary quallitie, which mine author defends to the contrary, giuing them a larger prerogatiue, in that they are cheaper to the purse, more profitable to the plant, and lesse consumption to the common-wealth: but I greatly doubt in the approbation, and therefore mine aduise is not to rely onely vpon the Alder, and for his preheminance imagine all other poales insufficient: but be assured that either, the Oake-poale, the Ashe, the Béeche, the Aspe, or Maple, are euery way as good, as profitable, and by many degrés much longer lasting.

Now, if it be so that you happen to liue in the champian Country, as for the most part Northampton shire, Oxford-shire, some parts of Leycester and Rutland are, or in the wet and low Countries, as Holland, and Kesten in Lincolne-shire, or the Ile of Elye in Cambridge-shire, all which places are very barraine of woode, and yet excellent soyles to beare Hoppes, rather then to loose the commoditie of the Hoppe-garden I wish you to plant great store of Willowes, which will afforde you poales as sufficient as any of the other whatsoeuer, onely they are not so long lasting, and yet with carefull and dry keeping, I haue séene them last full out seauen yéeres, a time reasonably sufficient for any young woode, for such a vse.

The proportion of the Poale.

Thus you see the curiositie is not very great of what woode so euer your poale be, so it be of young and cleane growth, rush-growne, (that is to say, biggest at the neather end) eightéene foote in length, and ten inches in compasse. These poales you shall cut and prepare betwixt the feast of Al-Saints, and Christmas, and so pile them vp in some dry place, where they may take no wet, vntill it be midde-Aprill, at which time (your Hoppes being shot out of the ground at least thrée quarters of a yarde, so that you may discern the principall cyons which issue from the principall rootes) you shall then bring your poales into the garden, and lay them along in the alleyes, by euery hill so many poales as shall be sufficient for the maine branches, which happely the first yéere will not be aboue two or thrée poales at the most to a hill, but in processe of time more, as foure or fiue, according to the prosperitie of the plants, and the largenesse of the hils. After you haue thus layd your poales, you shall then beginne to set them vp in this sort: first, you shall take a gaue-locke, or crow of iron, and strike it into the earth so neare vnto the roote of the Hoppe as is possible, prouided alwayes that you doe not bruise, or touch the roote, and so stroake after stroake, cease not striking till you haue made a hoale at least two foote déepe, and make them a little slantwise inward towards the hill, that the poales in their standing may shoote outwards and hould their greatest distance in the toppes: this done you shall place the poales in those hoales, thus made with the iron crow, and with another péce of woode, made rammer-wise, that is to say, as bigge at the neather end as the biggest part of the poale, or somewhat more, you shall ramme in the poales, and beate the earth firme and hard about them: alwayes prouided, that you touch not any branch, or as little as you may beate with your rammer within betwéene the poales, onely on the out-side make them so fast that the winde, or weather, may not disorder or blow them downe: then lay to the bottome of euery poale the branch which shall ascend it, and you shall see in a short space, how out of their owne natures, they will imbrace and climbe about them.

Of cutting and erecting Poales.

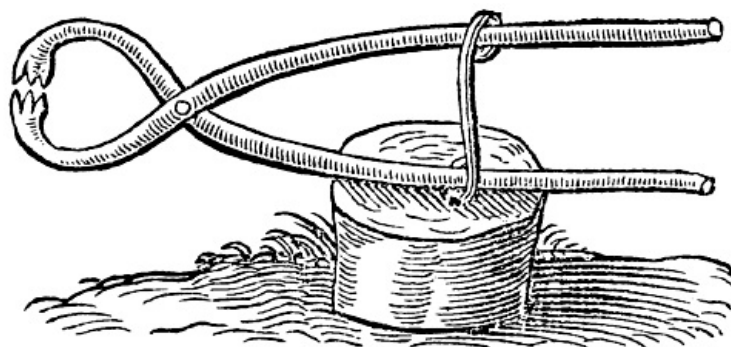
Now, if it happen after your Hoppes are growne vp, yet not come to their full perfection, that any of your poales chance to breake, you shall then take a new poale, and with some soft gréene rushes, or the inmost gréene barke of an Alder-trée, tye the toppe of the Hoppe to the toppe of the new poale, then draw the broken poale out of the Hoppe (I meane that part which being broken lyeth vpon the ground) and as you saw it

[N4r] [95]

[N4v] [96]

did winde about the olde poale (which is euer the same way that the sunne runnes) so you shall winde it about the new poale: then loosening the earth a little from the neather part of the broken poale, you may with your owne strength pull it cleane out of the earth, and place the new poale in his roome. Now, there be some which are excéeding curious in pulling vp these olde poales, and rather then they will shake the earth, or loosen the mould, they will make a paire of large pincers, or tarriers of iron, at least fiue foote long with sharpe téeth, and a clasping hooke to hould the téeth together, when they haue taken fast hould vpon the poale so neare the earth as is possible, and then laying a peice of woode vnder the tarriers, and poysing downe the other ends to rest the poale out of the earth without any disturbance, the modell or fashion of which instrument is contained in this figure:

[01] [97]



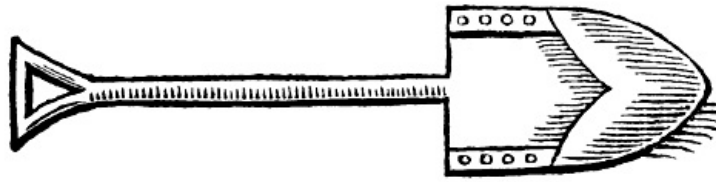
This instrument is not to be discommended, but to be held of good vse, either in binding grounds where the earth hardneth and houldeth the poale more then fast, or in the strength and heate of summer, when the drynesse of the mould will by no meanes suffer the poale to part from it: but otherwise it is néedlesse and may without danger be omitted.

As soone as you haue sufficiently set euery hill with poales, and that there is no disorder in your worke, you shall when the Hoppes beginne to climbe, note if their be any cyons or branches which doe forsake the poales, and rather shoote alongst the ground then looke vp to their supporters, and all such as you shall so finde, you shall as before I sayd, either with soft gréene rushes, or the gréene barke of Elder, tye them gently vnto the poales, and winde them about, in the same course that the sunne goes, as oft as conueniently you can: and this you shall doe euer after the dew is gone from the ground, and not before, and this must be done with all possible speede, for that cyon which is the longest before it take vnto the poale is euer the worst and brings forth his fruit in the worst season.

Now, as touching the making of your hils, you shall vnderstand that although generally they are not made the first yéere, yet it is not amisse if you omit that scruple, and beginne to make your hils as soone as you haue placed your poales, for if your industry be answerable to the desert of the labour, you shall reape as good profit the first yéere, as either the second or the third. To beginne therefore to make your hils, you shall make you an instrument like a stubbing Hoe, which is a toole wherewith labourers stubbe rootes out of decayed woode-land grounds, onely this shall be somewhat broader and thinner, somewhat in fashion (though twice so bigge) vnto a Coopers Addes, with a shaft at least foure foote long: some onely for this purpose vse a fine paring spade, which is euery way as good, and as profitable, the fashion of which is in this figure.

Of the Hils.

[01v] [98]



With this paring spade, or hoe, you shall pare vp the gréene-swarth and vppermost earth, which is in the alleyes betwéene the hils, and lay it vnto the rootes of the Hoppes, raising them vp like small Mole-hils, and so monthly increasing them all the yéere through, make them as large as the site of your ground will suffer, which is at least foure or fiue foote ouerthwart in the bottome, and so high as conueniently that height will carry: you shall not by any meanes this first yéere decay any cyons or branches which spring from the hils, but maintaine them in their growth, and suffer them to climbe vp the poales, but after the first yéere is expired you shall not suffer aboue two or thrée cyons, at the most, to rise vpon one poale. After your hils are made, which as before I sayd would be at least foure or fiue foote square in the bottome, and thrée foote high, you shall then diligently euery day attend your garden, and if you finde any branches that being risen more then halfe way vp the poales, doe then forsake them and spread outward, dangling downe, then you shall either with the helpe of a high stoole, on which standing you may reach the toppe of the poale, or else with a small forckt sticke, put vp the branch, and winde it about the poale: you shall also be carefull that no wéeds or other filthinesse grow about the rootes of your Hoppes to choake them, but vpon the first discouery to destroy them.

[02] [99]

CHAP. XIII.

Of the gathering of Hoppes, and the preseruing of the Poales.



Touching the gathering of Hoppes you shall vnderstand that after Saint *Margarets* day they beginne to blossome, if it be in hot and rich soyles, but otherwise not till Lammas: likewise in the best soyles they bell at Lammas, in the worst at Michaelmas, and in the best earth they are full ripe at Michaelmas, in the worst at Martillmas; but to know when they are ripe indeede, you shall perceiue the séede to loose his gréene colour, and looke as browne as a Hares backe, wherefore then you shall with all dilligence gather them, and because they are a fruit that will endure little or no delay, as being ready to fall as soone as they be ripe, and because the exchange of weather may bréede change in your worke, you shall vpon the first aduantage of faire weather, euen so soone as you shall see the dewe exhaled and drawne from the earth, get all the ayde of Men, Women, and children which haue any vnderstanding, to helpe you, and then hauing some conuenient empty barne, or shedde, made either of boards or canuas, neare to the garden, in which you shall pull your Hoppes, you shall then beginne at the nearest part of the garden, and with a sharpe garden knife cut the stalkes of the Hoppes asunder close by the toppes of the hils; and then with a straitte forke of iron, made broad and sharpe, for the purpose, shere vp all the Hoppes, and leaue the poales naked. Then hauing labouring persons for the purpose, let them cary them vnto the place where they are to be puld; and in any case cut no more then presently is caryed away as fast as they are cut, least if a shower of raine should happen to fall, and those being cut and taking wet, are in danger of spoyling. You shall prouide that those which

[02v]

[100]

pull your Hoppes be persons of good discretion, who must not pull them one by one, but stripe them roundly through their hands into baskets, mixing the young buds and small leaues with them, which are as good as any part of the Hoppe whatsoeuer. After you haue pulled all your Hoppes and carried them into such conuenient dry roomes as you haue prepared for that purpose, you shall then spread them vpon cleane floares, so thinne as may be, that the ayre may passe thorow them, least lying in heapes they sweat, and so mould, before you can haue leasure to dry them. After your Hoppes are thus ordered, you shall then cleanse your garden of all such Hoppe-straw, and other trash, as in the gathering was scattered therein: then shall you plucke vp all your Hoppe-poales, in manner before shewed, and hauing either some dry boarded house, or shed, made for the purpose, pile then one vpon another, safe from winde or weather, which howsoeuer some that would haue their experience, like a Collossus, séeme greater then it is, doe disalow, yet it is the best manner of kéeping of poales, and well worthy the charge: but for want of such a house, it shall not be amisse to take first your Hoppe-straw, and lay it a good thicknesse vpon the ground, and with sixe strong stakes, driuen slant-wise into the earth, so as the vppermost ends may be inward one to another, lay then your Hoppe-poales betwéene the stakes, and pile them one vpon another, drawing them narrower and narrower to the top, and then couer them all ouer with more Hoppe-straw, and so let them rest till the next March, at which time you shall haue new occasion to vse them.

[03] [101]

As soone as you haue piled vp your Hoppe-poales, dry and close, then you shall about mid-Nouember following throw downe your hils, and lay all your rootes bare, that the sharpenesse of the season may nip them, and kéepe them from springing too earely: you shall also then bring into the garden olde Cow-dunge, which is at least two yéeres olde, for no new dunge is good, and this you shall lay in some great heape in some conuenient place of the garden vntill Aprill, at which time, after you haue wound your Hoppes about your poales, you shall then bestow vpon euery hill two or thrée spade-full of the Manure mixt with earth, which will comfort the plant and make it spring pleasantly.

Winter businessse.

After your hils are puld downe, you shall with your garden spade, or your hoe, vndermine all the earth round about the roote of the Hoppe, till you come to the principall rootes thereof, and then taking the youngest rootes in your hand, and shaking away the earth, you shall see how the new rootes grow from the olde sets, then with a sharpe knife cut away all those rootes as did spring the yéere before, out of your sets, within an inch and an halfe of the same, but euery yéere after the first you shall cut them close by the olde rootes. Now, if you see any rootes which doe grow straight downward, without ioyns, those you shall not cut at all, for they are great nourishers of the plant, but if they grow outward, or side-wayes, they are of contrary natures, and must necessarily be cut away. If any of your Hoppes turne wilde, as oft it happens, which you shall know by the perfect rednesse of the branch, then you shall cut it quite vp, and plant a new roote in his place. After you haue cut and trimmed all your rootes, then you shall couer them againe, in such sort as you were taught at the first planting them, and so let them abide till their due time for poaling.

[03v] [102]

CHAP. XIII.

Of drying, and not drying of Hoppes, and of packing them

when they are dried.



Although there be much curiositie in the drying of Hoppes as well in the temperature of heate (which hauing any extremitie, as either of heate, or his contrary, bréedeth disorder in the worke) as also in the framing of the Ost or furnace after many new moulds and fashions, as variable as mens wits and experiences, yet because innouations and incertainty doth rather perplexe then profit, I will shunne, as much as in me lyeth, from loading the memory of the studious Husbandman with those stratagems which disable his vnderstanding from the attaining of better perfection, not disallowing any mans approued knowledge, or thinking that because such a man can mend smoking Chimnyes, therefore none but hée shall haue license to make Chimnyes, or that because some men can melt Mettall without winde, therefore it shall be vtterly vnlawfull to vse bellowes: these violent opinions I all together disacknowledge, and wish euery one the liberty of his owne thoughts, and for mine English Husband, I will shew him that way to dry his Hoppes which is most fit for his profit, safe, easie, and without extraordinary expences.

First then to speake of the time which is fittest for the drying of your Hoppes, it is immediately as soone as they are gotten, if more vrgent occasions doe not delay the businesse, which if they happen, then you haue a forme before prescribed how to preserue them from mouldinesse and putrifaction till you can compasse fit time to effect the worke in. The manner of drying them is vpon a Kilne, of which there be two sorts, that is to say, an English Kilne, and a French Kilne: the English Kilne being composed of woode, lath, and clay, and therefore subiect to some danger of fire, the French, of bricke, lime, and sand, and therefore safe, close, and without all perill, and to be preferred much before the other: yet because I haue hereafter more occasion to speake of the nature, fashion, and edifice of Kilnes in that part of this Volumne where I intreate of Malting, I will cease further to mention them then to say that vpon a Kilne is the best drying your Hoppes, after this manner, hauing finely bedded your Kilne with Wheate-straw, you shall lay on your hayre cloath, although some disallow it, but giue no reason therefore, yet it cannot be hurtfull in any degré, for it neither distasteth the Hoppes, nor defendeth them from the fire, making the worke longer then it would, but it preserueth both the Hoppes from filthynesse, and their séede from losse: when your hayre-cloath is spread, you shall cause one to deliuer you vp your Hoppes in baskets, which you shall spread vpon the cloath, all ouer the Kilne, at the least eight inches thicke, and then comming downe, and going to the hole of the Kilne, you shall with a little dry straw kindle the fire, and then maintaining it with more straw, you shall kéepe a fire a little more feruent then for the drying of a kilne-full of Malt, being assured that the same quantitie of fuell, heate, and time, which dryeth a kilne-full of Malt, will also dry a kilne-full of Hoppes, and if your Kilne will dry twenty strikes, or bushels of Malt at one drying, then it will dry forty of Hoppes, because being layd much thicker the quantitie can be no lesse then doubled, which is a spéede all together sufficient, and may very well serue to dry more Hoppes then any one man hath growing in this kingdome.

Now, for as much as some men doe not alow to dry Hoppes with straw, but rather preferre woode, and of woode still to chuse the gréenest, yet I am of a contrary opinion, for I know by experience that the smoake which procéedeth from woode, (especially if it be greene woode) being a strong and sharpe vapour, doth so taint and infect the Hoppes that when those Hoppes come to be brewed with, they giue the drinke a smoakie taste, euen as if the Malt it selfe had beene woode-dryed: the

[04r] [103]

[04v] [104]

vnpleasantnesse whereof I leaue to the iudgement of them that haue trauelled in York-shire, where, for the most part, is nothing but woode-dryed Malt onely.

That you may know when your Hoppes are dry inough, you shall take a small long sticke, and stirring the Hoppes too and fro with it, if the Hoppes doe russell and make a light noyse, each as it were seperating one from another, then they are altogether dry inough, but if in any part you finde them heauy or glewing one to another, then they haue not inough of the fire: also when they are sufficiently and moderately dryed they are of a bright-browne colour, little or nothing altered from that they held when they were vpon the stalke, but if they be ouer dryed, then their colour will be redde: and if they were not well ordered before they were dryed, but suffered either to take wet or mould, then they will looke blacke when they are dry.

There be some which are of opinion that if you doe not dry your Hoppes at all, it shall be no losse, but it is an errour most grose, for if they be not dryed, there is neither profit in their vse, nor safty in preseruing them.

Of the drying Hoppes.

As soone as your Hoppes are sufficiently dryed, you shall by the plucking vp of the foure corners of your hayre-cloath thrust all your Hoppes together, and then putting them into baskets, carry them into such dry places as you haue prepared of purpose to lay them in, as namely, either in dry-fats, or in garners, made either of plaster, or boards: and herein you shall obserue to packe them close and hard together, which will be a meanes that if any of them be not dry, yet the heate they shall get by such lying will dry them fully and make them fit for seruice.

Now to conclude, if your store of Hoppes be so great that you shall trade or make Marchandize of them, then either to conuay them by land or Sea, it is best that you packe them into great bagges of canuas, made in fashion of those bagges which woole-men vse, and call them pockets, but not being altogether so large: these bagges you shall open, and either hang vp betwéene some crosse-beames, or else let downe into some lower floare, and then putting in your Hoppes cause a man to goe into the bagge and tread downe the Hoppes, so hard as is possible, pressing downe basket-full after basket-full, till the bagge be filled, euen vnto the toppe, and then with an extraordinary packe-thriede, sowing the open end of the bagge close together, let euery hollow place be crammed with Hoppes, whilst you can get one hand-full to goe in, and so hauing made euery corner strong and fast, let them lye dry till you haue occasion either to shippe or cart them. And thus much for the ordering of Hoppes, and their vses.

Of packing Hoppes.

[P] [105]

CHAP. XV.

The office of the Gardiner, and first of the Earth, Situation, and fencing of a Garden for pleasure.



here is to be required at the hands of euery perfect Gardiner thrée especiall vertues, that is to say, *Diligence*, *Industry*, and *Art*: the two first, as namely, *Diligence* (vnder which word I comprehend his loue, care, and delight in the vertue hee professeth) and *Industry* (vnder which word I conclude his labour, paine, and study, which are the onely testimonies of his perfection) hée must reape from Nature: for, if hée be not inclined, euen from the strength of his blood to this loue and labour, it is impossible he

should euer proue an absolute gardiner: the latter, which containeth his skill, habit, and vnderstanding in what hée professeth, I doubt not but hée shall gather from the abstracts or rules which shall follow hereafter in this Treatise, so that where nature, and this worke shall concurre in one subiect, there is no doubt to be made, but the professor shall in all points, be able to discharge a sufficient dutie.

[P1v] [106]

Now, for as much as all our antient and forraine writers (for wée are very sleightly beholding to our selues for these indeauours) are excéeding curious in the choise of earth, and situation of the plot of ground which is méete for the garden: yet I, that am all English Husbandman, and know our soyles out of the worthinesse of their owne natures doe as it were rebell against forraine imitation, thinking their owne vertues are able to propound their owne rules: and the rather when I call into my remembrance, that in all the forraine places I haue séene, there is none more worthy then our owne, and yet none ordered like our owne, I cannot be induced to follow the rules of Italie, vnlesse I were in Italie, neither those of France, vnlesse I dwelt in France, nor those of Germany except in Germany I had my habitation, knowing that the too much heate of the one, or the too much coldnesse of the other, must rather confound then help in our temperate climate: whence it comes, that our english booke-knowledge in these cases is both disgraced and condemned, euery one fayling in his experiments, because he is guided by no home-bredde, but a stranger; as if to reade the english tongue there were none better then an Italian Pedant. This to auoide, I will neither begge ayde nor authoritie from strangers, but reuerence them as worthies and fathers of their owne Countries.

To speake therefore first of the ground which is fit for the garden, albeit the best is best worthy, the labour least, and the profit most certaine, yet it is not méete that you refuse any earth whatsoever, both because a garden is so profitable, necessary, and such an ornament and grace to euery house and house-kéeper, that the dwelling place is lame and maymed if it want that goodly limbe, and beauty. Besides, if no gardens should be planted but in the best and richest soyles, it were infinite the losse we should sustaine in our priuate profit, and in the due commendations, fit for many worthy workmen, who haue reduced the worst and barrainest earths to as rare perfection and profit as if they had béene the onely soyles of this kingdome: and for mine owne part, I doe not wonder either at the worke of Art or Nature, when I behould in a goodly, rich, and fertill soyle, a garden adorned with all the delights and delicacies which are within mans vnderstanding, because the naturall goodnesse of the earth (which not induring to be idle) will bring forth whatsoever is cast into her: but when I behould vpon a barraine, dry, and delected earth, such as the Peake-hils, where a man may behould Snow all summer, or on the East-mores, whose best hearbage is nothing but mosse, and iron stone, in such a place, I say, to behould a delicate, rich, and fruitfull garden, it shewes great worthinesse in the owner, and infinite Art and industry in the workeman, and makes me both admire and loue the begetters of such excellencies.

Of the ground.

[P2] [107]

But to returne to my purpose touching the choise of your earth for a garden, sith no house can conueniently be without one, and that our English Nation is of that great popularitie, that not the worst place thereof but is abundantly inhabited, I thinke it méete that you refuse no earth whatsoever to plant your garden vpon, euer obseruing this rule, that the more barraine it is, the more cost must be bestowed vpon it, both in Manuring, digging, and in trenching, as shall be shewed hereafter, and the more rich it is, lesse cost of such labour, and more curiositie in wéeding, proyning, and trimming the earth: for, as the first

is too slow, so the latter is too swift, both in her increase and multiplication.

Now, for the knowledge of soyles, which is good, and which is badde, I haue spoken sufficiently already in that part which intreateth of Tillage, onely this one caueat I will giue you, as soone as you haue markt out your garden-plot, you shall turne vp a sodde, and taking some part of the fresh mould, champe it betwéene your téeth in your mouth, and if it taste swéetish then is the mould excellent good and fit to receiue either seedes or plants, without much Manuring, but if it taste salt or bitter, then it is a great signe of barrainnesse, and must of necessitie be corrected with Manure: for saltnesse sheweth much windinesse, which choaketh and stiflith the séede, and bitternesse that vnnaturall heate which blasteth it before it sprout.

[P2v] [108]

Now, for the situation of the garden-plot for pleasure, you shall vnderstand that it must euer be placed so neare vnto the dwelling house as is possible, both because the eye of the owner may be a guard and support from inconueniences, as also that the especiall roomes and prospects of the house may be adorned, perfumed, and inriched, with the delicate proportions, odoriferous smells, and wholesome ayres which shall ascend and vaporate from the same, as may more amply be séene in that former Chapter, where modelling forth the Husbandmans house, I shew you the site and place for his Garden, onely you must diligently obserue, that neare vnto this garden doe not stand any houells, stackes of hay, or Corne, which ouer-pearing the walls, or fence, of the same, may by reason of winde, or other occasion, annoy the same with straw, chaffe, séedes, or such like filthinesse, which doth not onely blemish the beauty thereof, but is also naturally very hurtfull and cankerous to all plants whatsoever. Within this garden plot would be also either some Well, Pumpe, Conduit, Pond, or Cesterne for water, sith a garden, at many times of the yéere, requireth much watering: & this place for water you shall order and dispose according to your abillitie, and the nature of the soyle, as thus: if both your reputation, and your wealth be of the lowest account, if then your garden aford you a plaine Well, comely couered, or a plaine Pump, it shall be sufficient, or if for want of such springs you digge a fayre Pond in some conuenient part thereof, or else (which is much better) erect a Cesterne of leade, into which by pippes may discend all the raine-water which falls about any part of the house, it will serue for your purpose: but if God haue bestowed vpon you a greater measure of his blessings, both in wealth & account, if then insteade of either Well, Pumpe, Pond, or Cesterne, you erect Conduits, or continuall running Fountaines, composed of Antique workes, according to the curiositie of mans inuention, it shall be more gallant and worthy: and these Conduits or water-courses, you may bring in pippes of leade from other remote or more necessary places of water springs, standing about the leuell of your garden, as euery Artist in the profession of such workes can more amply declare vnto you, onely for mée let it be sufficient to let you vnderstand that euery garden would be accompanied with water.

Of the situation.

[P3] [109]

Also you shall haue great care that there adioyne not vnto your garden-plot any common-shewers, stinking or muddy dikes, dung-hils, or such like, the annoyance of whose smells and euill vapors doth not onely corrupt and bréede infection in man, but also cankereth, killeth and consumeth all manner of plants, especially those which are most pleasant, fragrant, and odoriferous, as being of tenderest nature and qualitie: and for this cause diuers will not alow the moating of garden-plots about, imagining that the ouer great moistnesse thereof, and the strong smells which doe arise from the mudde in the Summer season,

doe corrupt and putrifie the hearbes and plants within the compasse of the same, but I am not altogether of that opinion, for if the water be swéet, or the channell thereof sandy or grauelly, then there is no such scruple to be taken: but if it be contrary, then it is with all care to be auoyded, because it is euer a Maxime in this case, that your garden-plot must euer be compassed with the pleasantest and swéetest ayre that may be.

[P3v] [110]

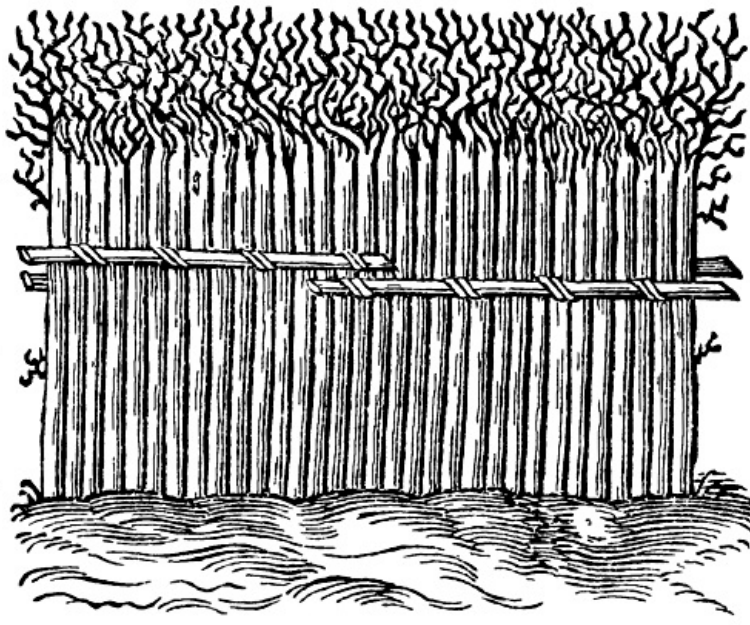
The windes which you shall generally defend from your garden, are the Easterne windes and the Northerne, because they are sharpest, coldest, and bring with them tempers of most vnseasonableness, & albeit in Italie, Spaine, and such like hot Countries, they rather defend away the Westerne and Southerne winde, giuing frée passage to the East and North, yet with England it may not be so, because the naturall coldenes of our Climate is sufficient without any assistance to further bitterness, our best industry being to be employed rather to get warmth, which may nourish and bring forth our labours, then any way to diminish or weaken the same.

This plot of ground also would lye, as neare as you can, at the foote or bottome of an hill, both that the hill may defend the windes and sharpe weather from the same, as also that you may haue certaine ascents or risings of state, from leuell to leuell, as was in some sort before shewed in the plot for the Orchard, and shall be better declared in the next Chapter.

Now lastly for the fencing or making priuate the garden-plot, it is to be done according to your abillitie, and the nature of the climate wherein you liue: as thus, if your reuenewes will reach thereunto, and matter be to be got, for that purpose, where you liue, then you shall vnderstand that your best fence is a strong wall, either of Bricke, Ashler, rough-Stone, or Earth, of which you are the best-owner, or can with least dammage compasse: but for want either of earth to make bricke, or quarries out of which to get stone, it shall not then be amisse to fence your garden with a tall strong pale of seasoned Oake, fixt to a double parris raile, being lined on the inside with a thicke quicke-set of white-Thorne, the planting whereof shall be more largely spoken of where I intreate of fencing onely. But if the place where you liue in, be so barraine of timber that you cannot get sufficient for the purpose, then you shall make a studde wall, which shall be splinted and lomed both with earth and lime, and hayre, and copt vpon the toppe (to defend away wet) either with tile, slate, or straw, and this wall is both beautifull, and of long continuance, as may be séene in the most parts of the South of this kingdome: but if either your pouerty or climate doe deny you timber for this purpose, you shall then first make a small trench round about your garden-plot, and set at least foure rowes of quicke-set of white-Thorne, one aboue another, and then round about the outside, to defend the quick-set, make a tall fence of dead woode, being either long, small, brushy poales prickt into the earth, and standing vpright, and so bound together in the wast betwéene two other poales, according to the figure set downe,

[P4r] [111]

Of fencing the garden.



being so high that not any kinde of Pullen may flie ouer the same, or else an ordinary hedge of common woode, being beyrded vpon the toppe with sharpe Thornes, in such wise that not any thing may dare to aduenture ouer it: and this dead fence you shall repaire and maintaine as occasion shall require from time to time, till your quicke-set be growne vp, and, by continuall plashing and interfouldings, be made able and sufficient to fence and defend your garden, which will be within fiue or seauen yeeres at the most, and so continue with good order for euer. And thus much for the situation of gardens.

[P4v] [112]

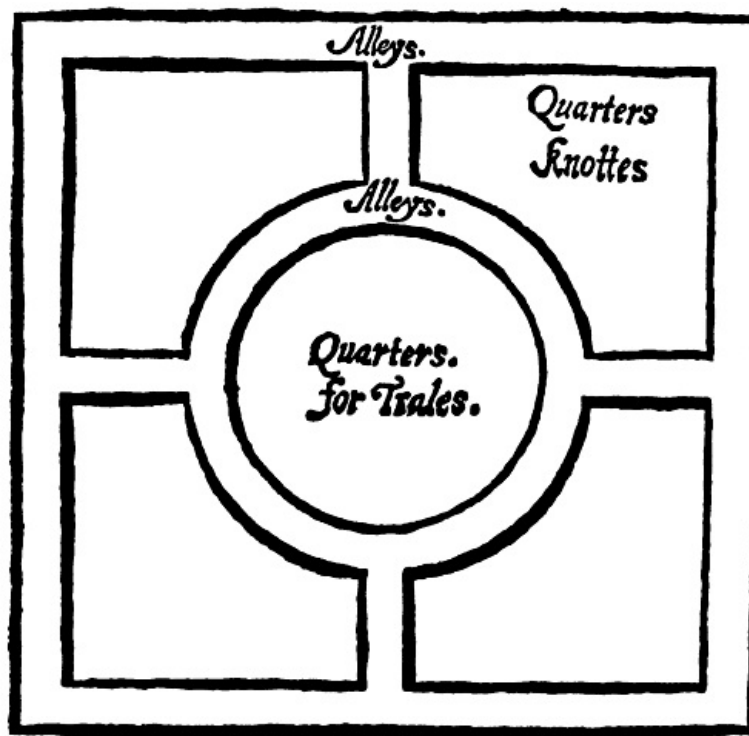
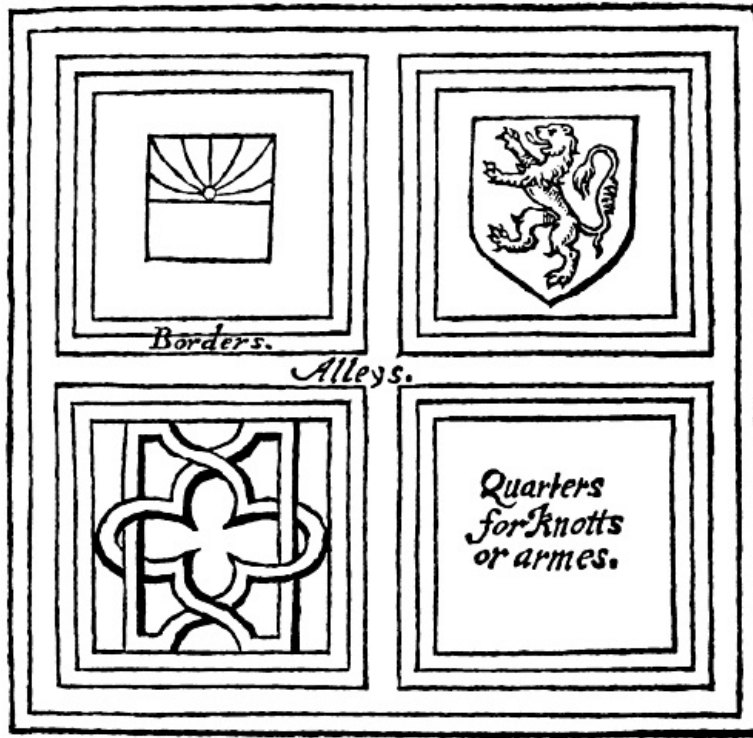
CHAP. XVI.

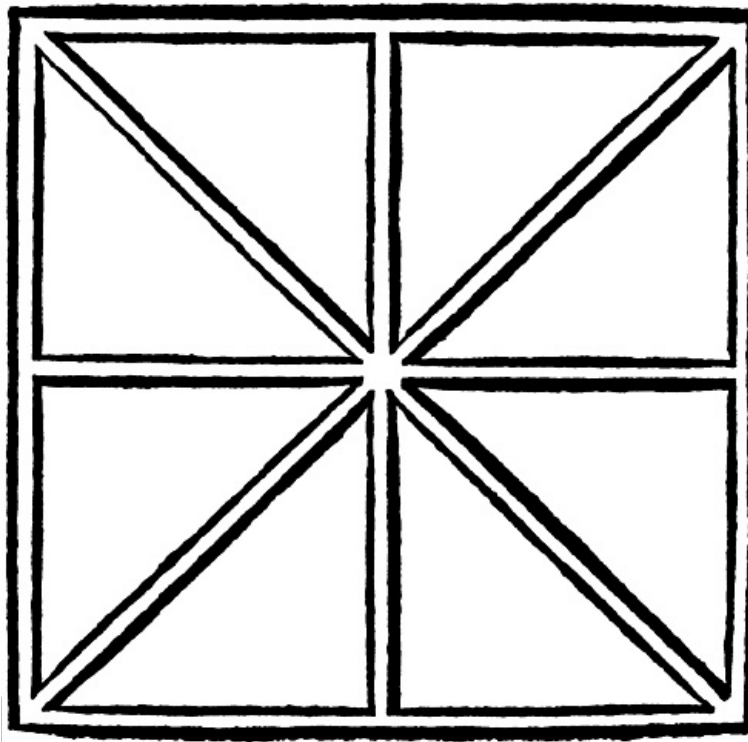
Of the fashion of the garden-plot for pleasure, the Alleyes, Quarters, Digging and Dugging of the same.



fter you haue chosen out and fenced your garden-plot, according as is before sayd, you shall then beginne to fashion and proportion out the same, sith in the conuayance remaineth a great part of the gardiners art. And herein you shall vnderstand that there be two formes of proportions belonging to the garden, the first, onely beautifull, as the plaine, and single square, contayning onely foure quarters, with his large Alleyes euery way, as was discribed before in the Orchard: the other both beautifull and stately, as when there is one, two or thrée leuelled squares, each mounting seauen or eight steppes one aboue another, and euery square contayning foure seuerall Quarters with their distinct and seuerall Alleyes of equall breadth and proportion; placing in the center of euery square, that is to say, where the foure corners of the foure Quarters doe as it were neighbour and méete one another, either a Conduit of antique fashion, a Standard of some vnusuall deuise, or else some Dyall, or other Piramed, that may grace and beautifie the garden. And herein I would haue you vnderstand that I would not haue you to cast euery square into one forme or fashion of Quarters or Alleyes, for that would shew little varytie or inuention in Art, but rather to cast one in plaine Squares, another in Tryangulars, another in roundalls, & so a fourth according to the worthinesse of conceite, as in some sort you may behould by these figures, which questionlesse when they are adorned with their ornaments, will breed infinite delight to the beholders.

The fashion.





[Q2v] [116]

From the modell of these Squares, Tryangles, and Rounds, any industrious braine may with little difficulty deriue and fashion to himselfe diuers other shapes and proportions, according to the nature and site of the earth, which may appeare more quaint and strange then these which are in our common vse, albeit these are in the truth of workmanship the perfect father and mother of all proportions whatsoever.

Now, you shall vnderstand that concerning the Alleyes and walkes in this garden of pleasure, it is very méete that your ground, being spacious and large, (which is the best beauty) that you cut through the midst of euery Alley an ample and large path or walke, the full depth of the roote of the gréene-swarth, and at least the breadth of seauen or eight foote: and in this path you shall strow either some fine redde-sand, of a good binding nature, or else some fine small grauell, or for want of both them you may take the finest of your pit-coale-dust, which will both kéepe your Alleyes dry and smooth, and also not suffer any grasse or gréene thing to grow within them, which is disgracefull, if it be suffered: the French-men doe vse, to couer their Alleyes, either with the powder of marble, or the powder of slate-stone, or else paue them either with Pit-stone, Frée-stone, or Tiles, the first of which is too hard to get, the other great cost to small purpose, the rather sith our owne grauell is in euery respect as beautifull, as dry, as strong, and as long lasting: Onely this héedfulnesse you must diligently obserue, that if the situation of your garden-plot be low and much subiect to moisture, that then these middle-cut paths or walkes must be heightned vp in the midst, and made in a proportionall bent or compasse: wherein you shall obserue that the out most verdges of the walke must be leuell with the gréene-swarth which holded in each side, and the midst so truly raised vp in compasse, that the raine which falles may haue a passage to each side of the gréene-swarth. Now, the lesse this compasse is made (so it auoyde the water, and remaine hard) the better it is, because by that meanes both the eye shall be deceiued (which shewes art in the workman) and the more leuell they are, the more ease vnto them which shall continually walke vpon them.

The ordering of Alleyes.

[Q3] [117]

Now, if any shall obiect, why I doe not rather couet to haue these Alleyes or walkes rather all gréene, then thus cut and deided, sith it is a most beautifull thing to see a pleasant gréene walke, my answeere is this, that first the mixture of colours, is the onely delight of the eye about all

Obiection.

other: for beauty being the onely obiect in which it ioyeth, that beautie is nothing but an excellent mixture, or consent of colours, as in the composition of a delicate woman the grace of her chéeke is the mixture of redde and white, the wonder of her eye blacke and white, and the beauty of her hand blewe and white, any of which is not sayd to be beautifull if it consist of single or simple colours: and so in these walkes, or Alleyes, the all gréene, nor the all yealow cannot be sayd to be most beautifull, but the gréene and yealow, (that is to say, the vntroade grasse, and the well knit grauell) being equally mixt, giue the eye both luster and delight beyonde all comparison.

Againe, to kéepe your walkes all gréene, or grassy, you must of force either forbear to tread vpon them, (which is the vse for which they were onely fashioned,) or treading vpon them you shall make so many pathes and ilfaured wayes as will be most vglie to the eye: besides the dewe and wet hanging vpon the grasse will so annoy you, that if you doe not select especiall howers to walke in, you must prouide shooes or bootes of extraordinary goodnesse: which is halfe a depriuement of your liberty, whereas these things of recreation were created for a contrary purpose.

Now, you shall also vnderstand that as you make this sandy and smooth walke through the midst of your Alleyes, so you shall not omit but leaue as much gréene-swarth, or grasse ground of eache side the plaine path as may fully counteruaile the breadth of the walke, as thus for example: if your sandy walke be sixe foote broad, the grasse ground of each side it, shall be at least sixe foote also, so that the whole Alley shall be at least eightéene foote in breadth, which will be both comely and stately.

[Q3v] [118]

Your Alleyes being thus proportioned and set forth, your next worke shall be the ordering of your Quarters, which as I sayd before, you may frame into what proportions you please, as into Squares, Tryangles and Rounds, according to the ground, or your owne inuention: and hauing marked them out with lines, and the garden compasse, you shall then beginne to digge them in this manner: first, with a paring spade, the fashion whereof is formerly shewed, you shall pare away all the gréene-swarth, fully so déepe as the roote of the grasse shall goe, and cast it away, then with other digging spades you shall digge vp the earth, at least two foote and a halfe, or thrée foote déepe, in turning vp of which earth, you shall note that as any rootes of wéedes, or other quickes shall be raised or stirred vp, so presently with your hands to gather them vp, and cast them away, that your mould may (as neare as your dilligence can performe it) be cleane from either wilde rootes, stones, or such like offences: & in this digging of your Quarters you shall not forget but raise vp the ground of your Quarters at least two foote higher then your Alleyes, and where by meanes of such reasure, you shall want mould, there you shall supply that lacke by bringing mould and cleane earth from some other place, where most conueniently you may spare it, that your whole Quarter being digged all ouer, it may rise in all parts alike, and carry an orderly and well proportioned leuell through the whole worke.

Of the Quarters.

The best season for this first digging of your garden mould is in September: and after it is so digged and roughly cast vp, you shall let it rest till the latter end of Nouember, at what time you shall digge it vp againe, in manner as afore sayd, onely with these additions, that you shall enter into the fresh mould, halfe a spade-graft déeper then before, and at euery two foote breadth of ground, enlarging the trench both wide and déepe, fill it vp with the oldest and best Oxe or Cow-Manure that you can possibly get, till such time that increasing from two foote to two foote, you haue gone ouer and Manured all your quarters, hauing a principall care that your dunge or Manure lye both déepe and thicke, in

[Q4r] [119]

Of Dunging.

so much that euery part of your mould may indifferently pertake and be enriched with the same Manure.

Now, you shall vnderstand that although I doe particularly speake but of Oxe or Cow-Manure, because it is of all the fattest and strongest, especially being olde, yet their are diuers respects to be had in the Manuring of gardens: as first, if your ground be naturally of a good, fat, blacke, and well tempered earth, or if it be of a barraine, sandy, hot, yet firme mould, that in either of these cases your Oxe, Cow, or beast Manure is the best & most sufficient, but if it be of a colde, barraine, or spewing mould then it shall be good to mixe your Oxe-dunge with Horse-dunge, which shall be at least two yéeres olde, if you can get it, otherwise such as you can compasse: if your ground be good and fertill yet out of his drynesse in the summer-time it be giuen to riue and chappe as is séene in many earths; you shall then mixe your Oxe-dunge well with Ashes, orts of Lime, and such like: lastly, if your earth be too much binding and colde therewithall, then mixe your Oxe-dunge with chalke or marle and it is the best Manure. And thus much for the generall vse of earths.

Diuersitie of Manures.

Now, for perticular vses you shall vnderstand that for Hearbs or Flowers the Oxe and Horse-dunge is the best, for rootes or Cabbages, mans ordure is the best, for Harty-chockes, or any such like thisly-fruit, Swines-dunge is most sufficient, and thus according to your settled determination you shall seuerally prouide for euery seuerall purpose, and so, God assisting, seldome faile in your profit. And this dunge you shall bring into your garden in little drumblars or whéele-barrowes, made for the purpose, such as being in common vse in euery Husbandmans yarde it shall be néedlesse here either to shew the figure or proportion thereof. And thus much for the fashion, digging, and dunging of gardens.

[Q4v] [120]

CHAP. XVII.

Of the adoration and beautifying of the Garden for pleasure.

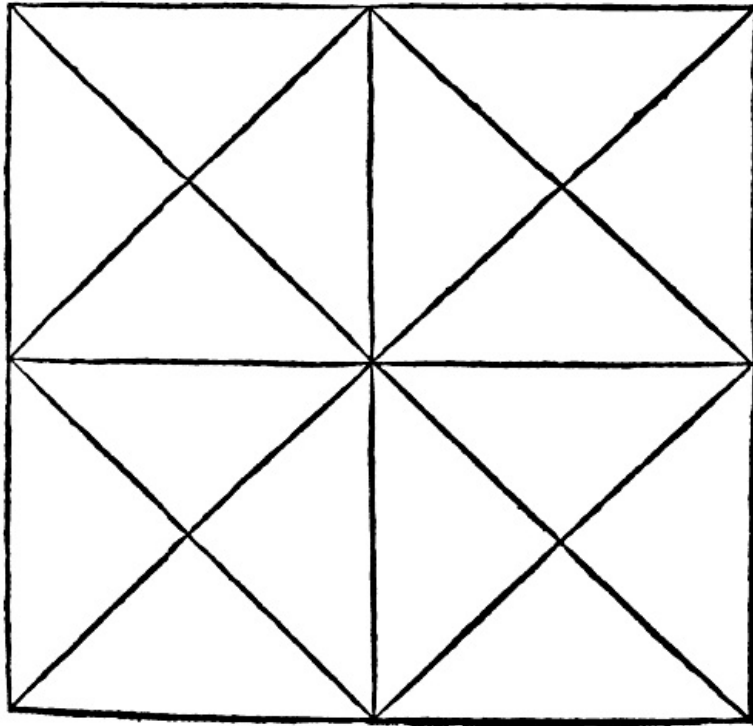


he adoration and beautifying of gardens is not onely diuers but almost infinite, the industry of mens braines hourelly begetting and bringing forth such new garments and imbroadery for the earth, that it is impossible to say this shall be singular, neither can any man say that this or that is the best, sith as mens tastes so their fancies are carried away with the varietie of their affections, some being pleased with one forme, some with another: I will not therefore giue preheminance to any one beauty, but discribing the faces and glories of all the best ornaments generally or particularly vsed in our English gardens, referre euery man to the ellection of that which shall best agréee with his fancy.

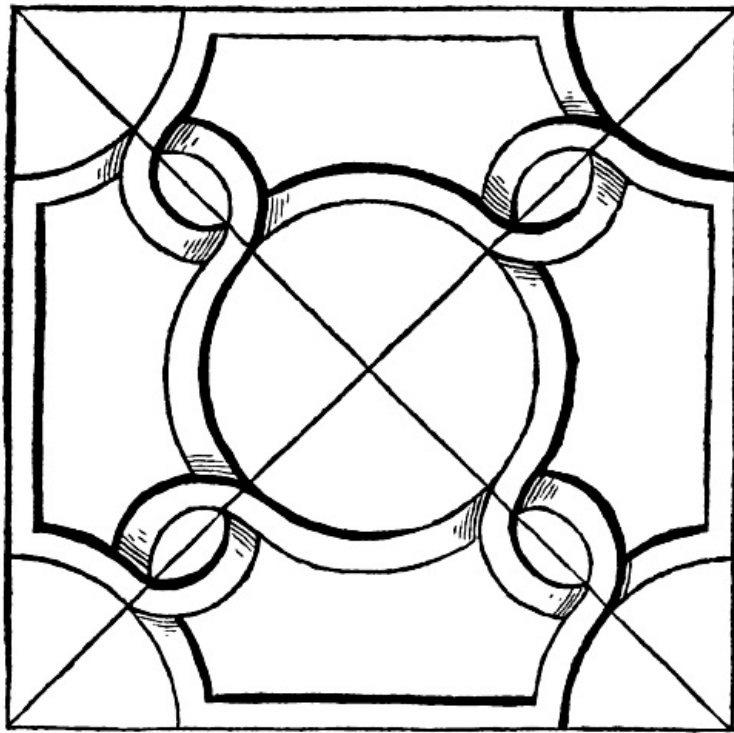
To beginne therefore with that which is most antient and at this day of most vse amongst the vulgar though least respected with great ones, who for the most part are wholly giuen ouer to nouelties: you shall vnderstand that Knots and Mazes were the first that were receiued into admiration, which Knots or Mazes were placed vpon the faces of each seuerall quarter, in this sort: first, about the verdge or square of the quarter was set a border of Primpe, Boxe, Lauandar, Rose-mary, or such like, but Primpe or Boxe is the best, and it was set thicke, at least eightéene inches broad at the bottome & being kept with clipping both smooth and leuell on the toppe and on each side, those borders as they

Of Knots and Mazes.

were ornaments so were they also very profitable to the huswife for the drying of linnen cloaths, yarne, and such like: for the nature of Boxe and Primpe being to grow like a hedge, strong and thicke, together, the Gardiner, with his sheares may kéepe it as broad & plaine as himselfe listeth. Within this border shall your knot or maze be drawne, it being euer intended that before the setting of your border your quarter shall be the third time digged, made exceeding leuell, and smooth, without clot or stone, and the mould, with your garden rake of iron, so broken that it may lye like the finest ashes, and then with your garden mauls, which are broad-boards of more then two foote square set at the ends of strong staues, the earth shall be beaten so hard and firme together that it may beare the burthen of a man without shrinking. And in the beating of the mould you shall haue all diligent care that you preserue and kéepe your leuell to a hayre, for if you faile in it, you faile in your whole worke.



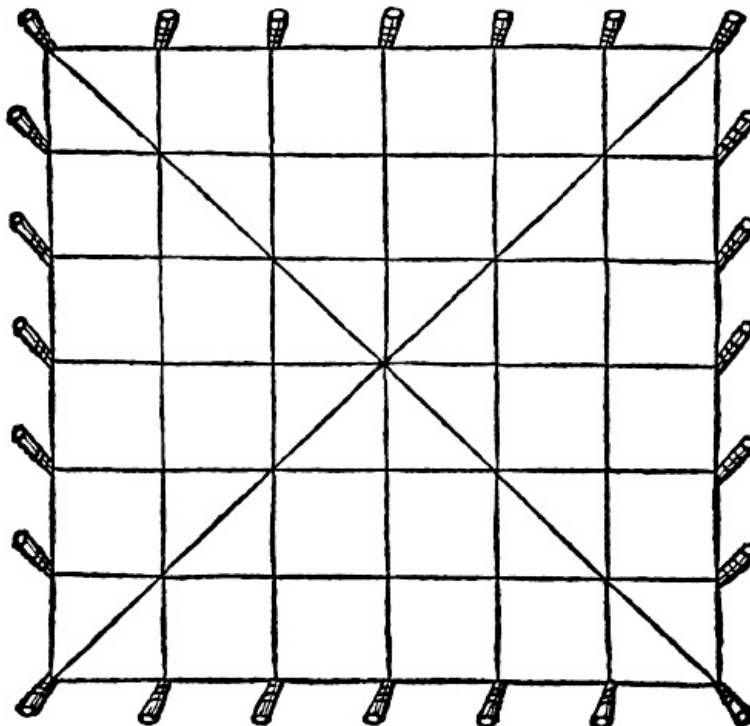
Now for the time of this labour, it is euer best about the beginning of February, and indifferent, about the midst of October, but for the setting of your Primpe, or Boxe-border, let the beginning of Nouember be your latest time, for so shall you be sure that it will haue taken roote, and the leafe will flourish in the spring following: at which time your ground being thus artificially prepared, you shall begin to draw forth your knot in this manner: first, with lines you shall draw the forme of the figure next before set downe, and with a small instrument of iron make it vpon the earth.



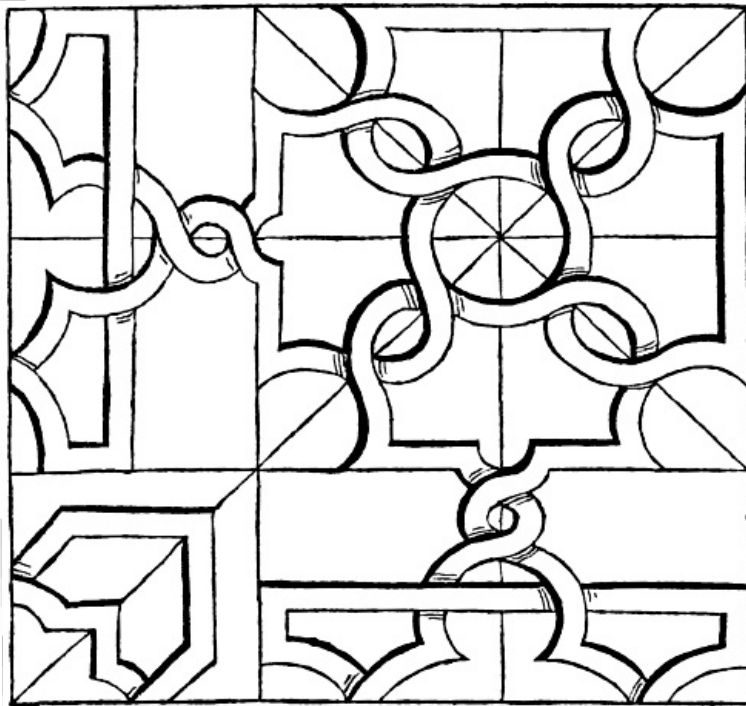
Which done, from the order and proportion of these lines you shall draw your single knots or plaine knots of the least curiositie, as may appeare by this figure, being one quarter of the whole Knot: euer proportioning your Trayles and windings according to the lines there discribed, which will kéepe your worke in iust proportion.

[R2] [123]

But if you desire to haue knots of much more curiositie being more double and intricate, then you shall draw your first lines after this proportion here figured, pinning downe euery line firme to the earth with a little pinne made of woode.



Which done you shall draw your double and curious knots after the manner of the figure following, which is also but one quarter of the whole knot, for looke in what manner you doe one knot in like sort will the other thrée quarters succéde, your lines kéepeing you in a continuall euen proportion.



And in this manner as you draw these knots, with the like helps and lines also you shall draw out your Mazes, and laborinths, of what sort or kind soeuer you please, whether they be round or square. But for as much, as not onely the *Country-farme*, but also diuers other translated bookes, doe at large describe the manner of casting and proportioning these knots, I will not persist to write more curiously vpon them, but wish euery painefull gardiner which coueteth to be more satisfied therein, to repaire to those authors, where hée shall finde more large amplifications, and greater diuersities of knots, yet all tending to no more purpose then this which I haue all ready written.

Now, as soone as you haue drawne forth and figured your knot vpon the face of your quarter, you shall then set it either with Germander, Issoppe, Time or Pinke-gilly-flowers, but of all hearbes Germander is the most principall best for this purpose: diuers doe vse in knots to set Thrift, and in time of néed it may serue, but it is not so good as any of the other, because it is much subiect to be slaine with frost, and will also spread vpon the earth in such sort that, without very painefull cutting, it will put your knot out of fashion.

Now there is another beautifying or adorning of Gardens, and it is most generally to be séene in the gardens of Noblemen and Gentlemen, which may beare coate-armor, and that is, instead of the knots and mazes formerly spoken of, to draw vpon the faces of your quarters such Armes, or Ensines, as you may either beare your selfe, or will preserue for the memory of any friend: and these armes being drawne forth in plaine lines, you shall set those plaine shadowing lines either with Germander, Issop, or such like hearbes: and then for the more ample beautie thereof, if you desire to haue them in their proper and liuely colours (without which they haue but one quarter of their luster) you shall vnderstand that your colours in Armory are thus to be made. First, for your mettalls: you shall make your Yeallow, either of a yeallow clay, vsually to be had almost in euery place, or the yeallowest sand, or for want of both, of your Flanders Tile, which is to be bought of euery Iron-monger or Chandelor; and any of these you must beate to dust: for your White you shall make it of the coursest chalke beaten to dust, or of well burnt plaister, or, for necessity, of lime, but that will soone decay: your Blacke is to be made of your best and purest coale-dust, well clensed and sifted: your Red is to be made of broken vselesse bricke beaten to dust, and well clensed

Yeallow.

White.

*Blacke.
Red.
Blew.*

from spots: your Blew is to be made of white-chalke, and blacke coale dust mixed together, till the blacke haue brought the white to a perfect blewnes: lastly your Gréene, both for the naturall property belonging to your Garden, as also for better continuance and long lasting, you shall make of Camomill, well planted where any such colour is to be vsed, as for the rest of the colours, you shall sift them, and strow them into their proper places, and then with a flat beating-Béetell you shall beate it, and incorporate it with the earth, and as any of the colours shall decay, you shall diligently repaire them, and the luster will be most beautifull.

There is also another beautifying of gardens, which although it last not the whole yéere, yet it is most quaint, rare, and best eye-pleasing, and thus it is: you shall vpon the face of your quarter draw a plaine double knot, in manner of billet-wise: for you shall vnderstand that in this case the plainest knot is the best, and you shall let it be more then a foote betwixt line and line (for in the largenesse consists much beauty) this knot being scored out, you shall take Tiles, or tilesreds and fixe them within the lines of your knot strongly within the earth, yet so as they may stand a good distance aboue the earth and this doe till you haue set out all your knot with Tile: then precisely note the seuerall passages of your knot, and the seuerall thrids of which it consisteth, and then betwixt your tiles, (which are but as the shadowing lines of your knot) plant in euery seuerall third, flowers of one kinde and colour, as thus for example: in one thrid plant your carnation Gilly-flower, in another your great white Geli flower, in another your mingle-coloured Gilly-flower, and in another your blood-red Gilly-flower, and so likewise if you can compasse them you may in this sort plant your seueral coloured Hyacinths, as the red, the blew, and the yealow, or your seuerall coloured *Dulippos*, and many other Italian and french flowers: or you may, if you please, take of euery seuerall plant one, and place them as afforesaid; the grace of all which is, that so soone as these flowers shall put forth their beauties, if you stand a little remote from the knot, and any thing aboue it, you shall see it appeare like a knot made of diuers coloured ribans, most pleasing and most rare.

Many other adornations and beautifyings there are which belong to the setting forth of a curious garden, but for as much as none are more rare or more estéemed then these I haue set downe, being the best ornaments of the best gardens of this kingdome, I thinke them tastes sufficient for euery husbandman, or other of better quality which delighteth in the beauty and well trimming of his ground.

CHAP. XVIII.

How for the entertainment of any great Person, in any Parke, or other place of pleasure, where Sommer-bowers are made, to make a compleat Garden in two or three dayes.



If the honest English husbandman, or any other, of what quality soeuer, shall entertaine any Noble personage, to whom hee would giue the delight of all strange contentment, either in his Parke, or other remote place of pleasure, néere vnto Ponds, Riuer, or other waters of cléerenesse, after hée hath made his arbors and Summer-bowers to feast in, the fashion whereof is so common that euery labourer can make them, hée shall then marke out his garden-plot, bestowing such sleight fence thereon as hée shall thinke fit: then hée shall cast forth his alleys,

and deuide them from his quarters, by paring away the gréene-swarth with a paring spade, finely, and euen, by a direct line (for a line must euer be vsed in this worke) then hauing store of labourers (after the vpper-most swarth is taken away) you shall cast vp the quarters, and then breaking the mould and leuelling it, you shall make sad the earth againe, then vpon your quarters you shall draw forth either Knots, Armes, or any other deuise which shall be best pleasing to your fancie, as either knots with single or double trayles, or other emblemicall deuise, as Birds, Beasts, and such like: and in your knots where you should plant hearbes, you shall take gréene-sods of the richest grasse, and cutting it proportionably to the knot, making a fine trench, you shall lay in your sod, and so ioyning sod to sod close and arteficially, you shall set forth your whole knot, or the portrayture of your armes, or other deuise, and then taking a cleane broome that hath not formerly béene swept withall, you shall brush all vncleanenesse from the grasse, and then you shall behold your knot as compleat, and as comely as if it had béene set with hearbes many yéeres before. Now for the portrayture of any liuing thing, you shall cut it forth, ioyning sod vnto sod, and then afterward place it into the earth. Now if within this plot of ground which you make your garden piece there be either naturall or arteficiall mounts or bankes vpon them, you may in this selfe-same manner with gréene sods set forth a flight, either at field or riuier, or the manner of hunting of any chase, or any story, or other deuise that you please, to the infinit admiration of all them which shall behold it: onely in working against mounts or bankes you must obserue to haue many small pinnes, to stay your worke and kéepe your sods from slipping one from another, till such time as you haue made euery thing fast with earth, which you must rame very close and hard: as for Flowers, or such like adorments, you may the morning before, remoue them with their earth from some other garden, and plant them at your best pleasure. And thus much for a garden to be made in the time of hasty necessity.

CHAP. XIX.

How to preserue Abricots, or any kinde of curious outlandish-stone-fruit, and make them beare plentifully be the Spring or beginning of Summer neuer so bitter.



haue knowne diuers Noblemen, Gentlemen & men of vnder quallitie, that haue béene most laborious how to preserue these tender stone-fruits from the violence of stormes, frost and windes, and to that end haue béene at great cost and charges yet many times haue found much losse in their labours, wherefore in the end, through the practise of many experiments, this hath béene found (which I will here set downe) the most approuedst way to make them beare without all kinde of danger. After you haue planted your Abricot, or other delicate fruit, and plasht him vp against a wall in manner as hath béene before declared, you shall ouer the tops of the trées all along the wall, build a large pentisse, of at least sixe or seauen foote in length: which pentisse ouer-shaddowing the trées, will, as experience hath found out, so defend them, that they will euer beare in as plentifull manner as they haue done any particular yéere before. There be many that will scoffe, or at least, giue no credit to this experiment, because it carrieth with it no more curiositie, but I can assure thée that art the honest English Husbandman, that there is nothing more certaine and vnfallible, for I haue séene in one of the

greatest Noblemens gardens in the kingdome, where such a pentisse was made, that so farre as the pentisse went, so farre the trées did prosper with all fruitfulnessse, and where the pentisse ended, not one trée bare, the spring-time being most bitter and wonderfull vnseasonable.

[S1v] [130]

Now I haue séene some great Personages (whose purses may buy their pleasures at any rate) which haue in those pentisses fixed diuers strong hookes of Iron, and then made a canuasse of the best Poldauie, with most strong loopes, of small corde, which being hung vpon the Iron hookes, hath reacht from the pentisse to the ground, and so laced with corde and small pulleys, that like the saile of a ship it might be trust vp, and let downe at pleasure: this canuasse thus prepared is all the Spring and latter end of Winter to be let downe at the setting of the Sunne, and to be drawne vp at the rising of the Sunne againe. The practise of this I referre to such as haue abillitie to buy their delight, without losse, assuring them that all reason and experience doth finde it most probable to be most excellent, yet to the plaine English Husbandman I giue certaine assurance that the pentisse onely is sufficient enough and will defend all stormes whatsoever. And thus much for the preseruacion and increase of all tender Stone-fruit, of what nature, or climbe bred, soeuer.

CHAP. XX.

How to make Grapes grow as bigge, full, and as naturally, and to ripen in as due season, and be as long lasting as either in Fraunce or Spaine.



Diuers of our English Gardiners, and those of the best and most approued'st iudgements, haue béene very industrious to bring Grapes, in our kingdome, to their true nature and perfection: and some great persons I know, that with infinit cost, and I hope prosperous successe, hath planted a Vineyard of many Acres, in which the hands of the best experienced french-men hath béene imploied: but for those great workes they are onely for great men, and not for the plaine English Husbandman, neither will such workes by any meanes prosper in many parts of our kingdome, especially in the North parts: and I that write for the generall vse, must treat of vniuersall Maximes: therefore if you desire to haue Grapes in their true and best kinde, most earely and longest lasting, you shall in the most conuenient part of your garden, which is euer the center or middle point thereof, build a round house, in the fashion of a round Doue-coate, but many degrés lower, the ground worke whereof shalbe about the ground two or thrée bricques thickenesse, vpon this ground-plot you shall place a groundsell, and thereon, fine, yet strong studs, which may reach to the roofe: these studs shalbe placed better then foure foote one from another, with little square bars of woode, such as you vse in glasse windowes, two betwixt euery two studs, the roofe you may make in what proportion you will, for this house may serue for a delicate banqueting house, and you may either couer it with Leade, Slate or Tile, which you please. Now, from the ground to the top, betwéene the studs, you shall glase it, with very strong glasse, made in an excéeding large square pane, well leaded and cimented. This house thus made, you shall obserue that through the bricke worke there be made, betwéene euery two studs, square holes, cleane through into the house; then on the out-side, opposite against those holes, you shall plant the roote of your Vine, hauing béene very carefull in the election and choise thereof:

[S2r] [131]

which done, as your Vine groweth you shall draw it through those holes, and as you vse to plash a Vine against a wall, so you shall plash this against the glasse window, on the in-side, and so soone as it shall beginne to beare Grapes you shall be sure to turne euey bunch, so that it may lye close to the glasse, that the reflection of the Sunne heating the glasse, that heate may hasten on the ripening, & increase the groath of your Grapes: as also the house defending off all manner of euill weather, these Grapes will hang ripe, vnrotted or withered, euen till Christmas. Thus haue I giuen you a tast of some of the first parts of English Husbandry, which if I shall finde thankfully accepted, if it please God to grant mee life, I will in my next Volumne, shew you the choise of all manner of Garden Hearbes and Flowers, both of this and other kingdomes, the seasons of their plantings, their flourishing and orderings: I will also shew you the true ordering of Woodes, both high and low, as also the bréeding and féeding of all manner of Cattell, with the cure of all diseases incident vnto them, together with other parts of Husbandry, neuer before published by any Author: this I promise, if God be pleased: to whom be onely ascribed the glory of all our actions, and whose name be praised for euer. Amen.

FINIS.

Transcriber's notes

The following changes have been made and anomalies noted.

A Former Part

Chap. II.

'adicted to nouelty and curiouity' changed to 'adicted to nouelty and curiosity' on signature [A4r](#).

euery mans minde so much adicted to nouelty and curiouity, yet for as much as it is most commended by the generall

Chap. III.

'Plough houlder when hée cometh to' scan is unclear on signature [B3r](#).

cometh to

'two much earth' probable misprint for 'too much earth' on signature [C1r](#).

two much earth

Chap. IIII.

'the of point your share' changed to 'the point of your share' on signature [C2r](#).

the of point your share,

Chap. V.

'of that which you soil'd:' changed to 'of that which you foil'd:' on signature [C3v](#).

of that which you foil'd : of all

Chap. VI.

'the ridge of you land againe.' probable misprint for 'the ridge of your land againe.' on signature [D4v](#).

the ridge of you land againe.

'Tare-Cockle, or such like,' scan is unclear on signature [D4v](#).

Cockle, or such like, you

'After your land is soild,' changed to 'After your land is foild,' on signature [E2r](#).

After your land is soild,

Chap. VII.

'and if you ffnde any part of it' changed to 'and if you finde any part of it' on signature [F2r](#).

and if you finde

'Manure of beasts which can be gotten' probable misprint for 'Manure of beasts which can be gotten' on signature [F4r](#).

redde-land, is the ouldest Manure of beastes which can be gotten, which you shall know by the exceeding blacknesse

'your fould of Séepe' changed to 'your fould of Shéepe' on signature [G1r](#).

fould of Sæpe

'frost, winde, and weathe, rmakes' changed to 'frost, winde, and weather, makes' on signature [G1v](#).

weathe,rmakes

'no wing accoridng' changed to 'no wing according' on signature [G2r](#).

no wing accozidng

Chap. IX.

'much barrainnesse, espically' changed to 'much barrainnesse, especially' on signature [H3r](#).

barrainnesse,espically

'it shall be needlesse' scan is unclear on signature [H3v](#).

it shall be needlesse

The First Part

Chap. I.

'you most turne euery furrow' probable misprint for 'you must turne euery furrow' on page [3](#).

you mostt turne euey furrow

'hée must sooner stirer' changed to 'hée must sooner stirre'. Scan is unclear on page [4](#).

hée must sooner stirer

Chap. II.

'euery thing with is most apt' changed to 'euery thing which is most apt' on page [8](#).

euery thing with is most apt

Chap. III.

'their naturall lighnesse' changed to 'their naturall lightnesse' on page [11](#).

naturall lighnesse,

'as hath, béene showed before' changed to 'as hath béene showed before' on page [13](#).

then those for the clayes and much more nimble, as hath, bene showed before. Now for the mist earths, you shall

Chap. IIII.

'it is most, certaine' changed to 'it is most certaine' on page [15](#).

it is most,certaine

'Cornes in their gardens thus, set seeing' changed to 'Cornes in their gardens thus set, seeing' on page [16](#).

gardens thus, set seeing

Chap. V.

'vpon the or fourth field' changed to 'vpon the third or fourth field' on page [20](#).

two sorts of Wheate are best to be sowne vpon the or fourth field, that is to say, after your Deafe, for

'is ninam Barly,' probable misprint for 'is niam Barly,' on page 24.

is ninam Barly,

Chap. VI.

'as we see in dayly experience,' changed to 'as we see in dayly experience.' on page 28.

through the hands of a workman, as we see in dayly experience,

The Second Part of the First Booke

Chap. I.

'perfect ground-plot, you' scan is unclear on page 34.

a perfect ground-plot, and

'twelue or fourtéene foote on of another,' probable misprint for 'twelue or fourtéene foote one of another,' on page 35.

fourtéene foote on of another,

'thorny and sharpe, trées,' changed to 'thorny and sharpe trées,' on page 38.

ries, of all sorts, which being spreading, thorny and sharpe, trées, take great delight to grow thicke and close toge-

Chap. III.

'you shall tak one of your grafts' changed to 'you shall take one of your grafts' on page 49.

you shall tak one of your grafts

Chap. V.

'Grafting betweene the barke.' scan of sidenote is unclear on page 53.

**Was Graft
they twee
d by barke.**

'not about trée grafts at the most' changed to 'not about thrée grafts at the most' on page 53.

not about trée grafts at the most,

'Grafting on the toppes of trees.' scan of sidenote is unclear on page 56.

**Grafting on
the toppes of
all of
thing**

'and to contincu' changed to 'and to continue' on page 58.

and to contincu

Chap. VI.

'Of the replanting of Trees, and furnishing the Orchard,' changed to 'Of the replanting of Trees, and furnishing the Orchard.' on page 59.

Of the replanting of Trees, and furnishing the Orchard,

Chap. VII.

'it is a ready away' changed to 'it is a ready way' on page 63.

shall dunge such trées with the dunge of Swine, it is a ready away to destroy the moſt.

'two much fertillitie' probable misprint for 'too much fertillitie' on page 66.

two much fertillitie,

'stéepe it Mfor alt' changed to 'stéepe it for Malt' on page 67.

stéepe it Mfor alt,

Chap. VIII.

'for any peculyar pofit' changed to 'for any peculyar profit' on page 67.

sure, and prospect, then for any peculiar
profit, I will not undertake Monsieur Lybautes painefull la

Chap. IX.

'and growriuelled' changed to 'and grow riuelled' on page 81.

ripening vpon the tree, must necessarily thinke wither, and
growriuelled, so that your best course is to spend them pre

'they can by meanes indure,' changed to 'they can by no meanes indure,' on page 85.

(for wet they can by meanes indure,)

Chap. XI.

'then contiunally labour' changed to 'then continually labour' on page 90.

then contiunally labour

Chap. XII.

'Of Poales.' scan of sidenote is unclear on page 94.

Of Poales. For
 why it

Chap. XIII.

'dry more Hoppes then any one man' scan is unclear on page 103.

sufficient, and may very well serue to dry more Hoppes
th. n any one man hath growing in this kingdome.

Chap. XVII.

'then betwixt your tiles' changed to 'then betwixt your tiles' on page 126.

then betwixt your tiles,

Chap. XVIII.

'CHAP: XVIII.' changed to 'CHAP. XVIII.' on page 127.

CHAP: XVIII.

'single or double trayles,' scan unclear on page 127.

double tray'es,

Chap. XIX.

'to the pliane English Husbandman' changed to 'to the plaine English Husbandman' on
page 130.

pliane English Husbandman

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