

THE  
FEMININE MONARCHIE

OR

*Practical*

A TREATISE CONCERNING BEES  
AND THE DVE ORDERING OF THEM

*Wherein*

The truth, found out by experience and diligent  
observation, discovereth the idle and false  
concepts, which many have writ-  
ten about this subject.

*By*

CHAR: BUTLER Mago.

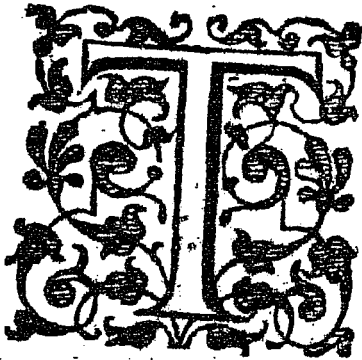


*At Oxford,*

Printed by Joseph Barnes. 1609.

# THE PREFACE

to the Reader.



He great naturalist, to  
expresse the excellen-  
cie of the nature of  
Bees, saith thus, *Inter  
omnia insecta principatus  
apibus et iure principis  
admiratio; solis ex eo  
genere hominis causa ge-  
nitis.* Of all *insecta* the

Bees are chiefe, and worthily to bee most admi-  
red; beeing the only thinges of that kinde,  
vvhich are bred for the behoofe of men. The  
later part of which saying although the delicat  
Silk-worme haue else-where disproved, and is  
now setting foot in this lād, here also to except  
against it; yet must shee needs confesse the fore-  
mer, and, when shee is come, yeelde the prece-  
dence to the laborious Bee, as to hir elder sister;  
which as in time, so in vertue is before her. For  
the fruite of the Silke-worme serveth onlie to  
cover the bodie; but the fruite of the Bee to  
nourish and cure it: that is to bee applited out-  
wardly, this to be inwardly received: that for  
comlineffe and conveniency, this for health &  
necessitie. But, to omit comparison, the worke  
and fruit of the little Bee is so great and won-  
derfull,

## The Preface

derful, so comely for order and beauty, so excellent for art and wisdom, and so full of pleasure and profit; that the contemplation thereof may well besecme an ingenious nature. And therefore not without cause are the Bees called the Muses birds.

Var. l. 3. ca.  
16.

Nat. hist. li.  
11.

The loue of which did so ravish *Aristomachus* and *Philiscus*, that, as *Plinie* reporteth, they were pleased to spend most of their time in this pleasing busines. *Nequis* (saith hee) *moretur amore earum capias Aristomachum Solensem duodesexaginta annis nihil aliud egisse; Philiscum vero Thasium in desertis apes colentem Agrum cognominatum: qui ambo scribere de his.* *Aristotle* thought his *Historia animalium* vnperfect, vnles he had inserted a tract of the nature of Bees; of which hee discourseth more at large, then he doth of any other living creature. *Plinie* likewise in his *Naturalis historia* is very copious in this argument. Besides whom, diuers other haue written thereof: as *Columella*, *Varra*, *Palladius*, *Auerroes*. Yea the learned and graue fathers of the Church *S. Ambrose* and *Isidore* haue thought it a subiect fit for their pens. Vnto which I may adde infinite others of later times both in Latine & English; which haue written many things of these admirable creatures.

But in all their writings they seeme vnto me to say little out of experience, and to rely more vpon the relation of others, then anie certain know

*to the Reader.*

knowledge of their owne. Notwithstanding  
in some of them, specially in *Aristotle & Plinie*,  
are scatered many true and good observations;  
which, being found agreeable to experience, I  
have here and there, as occasion required, for  
authority and ornament interlaced. But the la-  
ter writers, imitating the ancient where they  
thought good, choosing some of their directi-  
ons and refusing others, doe, for the most part,  
voluckely light vpon the worse: so that, being  
compared, they are no way matchable vnto  
them; whome by the advantage of time they  
might haue surpassed. Among which *Georgi-  
us Pictorius* a learned Physitian deserveeth best,  
as having taken most paines in perusing the an-  
cient authors, and gathering their matter into  
his methode. Whom one *T. H.* of London tran-  
slating word for word into English as wel as he  
could, cōcealing the authors name, adventured  
to publish in his owne name. These and the like  
whē a scholar hath thoroughly read, he thinketh  
himselfe thoroughly instructed in these myste-  
ries: but when he cōmeth abroad to put his skill  
in practise, every filie woman is ready to deride  
his learned ignorance.

VVherefore considering howe greate  
the vertue and efficacy of the fruite of these *V. 6. 10. p. 32*  
creatures is, both for the preserving, and resto-  
ring of mans health, I thought it not amisse to  
spend some by-time for my recreation, in lear-  
ching

## The p̄face

ching out the nature & properties of Bees, that I might know how to do good vnto thē, which are so good for vs, and what is the due & righte ordering of these delightful, profitable, and necessary creatures. And having to my contentment, though to my cost, in some sort attained my desire, I was incited, evē by the rule of charity, to communicate that to my neighbours & countrymen, which I haue found so beneficiall to my selfe: so that the reader may now freely reape the fruit of that, which the author hath d̄creely sown vnto him.

Degenerat. an. 13.  
610.

The Philosopher intreating of the breeding of Bees, professeth himselfe vncertaine of their sex: and therefore, willing in this vncertainty to grace so worthy a creature with the worthier title, he every where calleth their governor *Burrasus*, or *Rex*. As many as followed him, searching no farther then he did, were contente to say as he said. So that I am enforced (vlesse I wil choose rather to offend in *rebus* then in *uocibus*) by their leaue and thine (learned reader) to straine the common significatiō of the word *Rex*, and, in such places, to translate it *Queene*, sith the males heer beare no sway at al, this being an *Amazonian* or *feminine* kingdome. v.

Feas. 10.  
611.

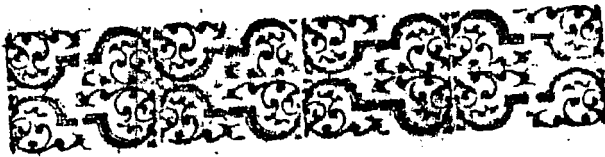
In distinguishing the times of the yeer, I vse the Astronomical months as most natural and fitting to my purpose; beginning each month with the day that the sun entrech into his sign,  
and

to the Reader.

& giving the name of each signe to his month; because the most notable things concerning Bees, which are to be observed in them or to be done for them, fall out in the beginnings of these months. Where note that by the name of each month, is commonly understood the first day of the same month (namely where soever this preposition *at* is set before it) except only where it followeth the preposition *in* or *after*, or otherwise the sense doth plainly shew that it is spoken of the whole month.

I am out of doubt that this book of *Bees* will in his infancy lie hidde in obscurity, as the book of *tropes and figures* did for a while go vnregarded, without friends or acquaintāce: But as that did by litle & litle insinuat it selfe into the loue & liking of many schooles, yea of the Vniuersity it selfe, where it hath been both privately and publikely read (a favor which this mother doth seldome afford to hir owne children, least happily shee should seeme too fond over them) so this will in time trauaile into the most remote partes of this great kingdome of great *Britaine*, and be entertained of al sorts both learned and vnlearned: although the *Muses* birdes are fittest for the *Muses*, & the knowledge of their long hidde secrets was chiefly published for the *Muses* friends. *Quibus me, quicquid sum, & studia mea dico.* *Wotton. Jul. 11. 1609.*

CHAR: BUTLER,



*Ad Authorem.*

**Q**uis fuerint apium fructus, apiumq; labores,  
Sedula dum pleno grammate penna docet;  
Pene fatigata nemo est qui, Carole, penna,  
Et libri fructus non nolet inde tui.

Mellea Nestoreo deflexit ab ore loquela:  
Et, Butlere, tua melle penna manu,  
Labris viva semel, iam mortua, Nestoris hac voce  
Scilicet in libri est intulata tuis.

Incipis ex apibus, sed et in mel desinis ipsum?  
Suauster inceptum suavis exis opus.

WARNERVS SOUTH, Iurista  
Novi Collegij Socius.



*To the Author:*

**T**Hough learned Authers old and new,  
Have handled skillfully  
The argument thou hast in hand,  
Yet none so fruitfully.  
For they relate vncertaine things  
Which bare report had blowne:  
But thou set'st downe the certaine truth  
By thine experience knowne.

*To the Reader.*

The chiefest cause, to read good bookes,  
That moues each studious minde  
Is hope, some pleasure sweet therein,  
Or profit good to finde.  
Now what delight can greater be  
Then secrets for to knowe,  
Of Sacred Bees, the Mutes Birds,  
All which this booke doth shew.  
And if commodity thou craue,  
Learne here no little gaine  
Of their most sweet and soy'raigne fruits,  
With no great colt or paine.  
If pleasure then, or profit may  
To read induce thy minde;  
In this small & rare choice of both,  
Good Reader, thou shalt finde,

*Omne salis punctum, qui miscuit vtile dicit.*

*A. Crostley,*



## *The contents of this Booke*

- M**Y Booke of Bees I divide into 10 Chapters.
- 1 The first, of the nature and properties of Bees, & of their Queene
  - 2 The second, of the placing of them, & of their seats.
  - 3 The third, of their hives, & the dressing of them.
  - 4 The fourth, of the breeding of Bees, & of the drone.
  - 5 The fifth, of their swarming, and the hiving of them.
  - 6 The sixth, of their worke.
  - 7 The seventh, of their enemies,
  - 8 The eighth, of removing them.
  - 9 The ninth, of feeding them.
  - 10 The tenth of the fruit and profit of them.

### **The Contents of the first Chapter.**

- 1 Bees yeeld great profit with small cost.
- 2 Every Country fits for Bees.
- 3 Bees abhorre idlenesse.
- 4 Bees have a common wealth.
- 5 Their working, wasching, fighting, dwelling, diet, wealth, and young are, all in common.
- 6 Bees alwaies loyal to their Sovereigne.
- 7 Bees endure no governments, but a Monarchie.
- 8 The description of the Queene-Bee.
- 9 Bees have also interior governments or captaines,
- 10 Which are knowne by peculiar marks.
- 11 Two sorts of Bees.
- 12 The parts of a Bee.
- 13 Her harnes.
- 14 Her fangs.
- 15 Her tongue, with the parts of it.
- 16 Her sawe wings.
- 17 Her jesse.

- 18 Her two weapons.
- 19 Her sanger, commonly used against ir. fella.
- 20 Her speare sometime.
- 21 Singing cresers dash to Bees.
- 22 The speeres common, used against other creatures.
- 23 Haire and feathers cause the Bees to sting.
- 24 Woole and wollen doe not offend them
- 25 Fustian, leather, and veices naught among Bees.
- 26 The Bees in their anger aime at the head.
- 27 When any is stung the comp. ny must be gon.
- 28 The Bees haue the worst when they sting.
- 29 They loose their sting and entrals, & consequently their lines
- 30 The speare of ir selfe pearlesh deeper when the Bee is gon.
- 31 How to prevent the paine and swelling.
- 32 Nothing but time can cure their stinging.
- 33 What things the Bee nasier must avoid.
- 34 The six properites of a Bee-master.
- 35 Safer to walke then to hand among Bees.
- 36 The fittest time to stirre about Bees is in the morning.
- 37 In the heate of the day they are most angry.
- 38 How to be armed when the Bees are angry.
- 39 Bees dangerous to cattail.
- 40 The Bees senses.
- 41 Their sight dim.
- 42 Their smelling very quicke.
- 43 Hearing and seeing.
- 44 Tasting.
- 45 Their virtues.
- 46 Fortitude.
- 47 Prudence and knowledge.
- 48 A strange tale concerning the knowledge, and deuision of Bees.
- 49 Temperance.
- 50 Iustice.
- 51 Chastity.
- 52 Cleanlinesse.
- 53 The age of Bees

- 54 The difference betweene yong Bees and olde.
- 55 The offices of the yong Bees.
- 56 And of the old.
- 57 Bees wont efi-soones to play.
- 58 They are soone killed with cold.
- 59 How to revive them.

### The Contents of the second Chapter.

- 1 Of five things requisi in a Bee-garden, the first is that it be nigh as hand.
2. 2 That it be safely fenced from cattails, and windes.
- 3 The north and east fences shou.d be high.
- 4 The south and west fences must be also good, but not so high, as to hide the sun from the hives.
- 5 Inough wind the Bees need a skreene.
6. 2 That it be sweet.
7. 4 Neither very cold in winter, nor over hot in sommer.
- 8 A graffe ground is best, and keps noise and dry.
- 9 A place with trees and bushes.
- 10 Two sorts of seats
- 11 The benches not so good as single stooles.
- 12 Warters may be set on benches.
- 13 Wooden stooles better then they of stone,
- 14 The size of stooles.
- 15 Which way the stooles should be set.
- 16 How neere to the fence.
- 17 How neere to each other.
- 18 How neere to the ground.
- 19 How to be foos:d.

### The Contents of the third Chapter.

- 1 Two sorts of hives.
- 2 Strawne hives, with their inconveniences & remedies.
- 3 Wicker-hives, with their inconveniences and remedies.
- 4 Strawne-hives best.

- 5 The size of hives.
- 6 When hives are to be made.
- 7 How hives are to be set out, before they receive the swarms.
- 8 The pruning of hives.
- 9 The spraying or pleasing of them.
- 10 The seasoning of them
- 11 The fearning of an old hive.
- 12 How hives are to be orde ed, when the Bees are in them.
- 13 The hives alwaies wel hacted.
- 14 How to make a hacle.
- 15 The working of the cap.
- 16 The bignesse of the hacle.
- 17 The length of it.
- 18 The girate.
- 19 The hives alwaies close cloomed.
- 20 When seldome to be moved
- 21 How a hive lifted up is to be set downe againe.
- 22 The bignesse of the hinc-dore.
- 23 The making of the barre.
- 24 The use of it
- 25 The making of the porch.
- 26 The use of it
- 27 The making of the porch-dore
- 28 The use of it.
- 29 The greete.
- 30 How to order the Bee-hives in every month, and first in GE-
- 31 CANCER
- 32 How to make the Bees swarme.
- 33 How to keepe them from swarming.
- 34 How to keepe suil flalles from killing their yong.
- 35 L. O.
- 36 Fasten the barre to the dore.
- 37 V. R. G. O.
- 38 To keepe the hives from robbing.
- 39 Set up the porch to the weaker.
- 40 And keepe them shut til they offer to goe abroad.
- 41 How hives not full are to be used against cold & robbers.

( MINI:

- 42 The reared stales now to be set downe againe.
- 43 In Virgo try whether the Bees will line.
- 44 LIBRA.
- 45 Try them againe in Libra, &c.
- 46 Now set up the porches to the best, & keepe them all thus til the Bees offer to go abroad.
- 47 Now take the combes.
- 48 SCORPIO.
- 49 Continue the shutting & opening of the porch this month also.
- 50 How to dresse the hives for winter.
- 51 SAGIT. CAPRIC. AQUAR. are 3. dead months.
- 52 How the Bees spend their time in them.
- 53 The first sharp weather in Capr. shuts the Bees in.
- 54 And in pleafans weather let them loose, if it may be, once in a fortnight or 3. weekes.
- 55 P. SCES.
- 56 The 1. faire day in Pisces set your Bees at liberty.
- 57 Now cleanse the stooles.
- 58 And drive lights stalls.
- 59 ARIES: The second chiefe robbin-gime
- 60 In TAUR: remove the porches.
- 61 In GEMINI the barrels.

### The contents of the fourth Chapter.

- 1 The drone no labourer.
- 2 The drone is the male-Bee.
- 3 Divers reasons proving the drone to be the male. The first reason is, that they are suffered in breeding time only.
- 4 No drone in winter.
- 5 The second reason is that, the drones being taken away in breeding time, the Bees breed no more.
- 6 The third reason is that they are bred by the Bees.
- 7 The fourth reason is that the Wasps and Dorres have drones which are their males.
- 8 The breeding of Wasps by drones.
- 9 The breeding of Dorres by drones.

- 10 The first reason is the apparent signes of their sex.
- 11 When the Bees begin to breed.
- 12 The manner of their breeding.
- 13 The Bee-feed is first turned into a worme.
- 14 The worme being dead groweth so the shape of a Bee, & then liveth againe.
- 15 The breeding of the lady bees.
- 16 When the drones are bred.
- 17 When they come abroad.
- 18 Two uses of the drones.
- 19 Where they lie.
- 20 The male-bees are subsiect to the females.
- 21 When the Bees leave breeding, & beat away their drones.
- 22 The Bees compared to the Amazons.
- 23 They rid not their drones all at once.
- 24 When forward flocks begin.
- 25 When the backward.
- 26 When full flocks that have not swarmed.
- 27 When those that are overswarmed.
- 28 The drones first banished are welcome to other hives.
- 29 In the end they are all killed.
- 30 Some die in the hive.
- 31 But most abroad.
- 32 Sometime the Bees cast out even the white Cepheas.
- 33 Timely ridding of drones a good signe.
- 34 Sometime they rid their drones in the spring.
- 35 And afterward breed new againe.

### The Contents of the fifth Chapter.

- 1 The parts of a swarme.
- 2 When you may see the queene-bee.
- 3 The swarme no longer then the flocke.
- 4 Many drones in a swarme a good signe.
- 5 A kinde spring for swarmes.
- 6 Swarming-weather.
- 7 The swarming-houres.

- 8 The two swarming months.
- 9 Rarhe swarmes.
- 10 Late swarmes.
- 11 Blackbery- swarmes are seldome to be kept.
- 12 A prime-swarme and an after swarme naturall.
- 13 A stalle may cast 4 times.
- 14 Divers causes of breaking the prime-swarme.
- 15 One prime-swarme worth three after-swarmes.
- 16 The vulgar Bees appoint the rising of the fore-swarmes, and that upon 4. grounds.
- 17 Five signes of the first swarming.
- 18 The signe of presens swarming.
- 19 To fly forth continually is a signe they will not swarme.
- 20 How to remedy their Ling for. h.
- 21 The signes of after swarmes.
- 22 The rising of the after-swarmes is appointed by the rulers.
- 23 When they begin to call or sing.
- 24 The Bees musick.
- 25 When you may best heare it.
- 26 Before the Bees swarme, the voices come downe to the stoole.
- 27 The manner of their swarming.
- 28 The prime-swarme being broken, the next may call & swarme within the eighth day
- 29 All the swarmes of one hive come within a fortnight.
- 30 What to do when a swarme is up.
- 31 Some swarmes provide them houses afore hand.
- 32 And then they flye away directly to the place.
- 33 *Vacua alvearia stent semper parata in apiario.*
- 34 The hiving of Bees.
- 35 When they are to be hived.
- 36 The token of their flying away after they be settled.
- 37 How to fit the hives to the swarmes.
- 38 How to make your stalls great.
- 39 A Mantle a Rest and a Brush alwaies in a readines.
- 40 What the hiver must doe.
- 41 The manner of hiving.
- 42 How to hive a swarme that lighteth upon a low bough.

- 43 How if it lights upon a high bough.
- 44 How if it lights upon a bough that cannot be cut.
- 45 How if it lights upon the body of a tree.
- 46 How if it lights upon the top of any thing.
- 47 How if it lights in the middle of a bees hedge.
- 48 How if it lights on some hollow side of a stick, or tree.
- 49 How it is fly into a hollow tree.
- 50 The swarme is a waies to bee kepte together, lest the Bees Kill one another.
- 51 The swarme to be set neere the lighting place.
- 52 What to do if a swarme part.
- 53 When and how to cut two swarmes together.
- 54 How to stae a swarme that is going home againe.
- 55 How to keep them from other hives, when they are going home.
- 56 What to doe when the swarme is new-hived.
- 57 How to remove it in the evening.
- 58 How to set it on his seat.
- 59 How to use it in the morning.
- 60 A swarme lighting neere his seaze is presently to be set there-on.
- 61 Fowle weather the first day doth much discourage a swarme.
- 62 A swarme may live five daies without hony.

## The Contents of the sixth Chapter.

- 1 Bees most industrious creatures:
- 2 In three months they cannot worke.
- 3 All the yeere after they loose no time.
- 4 How they gather waxe.
- 5 How you may see the working of the combes.
- 6 How much waxe they bring at once.
- 7 The fashion of their combes and celled.
- 8 The drone-combe.
- 9 The queenes celled are but single in divers places.
- 10 In fashion round.
- 11 The common error anent these celled.



- 12 The comber haue 3 colours successively.
- 13 Wax is gathered only in 4 months.
- 14 Hony in 9.
- 15 The Bees gather 2 sorts of hony.
- 16 How ambrosia or grose hony is gathered.
- 17 Ambrosia some serueth to feed the swarms: some is wrought with nektar and laid up in store.
- 18 Ambrosia alone is some corrupted.
- 19 And then become such most unnecessary stopping.
- 20 With dropping maketh the Bees forsake their hives.
- 21 This Ambrosia is commonly taken for wax.
- 22 Which error is disproved by sense.
- 23 And reason.
- 24 And by authoritie.
- 25 How the pure nektar is gathered.
- 26 At the first the Bees lay up meere nektar: afterward they mix it with Ambrosia
- 27 Nektar of two sorts. Stone-hony and lime-hony.
- 28 Lime-hony of two sorts. Virgin hony. Second hony.
- 29 The sil cells they close with wax.
- 30 After Leo they lay up no hony.
- 31 Nektar and ambrosia made of many samples, whereof each month yeeldeth variety.
- 32 Dan-elion continueth longest.
- 33 What Filces yeeldeth.
- 34 What Arise.
- 35 Taurus.
- 36 Gemini.
- 37 Cancer.
- 38 Of hony-dewes.
- 39 The Bees work most earnestly in a hony-dew.
- 40 What the hony-dew is.
- 41 When the hony-dewes are most frequent.
- 42 The time when they fall.
- 43 Leo
- 44 Virgo.
- 45 Libra.

- 46 Scorpio.  
 47 The Bees gather but of one kind of flowre in one voiage.  
 48 They gather hony out of poison.  
 49 It hat store of hony a state may haue.  
 50 Bees haue necessary use of water.  
 51 Chiefly, for th<sup>e</sup> ir breed.  
 52 The making of the watering-place.  
 53 How to find wild Bees.  
 54 The fashion of a watering trough.  
 55 After a showre they water at home.

### The Contents of the seauenth Chapter.

- 1 The Bees enemies are many.  
 2.1 The mouse.  
 3 How to knowe when a mouse is in the hive.  
 4 Remedies against the mouse.  
 5.2 The wood-pecker.  
 6.3 The Tit mouse.  
 7.4 The swallow.  
 8 Remedy against the sitmouse and swallow.  
 9 5 The hornes.  
 10 The hornets sting is dangerous.  
 11.6 The waspe.  
 12 The waspe at first feedeth vpon dead Bees.  
 13 At Virgo she stealeth hony.  
 14 How long the wasps last.  
 15 In what yeere the waspes are most rife.  
 16 Remedies against the waspen.  
 17.7 The moth.  
 18.8 The snail.  
 19.9 The eme.  
 20.10 The spider.  
 21.11 The toad.  
 22.12 The frog.  
 23.13 The Bee the Bees greatest enemy.  
 24 Robbing or fighting of Bees in winter & summer but little.
- 25 In

- 25 In the spring more earnest.
- 26 The most spoile is made in Virgo.
- 27 What stalles are most subiect to robbing.
- 28 The robbers are the lustiest staller.
- 29 How they begin the fray.
- 30 The cues of siners hives agree soge har in robbing.
- 31 The description of the Bees battaile.
- 32 In the battaile is heard a sound like a drum and a fluse.
- 33 The assault of the enemy.
- 34 The defence of the beleeged.
- 35 Neither side willing to yeeld.
- 36 The exercise of the defence lants, when the enimie retireth.
- 37 The Wals like vintures.
- 38 The battaile ended, they bury their dead.
- 39 The second assault of the enimie.
- 40 When the true Bees yeeld, they goe with the conquerors.
- 41 Remedies.
- 42 To prevent robbing.
- 43 And to stay it, if you find it in time.
- 44 When it is too late, and what is then to be done.
- 45 In what yeeres robbing is most rife.
- 46 Bees kill poore swarms that wander in the spring.
- 47 To prevent the death of poore swarms.
48. 14 The weather.
- 49 In summer heate hurteth the Bees.
- 50 In winter the sun-shine in frost and snow.
- 51 Also the easterne winds and greas frosts.
- 52 And the cold continued maketh them sicke.
- 53 The raïne roseth the hives.
- 54 The remedy.
- 55 The greatest losse by weather is in the spring: for then infinite multitudes are beaten down laden & wiarie, with stormes & winde.
- 56 As the rising of a clowd they part home.
- 57 Yet wil they goe a field in the midst of a warre shower.
- 58 How to restore Bees to life.
- 59 The wind can seth many to be drowned.

## The Contents of the eighth Chapter.

- 1 Remove Bees in a faire day.
- 2 Not in sommer.
- 3 Nor in winter.
- 4 The fitteft time is in the autumnne and spring.
- 5 Libra the best month in all the yeere.
- 6 The time of the day and manner of removing.
- 7 The usuall manner of removing.
- 8 Which is fit for poore stalles.
- 9 How a good stall is to be carried.
- 10 How a bad.
- 11 What to doe when they are brought home
- 12 And what when they are seated.

## The Contents of the ninth Chapter.

- 1 What Bees are to be fed.
- 2 When they cease to lay up in store.
- 3 When and how long they spend on the storke.
- 4 Some are stored for a longer time, some for a lesse.
- 5 The usuall time of feeding.
- 6 The usuall manner of feeding.
- 7 The late feeding of them faileth.
- 8 Yet it may some such as have some store.
- 9 How to save those that have no store in the spring.
- 10 How to feed Bees without hony.
- 11 The best time of feeding.
- 12 The benefit of rashi feeding.
- 13 Bees are to be fed according to their want.
- 14 What proportion, of hony to the Bees, is requisit.
- 15 The best manner of feeding.
- 16 The fitteft time of the day for it, is the evening.
- 17 The second feeding-time.
- 18 The third time of feeding, if need be.
- 19 A generall caveat.

## The Contents of the tenth Chapter. Part. 1.

- 1 The first kind of vindemiation.
- 2 The best time of killing Bees.
- 3 What stails are to be taken.
- 4 The manner of killing Bees.
- 5 Sundry meanes to kill Bees.
- 6 How to take the combs when the Bees are dead.
- 7 Bees not to be killed when some are abroad.
- 8 The second kinde of vindemiation.
- 9 The time and manner of driving Bees.
- 10 How to take the combs.
- 11 This driving of Bees unprofitable.
- 12 The honey taken is little and naught.
- 13 And the Bees driven few and poore.
- 14 An other kinde of driving.
- 15 As two times.
- 16 First driving in Libra.
- 17 The manner of driving in Libra.
- 18 How to revive those that are killed in driving.
- 19 How to helpe those driven Bees that want.
- 20 Second driving in Pisces.
- 21 A third kind of vindemiation.
- 22 Exfection used at two times.
- 23 What part to be exfected, is uncertaine.
- 24 Exfection ancient, but not profitable. Neither first,
- 25 Nor second.
- 26 Specially for our Country.

## Part second.

- 1 The combes to be broken into three parts.
- 2 The dressing of the first part for honey.
- 3 The first sort is fine honey.
- 4 How to know good honey.
- 5 The best honey in the bottom.
- 6 Good honey the best.

- 7 The second shoot is course hony.
- 8 Corne-hony get out by water or fire.
- 9 Most make but one shoot & so mar all.
- 10 The working of hony, & how to help it.
- 11 The dressing of the 2. part for meth.
- 12 How to make the liquor.
- 13 How to know whē it is strong enough.
- 14 What proportion of water to hony
- 15 How and how long the liquor must be boiled.
- 16 A receipt of spice to be added.
- 17 Boiling diminisheth the quantity, and increaseth the strength.
- 18 How to set it a working.
- 19 The proportion of Label.
- 20 His receipts of spice.
- 21 Mesheglen.
- 22 The Quenes mesheglen.
- 23 The dressing of the third part for waxe.
- 24 First boile it with wasser.
- 25 Then straine it.
- 26 Next make it into balls.
- 27 Last of all viets it and make a cake.
- 28 How to know good waxe.

### Part. thirde.

- 1 The properties and vertues of hony.
- 2 As wel outwardly as inwardly receiued.
- 3 For whom hony is best.
- 4 English-hony.
- 5 Too much hony unholosome.
- 6 The different operations of raw and boiled hony.
- 7 Two waies to clarifie hony.
- 8 How to clarifie stone-hony.
- 9 The quintessence of hony.
- 10 The vertues of it.
- 11 The making of it.
- 12 The vertue of hony in confectiōs.

- 13 Marmalade made of honey.
- 14 Marchpane.
- 15 Preserues.
- 16 Conserues.
- 17 Syrups. Syrup of Rose. Syrup of violets.
- 18 How to be prepared before sugar.
- 19 Why good in outward medicines.
- 20 A salve for an old sore.
- 21 Another.
- 22 The properties and virtues of Mesh & Mesheglon.
- 23 Mesh much used of the ancient Brittaines.
- 24 Whence Mesh hath his name.
- 25 The properties & virtues of naturall wax.
- 26 Artificiall wax.
- 27 To make whise wax.
- 28 To make red wax.
- 29 To make greene wax.
- 30 Oile of wax.
- 31 The virtues of it.
- 32 The making of oile of waxe.
- 33 The vertue of waxe in compound medicines.
- 34 A cerecloath.
- 35 A cerecloath to refresh the sinews & muscles.
- 36 A cerecloath to comfort the stomach.
- 37 A salve for a greene wound.
- 38 Another.

# A TREATISE CONCERNING BEEs, and the due ordering of them.

*Of the nature and properties of Bees, and of their Queene,*

## CHAP. I.



Among all the creatures which our bountifull GOD hath made for the vse and service of man, in respect of (1) great profit with small cost (2) of their vbiquty or beeing in al countries, and (3) of their cōtinual labour and consenting order, the Bees

are most to be admired. For first with the provision of a hieue and some little care and attendance, which need be no hinderance to other busines, but rather a delightful recreatiō amid the same, they bring in store of sweete delicates most holesome both for meate and medicine,

*Fruitus apum ab omnibus desideratur, & quaritur. Ambrosius nec pro personarum diuersitate discernitur, sed indifferens. Hexamer. l. 6. c. 21. cetera sui gratia regibus pariter ac mediocribus aequa. & suauitate dulcescit: nec solum voluptati, sed etiam*

*A saluo*



C.11

Of the nature & properties of Bees

Plin. nat. hist. l. 11. c. 5.

salutis est. And another saith, *Mille ad usus visa laborems tolerant & opera conficiunt* : as they wel know who know the rare vertues of hony and waxe: a taste whereof I wil give you in the last chapter. Secondly whereas *non omnis fert omnia*

2  
Every coun-  
try fit for  
bees.

tellus, some country yeeldeth one fruit, some another, some beareth one graine, some an other some breedeth one kinde of cattle, some an other: there is no ground of what nature soever it be, whether it be hot or colde, wet or drie, hil or dale, woodland or champian, meddow, pasture, or arable: in a word whether it be battle or barrē, which yeeldeth not matter for the

3  
Bees abhorre  
idleness.

Bee to worke vpon. And thirdly in their labor and order at home and abroad they are so admirable, that they may be a patterne vnto men both of the one and of the other. For vnlesse they be let by wether, weaknes, or wāt of matter to worke on, their labour never cealeth.

Plin. nat. hist. l. 11. c. 5.

In admiration whereof one saith, *Quos efficacia*

4  
Bees haue a  
cōmō wealth

*industrię, sante comparemus nervos? quas vires? quos ratione medici fidem viros?* & for their order it is such that they may wel be said to haue a cōmon wealth, since al that they do is in cōmō

Nat. hist. l. 11. c. 5.

without any privat respect. *Nihil norunt nisi com.*

5  
Their work-  
ing, watch-  
ing, fighting,  
dwelling, dies  
wealth and  
yoūng ones are  
al in cōmon.

munne: They work for al, they watch for al, they fight for al. In their private quarrels when they are from the hiue or common treasury, howsoeuer you vse them they wil not resist, it by any meanes they can get away. *Cum rari sint, nec sibi*

*inducunt*

and of their Queene.

C. 1.

invicem, nec ullis alijs nocent, at verò apud suos al- Arist. hist. anim. lib. 5. cap. 4.  
 uos pugnant acerrimè: their dwelling and diet  
 are common to al alike: they haue like commo  
 care both of their wealth and young ones.

*Sola in omni genere animantium communem om- Ambr. Hex. lib. 5. ca. 21:  
 nibus sobolem habent, unam omnes incolunt mansio-  
 nem, unius patrie clauduntur limine, in commune  
 omnibus labor, communis esibus, communis operatio,  
 communis usus, & fructus est.* And al this vnder  
 the government of one Monarch, of whom a-  
 boue al things they haue a principal care & re-  
 spect, loving, reverencing, and obeying her in  
 al things.

6  
 Bees alwaies  
 leial to their  
 soveraigne.

Virg Geor.

*Præterea regem non sic Ægyptus & ingens  
 Lydia, nec populi Parthorum aut Medus Hyaspes  
 Observant: rege incolunt, meus omnibus una est:  
 Amisso rupere fidem: constructaq; mella  
 Diripere ipsæ, & crates solvere favorum  
 Ille operum custos, illum admirantur: & omnes  
 Circumstant fremitu denso, stridentq; frequentes,  
 Et sæpe assollunt humeris, & corpora bello  
 Obiectant, puicbramq; petunt per vulnera mortem.*

If she goe forth to solace her selfe, (as some-  
 time she will) many of them attend vpon her,  
 garding her person before and behind; they  
 which come forth before her ever, aow & the  
 returning, and looking back, and making with  
 all an extraordinary noise, as if they spake  
 the language of the knight Marshalls men, &  
 so away they fly together, & anon in like man-

C. r.

## Of the nature & properties of Bees

ner they attend her back againe. This I may say because I haue seene it; although the Philosopher be of another minde *Reges*, saith hee, *namquam foris visuntur, nisi cum migrantur*. If by his voice she bid them goe, they swarme; if being abroad she dislike the weather, or lighting place, they quickly returne home againe; while she cheereth the to battaile they fight *v*, when she is silent they cease, while she is well, they are cheerefull about their worke, if she droope, they faint also; if she dy, they will never after prosper, but thenceforth languish till they bee dead too. *Rege mortuo maree plebs signava, non cibos convehit, non procedit, tristitantum murmurante glomeratur circa corpus eius*. But if they haue many Princes, as when two fly away with one swarme, or when two swarmes are hived together; they strike one of them presently, and sometime they bring her downe that evening to the mātle, *v*. where you may find hir covered with a little heape of Bees, or herwise the next day they carie her forth either dead or deadly wounded. Likewise if the olde Queene bring forth many Princes (as she may haue six or seaven, yea sometime halfe a skore or more which superfluitie nature affordeth for more suretie, in case some miscarrie) then lest the multitude of rulers should distraet the vnsstable common into factions, within two daies after the last swarme, you shall finde them that remained, dead

Hist. an. l. 9. cap. 40.

Vid. c. 7. n. 32.

Nat. hist. li. 11. c. 17.

7  
Bees endure no government, but a Monarchie.  
v. c. 5. n. 39

and of their *Queene.*

Cii

dead before the hiue: I haue taken eight of the  
vp together brought out of one hiue, whē two  
were already gon forth with their swarimes.  
For the Bees abhorre as well polyarchie, as a-  
narchie, God hauing shewed in the vnto me an  
expresse patterne of a perfect monarchie, the  
most natural & absolute forme of governmēt.

The *Queene-bee* is a Bee of a comely and  
stately shape, browne of colour as other Bees,  
but that her belly is more bright: she is longer  
thē a honi-bee, by one third part, that is almost  
an inch long: she is also bigger then a honi-bee  
but not so big as a drone, although somewhat lō-  
ger: hir head proportionable, but that it is more  
rouūd thē the little Bees, by reason hir fanges be  
shorter; hir tongue not halfe so long as the little  
Bees: for whereas they gather with one nectar,  
with the other ambrosia, shee hath no need to  
vse either, beeing to bee maintained, as other  
Princes, by the labor of hir subiects; hir wings  
of the same size with a smal Bee, & therefore in  
respect of hir lōg body, they seeme very short,  
for they reach but to the middle of hir nether  
part: hir legges, proportionable, and of the co-  
lour of hir belly, but hir two hin-legges more  
yellowe: hir nether part so long, and halfe so  
long as hir vpper part, more picked thē a smale  
Bee, and without such three whitish ringes as  
other Bees haue at the three partitions: the  
speere she hath is but little, and not halfe so  
long

8  
*The descrip-  
tion of the  
queene-Bee.*

## Of the nature &amp; properties of Bees.

long as the other Bees : which , like a kings sword. is borne rather for shewe and authoritie, then for any other vse: For it belongeth to her subjects as well to fight for her , as to provide

Nat. hist. li. 11. cap. 17. for her. *Plime* writeth thus doubtfully of it. *Nō constat inter auctores rex nullumne solus habeat aculeum, maiestate tantum armatus, an dederit enim quidem natura, sed usum eius illi tantum negaverit; illud constat imperatorem aculeo non vis.* But *Arist.*

Hist. an. l. 5. cap. 21. *doth truly approve the later opinion as certaine: Reges aculeos habent, sed non utuntur. Quo- circa carere eos aculeis nonnulli existimant.* If you desire to see this stately Prince, read ca. 5. n. 27

Nat. hist. li. 11. cap. 16. *Plinie* describeth the Queene-bees thus, *Omni- bus forma semper egregia, & duplo quam ceteris ma- ior, p̄na breviores, crura recta, ingressus celsior, in frō te macula quodam deademate candicans: Multum etiam nitore à vulgo differunt.*

9  
Bees have also inferior governments or capitaines.

Besides their soveraigne the Bees haue also subordinate governors and leaders, not vnfitly resembling Captaines & coronels of soldiers: For differēce from the rest they beare for their crest a tuft or tassel in some coloured yellow, in some murrey, in maner of a plume; whereof some turne downward like an ostrich-feather, others stand vpright like a hearn-top. And of both sorts some are greater, and some lesse, as if there were degrees of those dignities among them. In all other respects they are like to the vulgar. These I think are they that *Plinie* mea-  
10  
Which are knowne by peculiar marks.

meth,

and of their Queene.

C.I.

neth, where he saith, *circa regem satellites quidā, historesq; assidua custodes auctoritatis.* In lesse then a quarter of anhoure you may see three or foure of them come forth of a good stale; But chiefly in *Gemini* before their continuall labour haue worne these ornaments. So that he might well say *Republicam habent, consilia, ac duces.* At which he that seriously considereth must with admiration acknowledge that singular wisdom, order, and government in thē, which in no other creature, man only excepted (if yet to be excepted) is to be found; whence some haue inferred a farther matter

Nat. hist. li. 11. c. 17.

Plin. Nat. hist. li. 11. c. 5.

*Huius equidem signis atq; hac exempla sequuntur, Esse apibus partem diuinæ mensuræ, & hanc sum æthereos dixere.--*

Vir. Geor. 4

Aristotle maketh two sortes of Bees, the one (which is best) short, diuers coloured, & round; the other long like vnto waspes. *Optimum genus apum quæ breues varia & in rotunditatem compac-*

11  
Two sorts of Bees.

Hist. 1. 5. c.

22.

*iles, secunda quæ longa & vespiæ similes.* And in another place he putteth a difference betweene wilde and tame. saying, *Differunt inter se apes pa-*

Hist. 1. 9. c. 40.

*rentibus nata urbanis & quæ rustico montanoq; vi- Et educatis prodierint: sunt enim hæ sylvestres horridiores aspectu, & iracundiores, & minores, sed opere & labore præstantiores.* Whom Plinie followeth almost verbatim. saying, *Apes sunt etiam rustica sylvestresq; horrida aspectu, multo iracundiores, sed opere ac labore præstantiores. Urbanarum duo gene-*

Nat. hist. li. 11. c. 18.

## Of the nature and properties of Bees,

*va: optima breues, varia, & in rotunditatem compac-  
siles; deteriores longa, & quibus similitudo vesparum  
etiamnum deterrima ex us pilosa.* But these differ-  
ences my experience hath not found, neither  
doe I see how they can be, seeing the swarmes  
of tame Bees doe often fly into trees, & so be-  
come wilde: and the swarmes of wild Bees are  
not seldome found, and put into hives. Indeed  
the wild are more angry thē the tame: but that  
is because they are lesse vsed to the companie  
of men. Moreover there is some difference in  
the bignesse of Bees. For they that are loaded  
seeme greater and longer then those that are  
leere: also the Nymphs *v.* when they come first  
abroad are not growne to their full bignesse  
which afterward they haue, and the old ones  
doe wither, and become little againe. *v.* Like-  
wise in these three ages their colours also doe  
varie: for in their middle age they are browne,  
whereas before they are more pale, *v.* and at  
the last they turne whitish againe, *v.* But these  
are differences of Bees in the same stall, & not  
of one stall from another, since these diverse  
sorts are in every stall.

The severall parts of a Bee haue their severall  
vses. Her hornes growing in the middle of her  
fore-head, with two jointes, one close to the  
head, the other towards the middle, so that she  
can put them forth at full length when she wil,  
and drawe them in againe close to her head,  
serus

v. c. 4 n. 17.

v. n. 54.

v. c. 4 n. 14.

v. n. 54.

12

The parts of  
a Bee.

13

Her hornes

serue to giue warning in the darke, and when shee is busie, of any thing quicke or dead that might offend her.

For gathering hir provision shee hath two instruments, hir fangs and hir tongue: hir fangs <sup>14</sup> Hir fangs. in fashion of a paire of pincers, hang not, as the iawes of other things one over an other, but side way one against the other, as is most convenient for hir vses.

Hir tongue is of that length that hir mouth cannot hold it, but being doubled betweene <sup>15</sup> Hir tongue hir fangs vnder hir chione, it reacheth to the with the necke. It is divided into three parts: whereof parts of it, the two outinost serue as a case to cover the third, which being the chiefe, the Bee in hir worke putteth forth beyond the other, & draweth in againe as she wil. And this third part is likewise parted into three, so that there are five in all.

To see these instruments on worke, nature <sup>16</sup> hath furnished her with fowre wings, which Her fowre swifter then the East-winde carry her into all wings. the fowre coasts of the world, and thence with hir pretious lading beare her backe againe, vntill hir incessant labour hath worne the out. v. v. n. 54.

Hir rough and deuclawed feete apt to take <sup>17</sup> hold at the first touch are in number six, that Her feete. she may stand fast vpon fowre, while she vseth the other two to wipe hir eies, hir wings, hir tongue, or any other part, and to conuay the



C. 1.

*Of the nature & properties of Bees*

v.c. 6 n. 16. gathering of hir fanges to hir thighs. v.

18

Her sword.  
point.

For hir defence shee is doubly weaponed.

19  
Her fanges  
commonly u.  
sed against  
insects.

Hir fanges she vseth when she is not much angry, against al *insecta*, as other Bees, Drones, Waspes, &c. therewith pinching and holding them commonly by the legs or wings, & sometime by the hornes: but this is rather a chiding, then a fighting, & a warning, rather then a punishment, though with al sometime shee bend hir speere against them, as if shee would kil & slay.

20

Her speer  
sometime.

Hir speere she is very loth to vse, if by any other meanes she can shift hir enemy, as knowing how dangerous it is to hir selfe: for if shee chance therewith to strike any hard part, as the brest or shoulder, she is enforced to leaue hir speere behinde her, and so she killeth & is killed with the same stroke. Yet when the Bees are very angry; as namely whē they are assailed

v.c. 7. n. 34.

with a multitude of robbers at once, v. or when in the spring a hungry stall forsaking his owne

v.c. 7. n. 46.

home presseth into their hiue, v. they fall sodainly vpō thē with their poisoned speeres (*Apibus natura cuspides dedit, & quidē venenatas*) but

Nat. hist. li.  
21. c. 13.

21.

Stinging pres  
sens death to  
Bees.

then they make short worke: for by that time they haue put vp their weapōs, some die presently, others loosing the vse of their wings tūble on the ground like mad things, vntil in a while they loose their liues too: others whē they are wounded rū away in great hast (as having their errand

errand) either drawing on the ground one or more of their legs, or doubling their lesser part toward the ground, or turning the same awry to the one side or the other: but as many as are stricken, within an howre after will not be able to wagge out of the place, and within two or three at the most, they wil be quite dead. I have looked on, while thus they quickly cut of a whole stale, and among the rest, making them no difference, they spared not the Queene herselfe. After this maner doe they deale with the drones at the time of the yeare, when they will not otherwise be beaten away.

But their speares or stings they vse chiefly against things of other sort, as men, beastes, and fowles, which have outwardly some offensive excrement, as haire or feathers, the touch whereof provoketh them to sting; although such stinging be alwaies mortall to the selves (as anon is shew'd) for the skin having receiued the sting holdeth it so fast, that when they would be gone they leave both it and part of their entralls which are fastned to it. *Aculeum apibus natura dedit ventri confertum.* If they light vpon poultry although their desire be to the quicke, if they can quicklie come at it, yet will they put forth their speers as soone as they rouch the feathers; and if they chance to hit the hard part thereof the sting sticketh fast, as in the skin: and therefore goose wings are naught to be used in the hiving of Bees, &c.

22  
The speeres commonly used against other creatures

23  
Haire & feathers cause the Bees to sting.

v.n. 27. 28.  
Nat. hist. l. 11. c. 18.

v.c. 5. n. 45.

Like.

- 24  
*Woole and  
 wol en do not  
 offend them.*  
 Likewise if they light vpon the hair of your head  
 or beard, (saue only when they come home lo-  
 den, or the weather is colde) they wil sting if  
 they can reach the skin, although woole and  
 wollen do not offend them: & if being other-  
 wise angered they strike their speeres in wool-  
 len, they can easily pul them out againe: But  
 the nap of new fustian displeaseth the, because  
 it seemeth hairy, and the stuffe is so fast, that it  
 holdeth the sting. Wherefore such apparel is  
 not fit among Bees: as also lether in gloues or  
 otherwise, for as sone as they touch it they wil  
 strike, if they bee any whit mooued, and their  
 speeres they cannot recover againe. Velvet  
 in facing of hats or elsewhere doth anger them  
 as much as any thing, making them strike as-  
 sone as they touch it: but it hath not power to  
 hold their speere. When they are angrie their  
 aime is most commonly at the head, and chief-  
 ly about the eyes as knowing that there they  
 may do most harme, for that part swelleth most  
 and longest: and yet I never heard that anie e-  
 ver stung the very eie, as if they were forbiddē  
 to touch that tender part. But the bare hande  
 that is not very hairy, they will seldome or ne-  
 ver sting, vlesse they be much offended.
- 26  
*The Bees in  
 their anger  
 aime at the  
 head.*  
 When you are stung, or any in the company,  
 ye although a Bee haue strikē but your clothes,  
 specially in hot wether, you were best be pack-  
 ing as fast as you can: for the other Bees smel-  
 ling
- 27  
*When any is  
 stung the co-  
 pany must be  
 gone.*

ling the rancke savour of the poison cast out with the sting wil come about you as thicke as haile: so that fitly and lively did he expresse the multitude & fiercenes of his enemies that said *They came about me like Bees*. Then is there no way to appeale them but flight, the more you resist the fiercer they are. They are like vn- to incorrigible shrews: there is no dealing with them but by patience, though when they sting they are sure to haue the worst. For the wound endangereth nether life nor limb: two nights sleepe wil take awaie the swelling, and two minutes the paine (vnlesse it be in verie rheumatik or humorous bodies: of which sorte I haue knowne some to swollen and disfigured with that little stroke, that you could scarce knowe them by their favour in five or six daies after.)

28

*The Bees  
haue the  
worst when  
they sting.*

But on the other side, whereas the waspe, hornet, and dorre, do sting often without any hurt to themselues, the Bee never stingeth but once and then shee leaveth hir speere and entrals, more or lesse behinde her, *animamq; in vulnere ponit.* (*Intercedunt que percusserint, quoniam sine intestini eruptione aculeus eximi non potest*). For within foure and twentie howres after, or, if much of hir entrals come forth with the sting, within halfe that time shee dieth: But the speere retaining life when the Bee is gone, if it be not presently pulled out, will worke it selfe into the flesh vp to the hard end, & so cause the paine

29

*They loose  
their sting  
and entrals  
& consequē  
ly their lives*

*Virg. Georg.  
Hist. an. l. 9.  
c 40.*

30

*The speere  
of it selfe  
perceeth dea  
per when the  
Bee is gon.*

and

C.11

*Of the nature and properties of Bees*

31  
How so prevent the paine and swelling.

32  
Nothing but time can cure their stinging

33  
What things the Bee-master must avoid.

and swelling to bee both greater and longer  
Therefore when you are stung, instantlie wipe  
of the Bee, sting and all, & wash the place with  
your spittle: so shal you prevent both paine &  
swelling, which otherwise nothing but time can  
cure: for the poison is so subtil that it quicklie  
pierceth the flesh, and the wound so little that  
no antidote can followe after: and yet I haue  
heard commended for a remedie the ioyce of  
houselecke, of rue, of malows, of iwie, of a mari-  
gold leafe, of holyhock and vineger, of sault &  
vineger, and diuers other things.

But if thou wilt haue the fauour of thy Bees  
that they sting thee not, thou must avoid such  
things as offend them: thou must not be (1) vn-  
chast or (2) vncleanly: for impurity & fluttish-  
nes (themselues being most chaste and neate,)  
they vtterly abhorre: thou must not come a-  
mong them (3) smelling of sweat, or having a stin-  
king breath cauled either through eating of  
leekes, onions, garlecke, and the like; or by any  
other meanes: the noisomnes whereof is corre-  
cted with a cup of beere; and therefore it is not  
good to come among them before you haue  
drunk: thou must not be giue to (4) surfering &  
drunkennes: thou must not come (5) puffing &  
blowing or sweating vnto them, nether hastily  
stirre among them, nor violently defend thy

Which not only increaseth their anger (specially in hote wether, v. n. 37; but inciteth others to take their partes: and if by striving and striking you chance

and of their Queene.

C. 7.

to kill one, the Bees presently perceiving it by the strong 'smel' of the humour (for shee smellieth then as if shee had stung, v. n. 27.) wilbe so eger vpon revenge, that by no meanes can they bee pacified vntill they haue the field.

selfe when they seeme to threaten thee; but softlye mouing thy hand, before thy face gently put them by, and lastlie thou must be (6) no stranger vnto them. In a word thou must be chaste, cleanelie, <sup>b</sup> sweet, sober, quiet, and familiar: so wil they loue thee, and know thee from all other.

34  
*The six properties of a Bee-master.*

<sup>b</sup> Not wearing any

offensiuē apparel., v. n. 27.

At any time, when nothing hath angred thee one may boldly walke along by your Bees: but if he stand still before them within the space of a perch in the heate of the day, it is maruaile but one or other spying him from the hie wil haue a cast at him.

35.  
 *safer to walke the to stand among*

If you haue any thing to doe about your hieues, the fittest time is in the morning, before the sun be hot, or otherwise in cold, wet, or windy wether, for then they will not sting, vnlesse they be much provoked. They are also very gentle in the evenings; but then being wearie if you stand in their way you trouble their lighting, and cause them to fall, & if you make them come forth when they are hous'd for a night, they can hardly see to get in againe. v.

36  
*The fittest time to stirre about Bees is in the morning.*

v. n. 41.

37  
*In the heat of the day, they are most angry*

But about noone in hot weather, and especially when they haue tasted of the honidewes, they

they

C.I.

## Of the nature and properties of Bees

38  
How to bee  
armed when  
the Bees are  
angrie.

they are soone angrie, and very eager. Wherefore if at such time, you haue occasion to trouble them, or to come among them being already chased, cover your face with cypres or boulder, hauing a handkerchiefe betweene it and your forehead to beare it out from the skin, & your hat on your head to hold it fast, so shall you saue your face and yet see what you doe: & if they be so earnest, that you feare stinging your hands, put on a paire of wollen gloues, & so are you armed at all points.

39.  
Bees dangerous to cattail.

Vnto cattail which haue not the reason by flight or otherwise to saue themselves they are more dangerous. A horie in the heate of the day looking over a hedge, on the other side whereof was a staule of Bees, while hee stood nodding with his head, as his maner is, because of the flies, the Bees fell vpon him and killed him. Likewise I heard of a cerine that stretching against a hedge overthrew a staule on the other side, and so two of the horses weree slung to death. I doubt not but through negligence many such mischances haue happed eliewhere. For this thing hath beene long since obserued by that great philosopher. *Necant (saith he) vel maxima animalia actu sui aculem equus occisum ab apibus est.*

Arist. hist.  
an. l. 9. c. 40

40  
The Bees  
senses.

Nat. hist. l. 9  
c. 4.

*Quamuis non sint membra qua, velut carina, sensus inuehant, esse tamen his auditum, olfactum, gustatum, eximia prae cetera natura dona, solertiama*

ad inueniendum

*Animam, artem quis facile crediderit.* Of all the 5. senses their sight seemeth to be weakest: and weaker when they come home loaded, then when they are leere, and being loaded weaker on foot then when they are flying. If, when they come home loadē, they light beside the doore, they will goe vp and downe seeking for it, as if they were in the darke: & vnielle by chance they hit vpon it, they must fly againe before they can finde it. As many as fall beside the stoole when it waxeth darke, ten to one they fly abroad all night: yea if at such time being troubled by any thing they come forth from the stoole, though then they be fresh and lusty they wil leape vp and downe, runne and fly to and fro, til they be wearie; but by no meanes can they finde this way in againe. And therefore is it that when they fly abroad, they take such paines at the doore in rubbing and wiping their glazen eyes, that they may the better discern their way forth and back.

But their smelling is excellent, whereby, when they fly aloft in the aier, they wil quickly perceauē any thing vnder them that they like, as hony, or tarre, though it be covered: as soone as the honi-dew is fallen, they presently wnde it, though the Okes that receiue it v. be  
*The melting very quick.*  
*P.c. 6. n. 3 &*  
 a far off which the Poet, speaking of the excellencie of some creatures in this sense before others, doth thus expresse



Lucret. l. 4.

--- *Idiog, perantur**Mellis apes, quamvis longe, ducuntur odore.*

And by this sence they finde out any strange Bee, which is not otherwise to be knowne frō their owne company, & that in the dark hive: where, when they are disposed, they will by the same meanes cull out the drones, yea and pull out the cephens that are shut vp in the cells, not meddling with any of their own sex.

43  
Hearing &  
feeling

Hist. an l 9.  
cap 40.

Their hearing and feeling are very quicke. If you touch their hives but lightly, they presently perceiuing it, make a generall noise: although *Aristotle* doubt whether they heare, or not. *Quaquam incertum est an audiant.* But if they did not heare, to what purpose is that musicke made in the hives, before the swarming?

44  
Tasting

*v. c. 5. n. 23.*

And of their first sence I make no question, sithens they are vled to things of so different tastes: although there may seeme the lesse vse of it, because their smelling is so perfect.

45  
Their vir-  
tues

46.  
Fortitude.

And such are their outward senses. The inward faculties of their mindes are farre more excellent. In valour and magnanimitie they surpasse all creatures: there is nothing so huge and mightie that they feare to set vpon, and when they haue once begunne, they are invincible: for nothing can make them yeeld but death: so great hearts doe they carrie in so little bodies, in private wronges and iniuries done to  
their

and of their Queene.

C.I.

their persons (for which cause men will soonest  
quarrell) they are verie patient: but in defence  
of their Prouce and common wealth they doe  
most readilie enter the field, & *corpora bello  
obiciunt pueramq; resunt per vulnera mortem.* v.n.5.  
v. whereby appeare. In their singular fortitude,  
no lesse then their prudence doth in the go- 47  
vernment of their Common-weale. v. beside *Prudence &  
knowledge.*  
which. their wisdom: and knowledge in o- v.nol. 45  
ther matters is verie much, as of their enemies, 6 & 7.  
of their feilows and friends, of the drones, whē  
they haue too manie, and when they neede  
them not at all, also of the times and seasons of  
the yeare: for after swarming time is past,  
though the hiee be neuer so full and the wea-  
ther neuer so faire, they will not rise: whereas  
before, the stormie and vncertaine weather cā  
hardlie keepe them in. Their wit and dexter-  
tie, as well in gathering as in working their  
sweetes, is not to be imitated. v. Moreover, as v.c. 6.  
skilful Astronomers, they haue for knowledge Pl.nat.hist.  
of the weather. *Præuisant enim ventos imbreſq;* l. 11. c. 10.  
& *tunc se pleraq; continent scſis.* Item, *Præſagiunt* Ar.hist. an.  
*apes & huiem & imbres.* And in stormy & win- l. 9. c. 40.  
die weather it is a wonder to see what cunning  
those that are abroad doe vse to shift the wind  
when they come home laden: how they flie  
alow by the ground, among the bushes, in the  
lanes, and the lee sides of the hedges. *Iuxta ser-* Nat.hist. l.  
*ram volant in aduerso flatu vepribus bebetato.* But II. c. 10.  
B 2 about

C. 17.

Of the nature and properties of Bees

But above all, one excellent skill they haue, which the most excellent femals, though much they desire it, must yeeld themselves to want: for they knowe certaine lie when they breed a male, and when a female: which thing appeareth by this, that they laye their cephens-seedes in a wide combe by them selues, *v.* and the Nymph-seedes in the rest, which are of a smaller size. *v.* So that what wanteth in the sight of their eies, is fullie supplied in the sight of their minde. *Cum sit infirma robore apis, valida est vigore sapientia & amore virtutis.* And yet I haue read of a greater knowledge then all this: How there were Bees so wise and skilful as not only to descrie a certaine little God, though hee came among them in likenesse of a wafer-cake, but also to build him an artificiall Chappell. If I should relate the storie at me, I knowe, would not beleeeue it; notwith standing because every man maie make some vse of it, you shall haue it.

v. c. 6. n. 8.

v. c. 6. n. 7.  
Ambr. Hex.  
15. c. 21.

48  
A strange  
tale concer-  
ning the  
knowledge &  
devotion of  
Bees.

A certaine simple womā having some stals of Bees which yeelded not vnto her hir desired profit, but did consume & die of the murraine; made hir mone to another woman more simple then hir selfe: who gaue her counsel to get a consecrated host or round Godamighty and put it among them. According to whose advise she wēt to the priest to receiue the host: which when she had done, she kept it in hir mouth, & being come home againe she tooke it out and

put

put it into one of hir hives. VVherevpon the murraine ceased, and the hony abounded. The woman therefore lifing vp the hive at the due time to take out the hony, sawe there (most strange to be seene) a chappel built by the Bees with an altar in it, the wals adorned by marvelous skil of architecture with windowes conveniently set in their places: also a dore and a steeple with bells. And the host being laid vpon the altar, the bees making a sweet noise flew round about it.

<sup>c</sup> Tho Bo-  
z. us de sig-  
nis Ecclcl.  
lib 14 c. 3.

But whether this doe more argue the supernatural knowledge and skil of the Bees, or the miraculous power of the host, or the spiritual craftines of him, whose comming is by the working of Satan with al power and signes and lying wonders, it may be some wil make a question: and presuming to examin every particular circumstance over narrowly, wil make objections against the truth of the story: which, by their leaues, in the behalfe of my author I must not spare to answer. First it may be they will object that the host being held so long in the womans mouth cou'd not choose in that space but melt and marre. Indeed, if it did remaine, as it was, a wafer-cake, this were likely enough: but being turned into flesh it is an absurd assertion. If they shal say that because, it was now hony-harvest, at which time good stals, such as this was, are ful of wax and hony, that therefore

*Of the nature & properties of Bees*

there could not be roome enough for a chapel with a steeple and bells in it; I answered that this is as weake and simple as the former. For seeing it is knowne that a blacke smith of London did make a locke and a key so little that a flie could draw it; why shoulde not the little smith of Nottingham (whose art is thought to excel all art of man) frame a little chappell in a little roome? But then perhaps they wil reply, if we grant you this, howe then could the Bees flie about the altar in that little chappell, seeing they are not able to flie in so narrow a roome as the empty hiue? As for that, it may be a mistaking of a word: happily the woman said they did but crawl. If they shal aske how the womā could see the altar with the host standing in the chancel & the bells hanging in the steeple, seeing the waxen wals were not transparent, they maie easilie thinke that the Bees woulde giue their dame leaue to looke in at the windowes. And if they shal say that those bells being made of such metall would giue but a weake sounde whē they were runge to matins; they must consider the parishioners dwel: not far of. And so I thinke these captious critics wil hold themselves satisfied.

Vnto this storie my author immediatly ad-deth an other, like vnto it, and as likely: how certaine the eues hauing stollen the siluer boxe wherein the wafer-Gods vse to lie, & finding

one of them there, being loath, belike, that he should lie abroad all night, did not cast him away, but laid him vnder a hieue: whom the Bees acknowledging aduiced to an high roome in the hieue, and there in Steele of his silver boxe made him an other of the whitest wax: & when they had so done, in worshippe of him, at set howres they sung most sweetly beyond all measure about it: yea the owner took them at it at midnight with a light and all. Wherewith the bishop being made acquainted, came thither with many others: & lifting vp the hieue he saw there neere the top a most fine box, wherein the host was laid, and the quires of Bees singing about it, and keeping watch in the night, as Monkes do in their cloisters. The bishop therefore taking the host carried it with the greatest honour into the church: wheremany resorting were cured of innumerable diseases.

I doubt not but some incredulous people wil quarrel this story as well as the former, making questiō since the combs in the top of the hieue are not past halfe an inch one from another, how there could bee roome for a box of that breadth that would containe the host, & then being there, how it might be seene by the Bishoppe, seeing those spaces are alwayes filled with Bees, and the story saith that they were then singing about it: and therefore perhaps they wil suspect the whole narratiō, supposing

## Of the nature &amp; properties of Bees.

It rather to be an vnadvised devise of some idle monk, which, if he had consulted with them that haue skil among Bees, might haue made his tale more probable. Alieading moreover that therefore there is no mention made of any particular person, time, or place, leaue the circumstances should disprove the matter it telle. All which obiections I could as easily answer as the former, if I thought it needful. But now because some may bee as ready to mistrust my relation, as others are to obiection against the truth of the stories, I wil here in mine owne behalte for their satisfaction set them downe in my authors owne words.

*Cum mulier quaedam simplicis ingenij nonnulla apum alvearia possideret, neq. illa redirent experitum fructum, sed line quaedam tabescentes morerentur; de consilio alterius femina simplicioris, accessit ad sacerdotem percipere eucharistiam: quam sumptis tam men ore continuit, domumq. reuersa extractam collocavit in vno ex alvearijs. Lines cessavit, mella affuebant. Itaq. suo tempore mulier, apertis, ut mel educeret, alvearijs, vidit (mirandas) ex edificatum ab apibus sacellum, constructum altari, parietes miro architecturae artificio suis fenestris apositis suis locis ornatos, ostium, iurris, cum suis tintinabulis: eucharistiam vero in altari repositam circumvolabant suavisus utroq. strepentes apes.*

The other he reporteth thus. *Quidam fures, ut argentum vasculum in quo condita erat eucha-*

*ristia*

Nam miranda canunt, sed non credenda Poetae.

ristia auferrens, & illam secum rapuerunt: sacratissimum vero C. corpus sub alveari protecerunt. Post aliquot dies dominus alveari videt apes certis horis sapinus, dimissis operis ad cibos conuehendos, satos esse in quodam mellis suo concentu edendo. Cumq; fuisse de media nocte exsurrexisset, conspicatur supra alveare illustrissimam lucem, suauissimæq; præter omnẽ modũ modulantes apes. Rei novitate inuisatã, & pro suo admirandã percussu Deiq; monitu intimo agitatorem deferret ad Episcopum. Is plurimis sicum assumptis do se conferens aperto alveari videt Vasculũ elegantissimum effectum e candidissima cera prope alvearis fastigiũ, in quo reposita erat eucharistia, circa illud choros apum circumsonantes, & excubias agentes. Acceptum igitur Episcopus sacramentum maximo cum honore in templum reportauit quo multis accedentes ab innumeris sunt morbis curati.

In which storie we may note, besides the wonderfull knowledge and devotion of the Bees, an incredible power and vertue also. For this God which they kept and compassed, is said to haue the gift of healing, which others though of as good a making, wee knowe doe want. The conclusion, which my author necessarily inferreth herevpon, is better then all the rest. *Ex his necesse est dicamus in Eucharistia verũ C. corpus esse.* But if thou wilt grant me that hereby is proued the incredible knowledge & skill of the Bees, for my part I wil vrge thee no farther.



C.1.

Of the nature and properties of Bees,

<sup>42</sup>  
Temperance.

In the pleasures of their life the Bees are so moderate, that perfect temperance seemeth to rest only in them.

50.

Justice.

Also, in their owne common wealth, they are most iust, not the least wrong or iniurie is offered amōg them. But indeed I can not much commend their iustice towards strangers, for all that they can catch is their owne: vntill they may bee excused in this respect, that the Bees of diuers hives are at deadly feud, or rather as kingdomes, that are at defiance one with an other. v. c. 7. n. 23.

51

Chastitie

Amb. Hex  
l. 5. c. 21.  
Georg.

Their chastitie is to bee admired. *Integritas corporis virginalis omnibus communis. Illum adeo placuisse apibus mirabere morem, quod non concubitu indulgens, &c.* They ingender not as other liuing creaturs: onlie they suffer their drones among them for a season, by whose masculine vertue they strangle conceiue and breed for the preservation of their sweet kind. v. Which strange kind of breeding the Philosopher acknowledgeth in them to bee apparent vnto sense and reason. *Cum in genere piscium talis quaedam sit generatio nonnullorum, ut sine coitu generent; hoc idem in apibus etiam evenire videtur quoad sensum ratioq; apparens admonet.*

v. c. 4. n. 2.

Generat.  
an. l. 3. c. 10.

52

Cleanlinesse

Hist. an. l. 9.  
cap. 40.  
Nat. hist. li.  
11. c. 10.

For cleanlinesse and neatnesse they maie be a mirror to the finest dames. *Mundissimum omnium hoc animal est.* For neither will they suffer any filthie slutterie within, if they maie goe abroad, &

modum.

and of their Queene.

C.I.

*amoluntur omnia e medio, nullaq, inter opera spurci-  
na iacens:* nether can they endure anie vntauo- Hist an. 1. 9.  
rinesse without nigh vnto them. *Odere sacerdos odo-* c. 40.  
*res:* And for their persons ( which are louelic  
brown) though they be not lōg about it yet are  
they curious in trimming and smoothing them  
frō top to toe, like vnto sober matrones, which  
loue as well to goe neste as plaine: pied and  
garish colours belōg to the wasp, which is good  
for nothing but to spend and wast.

Anent the age of Bees there are diuers opi-  
nions: some thinke that they maie liue 4, or  
5 yeares, yea some 6, or 7. (*neg, exemplis septima  
ducitur aetas. Aristotle* speaketh of a longer time  
*Vita apum annis sex, nonnulla etiam 7, possunt com-  
plere: quod si ex annis 9, aut decem annos durauerit  
prosperè actum esse existimantur.* Which opinions  
are grounded vpon this, that they see their st. all  
sometimes continue so long, before the Bees  
diē altogether: but this continuance is onlie by  
succession: and so might they liue in *secula* if  
the rottennes of their combes and the noisome  
stopping would suffer them to abide the hives,  
*Nam genus immortale manet.* But the truth Georg. 4.  
is, a Bee is but a yeares birde, with some ad-  
vantage. For the Bees of the former yeare,  
which vntill *Gemini* in the next yeare doe  
looke so youthfullie that you cannot discern  
them frō their ful growne nymphes which that  
spring they haue bread, do from thenceforth  
chang

53  
The age of  
Bees  
Georg. 4.  
H. 1. 5. c.  
22.

## Of the nature &amp; properties of Bees

change with manifest difference: for the yong Bees continue great, full, smooth, browne, well-winged; the old waxe little, withered, rough, whitish, ragged-winged; and withal so feeble, that when they come loded home, if any thing stande in their way, yea many times, though there be nothing, they fall downe, and being loded cannot rise againe: & then either a little colde, or wet in the day, or the nights dew killeth them: you may daily finde, specially in *Cancer* and *Leo*, some dead, some halfe dead before the hives, & some alive & lustie, which yet can never rise againe. Some of them will holde out so long, till their wings are more then halfe worne: but by *Libra* you shal scarce see one of them least.

55  
The offices of  
the young  
Bees.

The yong Bees as best able, beare the greatest burdens: for they not only worke abroad, but also watch and ward at home both early & late: when need is, they hazard their lives in defence of the rest, they beat away the drones, & fight with other Bees and waspes, and assault with their speeres whatsoeuer else offendeth them, they carry their dead forth to be buried, and performe al other offices. But the labour of the old ones is only in gathering, which they wil neuer give over, while their wings can bear them: & then when they cease to worke, they wil cease also to eate: such enemies are they to  
idleness

56  
And of the  
old.

idleness. And therefore generally they die in their delightful labour either in the field or coming home : *atque animas sub fasce dedere.*

Sometimes as wel in sommer as winter the Bees take pleasure to play abroad before the hive, specially those that are in good plight, flying in, and out, and about, so thicke, and so earnestly, as if they were swarming or fighting; when indeede it is onlie to solace themselves: and this chiefly in warme weather, after they have beene long kept in. *Exercitationem in Nat. hist li. 10. c. 20. sed in solennem balent: sparsata q. in aperto. & in 11. c. 20. alium data, p. 12. colatum eam, in m. am. m. re- deunt.*

Virg.

57

Bees want of soones to play

The Bee is by nature very tender, soone chilled and killed with cold; which the dorsethe waspe yea and the little flie can endure, and most of al then whē by reason of long restraint their bellies are over full. The first that faileth in them, when the cold beginneth to prevaile, is their wings, so that they cannot rise to their hives to helpe themselves by the heat of their fellows. How to recover them, yea when they are quite dead, see C.

58  
They are soone killed with cold.

59  
How to revive them.

7. 59.

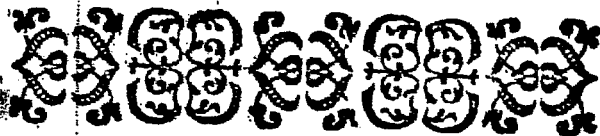
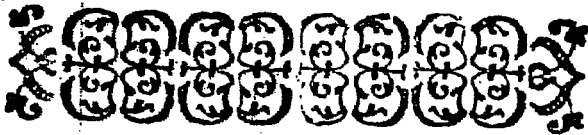
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C.1.

*Of the nature and properties of Bees*

The Bee therefore excellling in many qualities, it is fitly said in the proverbe.

	}	<i>Profitable</i>	}	<i>as a Bee.</i>
		<i>Laborious</i>		
		<i>Light</i>		
		<i>Swift</i>		
		<i>Nimble</i>		
		<i>Quick of sense</i>		
<i>As</i>		<i>Bolde</i>		
		<i>Skilfull</i>		
		<i>Chaste</i>		
		<i>Neate</i>		
	<i>Brawne</i>			
	<i>Chillie</i>			



Of the placing of your stalle's,  
and of their seates.

CHAP. 2.



Of your bee-gardē first of 5 things  
choose some plot nigh requisite in a  
your home, that the bee-garden,  
Bees may be in sight & the first in  
hearing, becaute of that is be  
swarming, fighting, or nigh at hād.  
other sodaine happe,  
wherin they may need  
your presente helpe.

Your garden of herbes & flowers is fit for the  
purpose. *Hortia coronamentiſq; maxime alvearia* Nat. hist. li.  
& apes conueniunt; *res precipue quaſtus compēdijq;* 21. c. 12.  
*cum fauit.*

2 See it be safe, and surely fenced, not onlie 2. That it be  
from al cattail (which if they breake in maie ſafely fenced  
quickelie spoile both the Bees & themſelues) ſo cattail  
and ſpecially from ſwine (which by rubbing and windes.  
againſt the hiues, and tearing the hacles in a wā-  
connes are moſt apt to overthrow the ſtalles)  
but alſo from the violence of the windes; that  
when the Bees come laden and weary home,  
they maie lette quietlie.

The north-fence of your garden ſhoulde 3  
be cloſe and high, that the cold winde of that The north  
coaſt, which blowing againſt the Bees cōming and eaſt fen-  
home ces ſhould be  
high.

## Of the placing of your stalls.

home wearie would throwe downe & kill manie, manie be altogether kept from them. And therefore, if it maie be, set your Bees on the south side of your house; which will not onlie defend them from that vnholosome winde, but also by reflection double the heate of the sun shining on the wal, & so comfort them much, speciallie in the winter and spring.

The east fence also would be good & high to keepe from the Bees as well the sun, as the winde, For the sun rising doth oftimes till the forth, when the aire is colder then they can indure; and the East wind being cold and sharpe

*The south & west fences must be also good but not so high as to hide the sun from the hives.* is verie vnkind for Bees, speciallie in the spring. But in no wise let the place be shadowed from the south-sun: for that doth not onlie dry the hives & relieue the Bees in the winter and spring, but also causeth them to swarme in summer, if it be not extreame hot and drie v.

Not yet from the sun setting: because in calme and pleasant weather the Bees wil be in field after the sun is down, even as long as they can there see: and if when they returne, they finde it darke at home, manie of them; their sight being but dim, v. fall short or wide: which flying and running to and fro til they be wearie, at length yeeld to the cold dew.

C. 3. 41.

Otherwise let the fences be as good against the south and west winds also, as may bee; for although they be not so cold and bitter as the other

other: yet are they no lesse violent, and more frequent: so that they also do much harme, especially in the spring. And therefore if at that time of the yeare in rough & boisterous winds you find that the garden-fences doe not sufficiently garde and defend them; then is it good to set vp wixed or lined hurdles, or some other skreene betweene them and the weather. For though they can shift abroad in the strongest windes, as a ship that hath sea-roume; yet are they easily overthrowne at the hiue, as the ship is soone wrecked at the hauen.

5  
Inrough  
winds the  
Bees need a  
skreene.

3. That the place be sweete, not annoyed with any stinking saour. I have knowne a stall in the spring being sufficiently provided of honny, & hauing bred yong, to forsake all because of poultry that roosted in a tree ouer them. *O. dēre fædos odores, proculq; fugiūt.* And yet the smell of vrin doth not offend them; nay they wil be very busy where it is shed. It is thought they vse it for physike. *Remediū contra alui concitacionem est vrina hominum vel boum.*

6  
That is be  
sweet

Nat. hist. li.  
11. c. 18.

4 That it be nether very cold in wiater nor very hot in sommer. *Locus æstate non feruidus, hyeme tepidus.* A bare flower is naught in both seasons: because in winter it is over cold and by that meanes quickly chilleth the Bees that light vpon it; and in sommer it causeth them to lie forth through excessiue heate. *v.* A grassie ground therefore is best at all times: but let it be

7  
Neither ve-  
ry cold in  
winter nor  
ver hot in  
sommer.

Hist. 1.9. c.  
40.  
v. c. 5. n. 19.

C

be



## Of the placing of your stales

8  
 A grasse  
 growed is best,  
 but keeps not  
 and drie.

v. c. 7. n. 4.  
 & 18.

be kept notte in summer & dry in winter; for long grasse and weedes about the hieue doe but harbour the bees enemies, v. and hinder both their passage in and out, and their rising againe when they fall short: and water, if it stand, not only maketh the place drie and fowle, but also causeth mustines within, and increaseth the colde without: both which are noisome to the Bees.

9  
 5. Beset with  
 trees and  
 bushes.

5 That it be conveniently be set with trees & bushes fit to receiue the swarmes, as plumtrees, cheritrees, apletrees, filberds, hazels, thornes, roses, &c. Although, if they be willing to stay, they will not refuse a dead hedge, a lauēder border, or the like, or sometime the bare ground. For want of trees, some haue stucke vp greene boughs, and the Bees haue lighted vpon them.

10  
 Two sorts of  
 stales.

The place being thus fitted, the seates are to be provided: which, whether they be stools or benches, must be set a little shelving, that the raine may neither run into the hieue, nor stay at the dore.

11  
 The benches  
 are so gooder  
 single stools.

To set many stals vpon a bench (as many vie to do) is not best: for that in sommer it may cause the bees to fight, as having easie access on foot to each other, and standing so nere that they shall sometime mistake the next hieue for their own: & in winter the bench will be alwaies wet, which looseth the cloome, rotteth

rotte the bottome of the hieue, & offendeth the bees: and the mouſe at all times hath free paſſage from one to an other, without feare.

The ſingle ſtooles therefore are beſt. <sup>12.</sup> And <sup>Swarmes</sup> yet it is not amiſſe to ſet moſt of your ſwarmes <sup>may be ſet</sup> vpon benches, before the old ſtals: fro whence <sup>on benches.</sup> remoue them to the ſtooles, when the ſtals are taken: and then ſet vp the benches til an other yeere.

The beſt ſtooles are of wood: thoſe of ſtone <sup>13</sup> are too hote in hot weather, & (which is worſe) <sup>Wooden</sup> ſtooles better: too cold in cold, <sup>then they of</sup>

For their ſize they ſhoulde not bee aboute halfe an inch or an inch without the hieue: ſaue only before where there needeth the ſpace of <sup>14</sup> ſiue or 6. inches, that the Bees may haue roome enough to light vpon, ſpecially then, when the ſight of a rainy clowd ſendeth them throging home. Three inches of which fore-part next the hieue muſt remaine flat for the porch to ſtād <sup>v.c.3.n.25</sup> vpon & the reſt is to be cut ſhelving that it may the better avoid the raine. And therefore if the hieue be 15. inches over, the ſtoole ſhoulde not be aboute 16. or 17. inches one way, and 21. or 22. at the moſt the other way.

These ſtooles would be ſet toward the ſouth <sup>15</sup> or rather ſouthweſt, that the hieue may ſom- <sup>Which way</sup> what breake the Eaſt-winde from the dore, <sup>the ſtooles</sup> and that the dore may be lightened by the ſun <sup>ſhould be ſet</sup> ſetting when they returne late from field, <sup>v. nos. 3.</sup> <sup>v. nos. 4.</sup>

C<sup>2</sup>,

16

*How neere to  
the fence.*

And if the north fence be a wal, pale, or hedge, let them stande some two feet from the fence that you may go about the hives to see & med what is amisse; but if it be a house-side, then set them 2. feet without the evel dropping, lest the raine rebounding from the gutter moisten the hives.

17

*How neere to  
each other.*

They should also stand in straight rankes or rewes from east to west 4 feet, or at the least 3. feet and a halfe one from another measuring from dore to dore, not only that you may have roome enough to go rounde about every one, but also that the Bees when they come home in hast, specially when a swarme goeth backe a-gaine, may al fly into their owne hive. For if they stand neere together, at such a time many wil take the next hive for their own, and then

*V. c. 5. n. 55.*

they fal together by the eares, v. & the nymphs also, when they go first abroad, wil by that occasion the sooner mistake: which if they doe, they die. Neverthelesse if the swarmes vpon the benches stand but 2. feet apart, it is enough: but alwaies lay a Rest, v. or other sticke of three inches thicke, as marches betweene them to keepe the peace.

*V. c. 5. n. 39.*

The rankes should bee placed sixe or seaven feete, or five at the least one before an other, that so not only the Bees, but the sun also may come without let to every hive.

18

*How neere  
to the ground.*

Also they should not stande about two feet  
from

*and of their seates.*

C. 2.

from ground because of the winde; nor vnder one foot for the dampnes of the ground in winter, which would make the hives moist & mustie; and for the heat of the ground in sommer, which in hote and dry wether would make the Bees lie out, and so hinder both their worke & swarminge. v.

V. c. 5. n. 19.

If you haue but one ranke, the best high is one foot and a halfe. If you haue many, it is convenient that the most northward rankes stand highest, & the most southward lowest, descending by degrees from two feet to one: as if there be two rowes of stooles let the first stand 2. feete from ground, the next 18. inches, and all the benches one foote. If there be three rankes beside the benches, let the second be twenty inches, and the third sixteene.

19

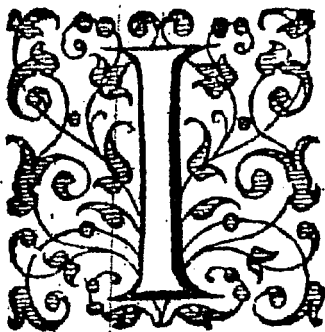
The stone-stooles must bee footed as they may, the fashion of each place where they are used wil direct you. But the plankes or woodē stooles are either to haue fowre feete made of the hart of oak, or of some other lasting wood; or to be fastned to one foote with two wooden pins: which foot let be made of sound timber 5 or 6 inches over, and of that length that it may be set betweene fifteene and eighteene inches in the ground. The fower feet are fittest for the higher stooles, and the single foote for the lower.

How to bee footed.

Of the hives, and the dressing  
of them.

CHAP. 3.

1  
Two sorts of  
hives.



IN some countries they use strawne hives bound with briar: in some wicker hives made of privet, withy, or hazell, dawbed vsually with cowloome tempered with graveily durt or sand or ashes.

2  
Strawne  
hives with  
their incon-  
veniences &  
remedies.

The strawne hives when they are olde and loded, vnlesse they be very hard wrought, doe vsually sinke on the one side, specially if they take wet, and so breake the combes and let out the hony: and the nether part of them is apt to be rotted with the moisture of the stoole: For which cause it is good to reare them an inch fro the stoole with three strong splectes, equally distant, and thrust into the bottome toward the top as high as you can, alwaies keeping the in the middle of the rowles: and so shal you also prevent that other inconyeniencie, & keepe the hives vpright.

3  
Wicker-  
hives with  
their incon-  
veniences &  
remedies.

The wicker hives wil stil be at fault, and lie open, if they be not often repaired, vnto wasps, robbers, and mice. Any of these, if shee find but  
a lit-

and the dressing of them.

a little chape, will dig his way in: and the mouse (vlesse the twigs bee close wrought) though shee finde none.

Both these hives, if they be not wel covered, are subiect to wet, which maketh them mustie, and, if it be much, roteth the combes and destroyeth the Bees. But the heate in summer, the colde in winter, and the raine at all times doth soonest pearce the wicker hives: for which cause it is good to double-dawbe them.

All things considered the strawne hives are better, especially for smal swarmes.

4  
Strawnhives best.

The hives should containe betweene a bushel and a halfe, as the time of the yeare, and quantitie of the swarme doth require: how to fit the hives to the swarmes see c. 5. n. 37.

5.  
The size of hives.

Have alwaies hives enough of al sizes in store, least they be to seeke when you should vse them.

The best time for making of them, whether they be strawne or wicker, is in the three dead months of winter Saggis. Capricorn. & Aquar. v. for then the straw, briars, & twigges are best in season.

6  
When hives are to be made.  
v. n. 51.

Your hive being ready is thus to be dressed. First cut awaie all those staring strawes, twigs, or other offensive ragges that are fast in the hive, making the inside as smooth as may be: but first (specially if it be a strawne hive) rub it a good round about with a linnen cloath, that so

7  
How hives are to be dressed before they receive the swarme.

8  
The preparing of hives.

## Of the hives

you may the sooner remove those that are loose; For these obstacles, if they cause not the Bees to forsake the hive, yet will they much trouble and hinder them: you may heare them, (spectually in the night) scraping and gnawing three or fower daies after they be hived, yea sometime a week together, as though there were mice in the hive. And in strawn hives, if you help them not, a long time after.

9  
The spray-  
ing or spleet-  
of thee

2. The take a straight hazel or willow-stick, and quarter it, if it be big enough, otherwise slice it: and then shave and smooth the cleaves; which being of a convenient strength & length put three of them in a hive, setting the upper endes together in the top of the hive, and the nether ends equally distant one from another within a handfull of the bottome. But if the hive be more then fourteene inches over within, it may wel receive foure spleets. And this is the easiest & quickest way of spleeting a hive: it is also strong enough for bearing the combs, and best for taking them forth without breaking. Besides which there are divers sortes of spleeting needlesse to be rehearsed; for every country hath his fashion.

10  
The season-  
ing of them

3 Lastly in swarming time season the hives that you meane to use, rubbing them with sweete herbes such as the Bees loue, as time, saffron, maioram, baulme, fenell, hyssop, mallowes, charlock, &c. And when the swarme is settled

settled, take the hieue that you thinke fit: for it  
 in bignesse, v. and with a branch of hazel, oake, *P. c. 5. n. 37.*  
 willow, or any of the foresaid herbes, but chief-  
 ly with a sprig of that tree whereon the swarme  
 lighted, wipe the hieue cleane, and then dip-  
 ping it into meth, or faire water mixed with a  
 little hony, or with milke and salt, or for a need  
 with salt only besprinkle the same.

11

*The season-  
ing of an  
old hieue.*

But if the hieue haue bene used before, after  
 you haue pared away the wax as cleane as may  
 be, if you thinke the former dressing will not  
 make it sweete enough; then let a hogge eat  
 2 or 3 handfulls of mault, or pease, or other  
 corne in the hieue: meane while doe you so  
 ruine the hieue, that the fume or froth, which the  
 hogge maketh in eating, may goe all about the  
 hieue. And then wipe the hieue lightly with a lin-  
 nen cloath, and so will the Bees like this hieue  
 better thē a new. But if you vse it not the same  
 day, then besprinkle it also, when you doe vse  
 it, as is shewed before. And so serue a new hieue  
 when the Bees are so froward, that they wil not  
 otherwise abide.

12

*How hieues  
are to be or-  
dered when  
the bees are  
in them.*

And thus are the hieues to be prepared and  
 dressed, before they receiue the Bees. Now will  
 I shew you how they are afterward to be or-  
 dered throughout the yeare.

1. First let thē be alwaies wel covered, that they  
 may be safe in summer from heat, lest, the wax  
 melting, the combes fal down; v. in winter from

13

*The hieues  
alwaies will  
backed.*

cold *P. c. 7. n. 49.*



v.c. 7. n. 51. cold, least it kil the Bees; v. and at al times from  
 v.c. 7 n. 54. the combes, and at last the Bees also. v.  
 Nat. hist. li. The best cover for hives is a thicke hacle: *Al.*  
 21. c. 14. *vearia stramēto operiri utilissimum.* Which is thus

14  
 How to make  
 a hacle.

to bee made. Take fowre or five handfuls of  
 wheat or rie leasd out of the sheafe: which be-  
 ing bouđ vp severally beat out the corne; & the  
 casting away their bands draw out the eares of  
 each handfull longer on the one side then on  
 the other: and putting the long sides together  
 (so to make the forme of a taper or pyramis for  
 thooting the raine) binde them al in one vnder  
 the eares as fast as you can, with a thong, cord,  
 or other strong string. And then, to make a bād  
 or cap for this pyramis or head of your hacle,  
 lease out of the sheafe almost a handfull of the  
 strongest straw, and lay it in soake about a quar-  
 ter of an howre. Being thus prepared take out  
 of that wet bundel some 40. or 50. reedes or  
 strawes, and laying halfe of them one way and  
 halfe the other, that the band may be of equall  
 bignes, take them vp together; and then ming-  
 ling one end of the reeds with the midle reeds  
 of the head, and twisting them fast together in  
 your hand, let the band harle or double in the  
 very top of the head: and so begin to binde the  
 head round, working downward, and stil twi-  
 sting the band as you go. When those reedes  
 are well-nigh wrought vp, take out of the v. et

15  
 The working  
 of the cap

bundle

bundle so many more prepared as before: and when you have mingled one end thereof with the end of the other, holding them in your hand twiſt them faſt together: and ſo continue your worke, alwaies binding as hard as you can, and bearing vp every role cloſe to his fellow. When you are come downe to the ſtring, looſe it, and binde the laſt or loweſt role in the place thereof, making faſt the end, by forcing it vp betweene the head and the cap with a forked ſticke and a mallet.

The hacle thus made of ſowre or ſiue hand-ſuis wil containe in compaſſe cloſe vnder the cap betweene 14. and 18. inches; ſourteene wil ſerue for the ſmaller hives, & eighteene for the greateſt, although they be ſiue feet about.

16  
The bigneſſe  
of the hacle.

For the length of the hacles, each one is to be fitted to his hive, ſo that the ſkirts thereof may reach to the ſtoole, or within halfe an inch of it round about, ſaue only the ſpace of ſowre or ſiue inches on each ſide the dore, where it muſt be pared ſomewhat ſhorter, that the Bees paſſage be not hindered. And then with a ſmall pliant girdle of bethwin, or the like girdle the hacle cloſe to the hive in the middle or biggeſt part of it, leaſt the winde diſorder it. If there be any crook or bout in the girdle, ſet that before, that the hacle, bearing in that place farther out, may ſhoot the water fro the dore: otherwiſe, for that purpoſe, ſet the girdle ſomewhat high-

17  
The length  
of it.

18  
The girdle.

19  
The hives al-  
waies close  
cloomed

Nat. hist. li.  
21. cap. 14.

20  
Then seldōe  
so be mooved.

V. n. 33. 44.  
& c. 8. & 9.

21  
How a hive  
lifted. vp is  
so bee let  
down again

22  
The bignes  
of the hive  
dore

er before then behinde.

Next keepe the hives alwaies close for de-  
fence of the bees against their enemies. The  
best cloome for that purpose is made of neates  
dung: *circumlini alveos fimo bubulo viscosissimum*:  
but itt be tempered and hardened with clay  
or other mortar, or for a neede with ashes, a-  
gainst the wet; and with sand or gravel against  
the gnawing of M. sc. With this cloome close  
vp the skirts and brackes of your hives, that  
there be no way into thē but only by the dore.

And being thus safely shut, moue them not  
without vrgent occasion. v. for often lifting vp  
the hive and letting in the open aire doth dis-  
courage the stall. But whēsoever you are occa-  
sioned so to do (the Bees being stirring) lest a-  
ny be crushed betweene the skirts & the stoole  
in setting it downe againe, teele vp one side  
with a little tile-sharde, which, when the Bees  
are quiet, take away, & see the hive close cloo-  
med againe.

The hive-dore must be made as little as may  
be, the Bees having easie passage to & fro, not  
letting one an other: and therefore great flights  
must have the greater dore, and little flights  
the lesse. The greater dore may contain about  
4. square inches, as being 4. inches wide, & one  
inch, or at the least three quarters of an inch  
high: the lesse need be but 3. inches wide:

Vnto the hive-dore there belong a barre, &

porch

and the dressing of them.

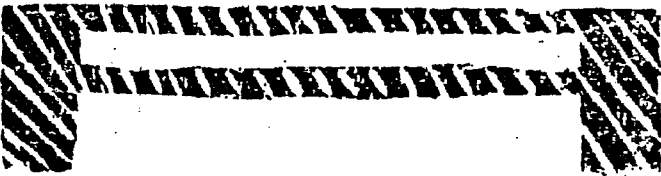
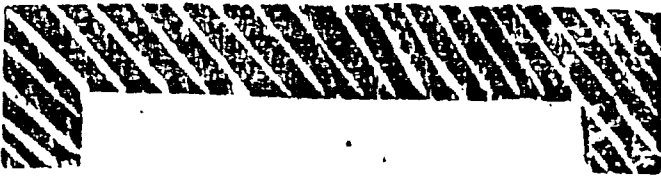
C. 3.

porch, and a porch-dore:al which for the safety of the Bees are to be vsed in their times, as anon in this chapter shal be shewed.

The barre is to be made of a piece of lath, trencher, or other thin wood an inch broad, & fowre inches long: in the nether edge whereof you must cut a holownes 3 inches long & almost halfe an inch high, so leaving halfe an inch at each ende vncut. And this will serue for most stalks: but if you haue any so good, that they can not, easilie or without let, passe through this single barre; then for them cut an other holownesse aboue, of the former length, and but one quarter of an inch high, leauing the space betweene the two passages a quarter of an inch. The forme of which barres both single & double you may see in these figures.

23

*The making of the barre.*



The vse of the barre is to streightē the passage where there needeth not so much roome, & to keep out the enimie whē the porch is strō it. v. *V. n. 33.*

24

*The vse of it.*

The

C. 3.

## Of the hives

25  
The making  
of the porches

The concavitie or holownesse of the porch must be an inch in length or widenes from east to west, almost halfe an inch in heighth, and an inch and a halfe and better in thicknes from the hive outward. And it is to be made of a piece of wood two inches long, one inch high, & two inches thicke: of the which two inches, an inch and a halfe and a litle more must serue for the thicknesse of the concavitie: and the nether part of the rest being taken away, there must be a chanel cut in the vpper part, in which the dore is to slide to and fro. The fashion of which porch you may best vnderstand by the figure of one ende, thus represented.



Out of one square sticke, an inch one way and two inches the other & twenty in length, you may cut halfe a skore. For great swarmes and full stalls, which cannot easily passe through these porches, make them an inch and a halfe wide, and then the wood must bee two inches and a halfe long.

26  
The use of

The porch hauing this long and streight passage, the thiefe will not be hasty to enter, & if the doe, ten to one shee is met with before shee can get through, and sent back againe with

and the dressing of them.

C.30

a flea in her care. 2. The porch serveth also to breake the force of the cold winde and frost in winter, which is very hurtfull vnto the Bees. 3. and withall keepeth out the misse', which in winter wont to make most spoile. v.

ucc 7. n. 4.

The porch-dore is to be made of a peice of thin wood, as a lath, trencher, chip, or the like; of the length of the porch, of that thickeesse that it may slide to and fro in the chanell, and of that breadth that it may reach frō the stoole to the top of the chanell. In the middle cut a breathing place, so long as the widenesse of the porch, and so narrow that a Bee cannot passe. with this dore you may shut or halfe-shut the porch as you shall see cause.

27  
The making of the porch-dore.

28  
The use of it

29  
The greese.

Vnto these may be added a greese or ascent, which may be a planck or bord of the breadth of the stoole at least, and of that length that it may stand leaning from the ground to the forepart of the stoole; that thereon the Bees may settle when they come weary or thronging home, and so ascend to the dore, and that there they may sun & refresh themselves being chilly & wearie. It may also be made of two bords, the broader the better, or for a neede, of many lathes fastned together with 3 ledges, which, if they be outward, may save the Bees from falling when they misse their hold.

30  
How to order the Beehive in every

From *Geminus* to *Leo* let the dores v, stand wide open, that there may bee roome for the swarmes

month, & first in GEMINI.

C: 2

v.n. 22.

and the dressing of them.

swarmes to passe at pleasure, all which time there is no feare of enemies.

31  
CANCER.

32  
How to make  
the Bees  
swarme.

When being past, if the weather be usually not hot, when there commeth a calme warme day, take of the hackles from those hives that are likely to swarme. But if the weather be extreame hot and dry, then is it good, to coole the hives, and to put in the Bees which will the

v.c. 5 n. 20.

lie forth v.  
If you then desire that any of your two-year-stalls, which have not yet swarmed, should swarme, see whether their combs reach within an inch of the stooles; if they do not, make a false botrome to reach to that scantlet. v.n. 41.

33  
How to keepe  
them from  
swarming.

v.c. 5. n. 11.

When you would have no more swarmes, as namely after the first blowing of blackberies, v. which is commonly within a sevendight after Midsommer, set vp those hives that are full with three tile-shards, or other thinges of like thicknes, & cloome vp the space betweene the hive & the stooles: whereby you shall not only stay the Bees from swarming, but also keepe them from killing their yong.

34  
How to keepe  
full stalls  
from killing  
their yong.

35  
LEO.

For in Leo those that are already very full of Bees, whether they be good swarmes or stockes, doe oft times kill their later brood, some fledge, some before they can fly, lest they should be thronged for want of roome, knowing that then it is to late for them to goe forth in swarmes.

Ac

and the dressing of them.

At *Leo*, when swarming is past, to the dores of the weaker stalles (whether they be small swarms, or stockes that haue twice swarmed) fasten the barre v. with good cloome.

36  
Fasten the barre to the dore.

At *Virgo* or a little before, which is the most dangerous time for Bees, because of waspes that then, if not sooner, learne the way into the hives, but chiefly of robbing Bees, which then begin to spoile; v. first bee sure that the hives be close in all places: then fasten the barra either single or double, as you shall see cause, to such hives as are full of Bees: and to the weaker sort, which were barred in *Leo*, set vp the porch v. and cloome it fast.

v. n. 23.  
37.  
VIRGO.  
38  
To keepe the hives from robbing.

v. c 7. n. 26.  
39  
Set vp the porch to the weaker.

Moreover because the waspes and robbing Bees will be stealing betimes, before the true Bees be stirring; it is good in the evening when the Bees are all in, to shut the porch of those that are weak, that a Bee cannot passe: & not to open the same the next day till the weather be warme, and the Bees offer to come abroad, though it be not before 9, or 10, or 11. a clock: and then you may ether open it or halfe-open it, according to the flight of your Bees. v.

v. 25  
40  
And keepe them shus till they offer to goe abroad.

And for those swarms that haue not wrought downe within a handfull of the stoole, to the end they may ly warme the winter following, and that they may be ready at the dore to keepe out robbers: at *Virgo* (for after this time they gather no more wax to enlarge their

v. n 29  
41  
How hives not full are to be used against cold & robbers.

D

combs



# Of the hives

¶ 6. 13. combs. v.) take so much hay or straw, as wil fill the empty part of the hive within an inch or two of the comb: and wrapping the same in some old linnen cloth, so that the strawes may not offend the Bees, set it vpon the stoole: and then having laid thereon a thicke round bord as broad as may easily go into the hive, set the hive over it downe to the stoole: and make a little new dore through the hive betweene the round bord and the combs: or else leaue away from the new bottome downe to the old dore, through halfe a greate cane or some other stick cut holow for the nonce, to keepe the stuffing from the side of the hive. Without such help extreame cold wil kill many, & weaken all: whereby they are made volustie to

Hil. 9. c. 40 worke, as the Philosopher well noted. *Si alvum iusto amplior sit, desidiofiores redduntur.*

42  
The reared  
stalls new  
to be set  
downe againe  
v. 21.

The stalls which you reared in the end of Cancer for feare of swarming or killing their yong are to be set downe againe, v. vnlesse they be swarmes or yearlings that have wrought downe to the stoole: for after the second sommer wel they may build new combs, but they will never enlarge the old.

43  
In August  
when the  
Bees will

Also in this month about the middle those hives which you deeme to be weake because the Bees are gon vp from the dore, knock with your hand, one after another: they that at the first or second stroke doe make a great noise

both

and the dressing of them.

C 3

both above and beneath continuing the same for a space, haue store of Bees, and are therefore in lesse danger: but those that make a litle short noise, though they be heavy and haue hony enough (such as are commonly those of three yeere old, and vpward that haue cast twice or oftener that yeare, and did not at *Vngō* beate away their drones) yet haue they but few Bees, and are therefore ill able to resist the violent multitude of robbers; which, whe they perceiue their weaknesse, wil neuer leaue them as long as there is a drop of hony in the hūe.

If you see them once fighting, v. either presently take them, or make their entrance so narrow, that but one Bee may passe at once: & before *Libra* be sure to take them. For though they escape this robbing-time through your care and diligence, yet at the spring they will surely yeeld, or dy of themselves, or fly away. But those stalls that are very full will make litle or no noise when you knock them, vntoward the end of this month, when they be gon vp from the dore,

Some Bees begin to faile after *Virgo* and therefore it is good to make triall of them by poisoning and knocking the hūes, and by looking into them (if need bee) in *Libra* also, and likewise in *Pisces* and *Aries*. But whensoever you list a hūe from his stote, (which is spare-  
44 LIBRA.  
45 Try them a  
gaine in Li-  
bra. 46

## Of the hives

C. J.

46  
 Now set up  
 the porches  
 so the best &  
 keepe them  
 all shut till  
 the Bees offer  
 to go abroad.

ingly to be done ) take heede how you let it  
 downe againe. v. n. 21.

At *Libra* set vp the porches of the best : and  
 then diligently in the evninges shut the porch-  
 dores of al. For in the cold mornings, while the  
 true Bees keepe in, because it is no fit time for  
 them to gather in; the theeves both waspes &  
 Bees will be abroad seeking where they may  
 breake in and steale. v. c. 7. n. 26.

47  
 Now take  
 the combs.

In this month is the time to kill and drive  
 Bees. v. c. 10. par. 1. n. 3. & 16.

48  
 SCORPIO

This shutting & opening of the porch-  
 dores must be continued throughout *Scorpio* also; vn-  
 lesse abundance of cold raine doe sooner cha-  
 sten the waspes. But for the poore stalls, it is  
 best to keepe them half-shut all the day long,  
 as in *Virgo*. v. n. 40.

49  
 Continue the  
 shutting &  
 opening of  
 the porch  
 this month  
 also.

At *Scorpio* dresse your hives for winter. First  
 lift vp the stalles (except those that be very  
 full of Bees, which will not need your help ) &  
 sweep the stooles cleane : then setting them  
 downe againe warily, v. that you hurt no Bees,  
 cloome them close, and mend all brackes and  
 faults about thei & where the hacles be worne  
 set new in their steades that may keepe the  
 hives dry and warme.

50  
 How redresse  
 the hives for  
 winter.

v. n. 21.

51  
 SAGITT.  
 CAPRIC.  
 AQVAR.

*Sagittarius*, *Capricornus*, and *Aquarius* are the  
 three dead months of the yeere: in which for  
 the most part Bees lie still spending their time  
 in eating and sleeping, But if at any time there

are 3 dead  
 months.

52  
 How the bees  
 spend their  
 time in them

hap.

and the dressing of them.

C. 36

happen a faire howe, they presently perceiue it: and it doth them much good to flie abroad that they may take the fresh aire, drinke, exercise their wings, and lighten their little bellies, which are oft times so stuffed, whē the wether suffereth them not to flie abroad, that they can hold no more: so loath are they to defile their neasts. Neverthelesse the first fowle and colde wether in Capricorne shut the porch dore, to saue them from the cold as well within the hieue as without. For as the frost and snow and colde windes, yea and the ordinary disposition of the aire doth chil many of thē, whom the flattering sunshine enticeth abroad, so the great frosts striking through the dore doe freeze the nethermost in the hieue to death: so that by little & little many stals in some winters haue been thereby wholly destroyed, the which by keeping thē warme might haue bene preserved. But when you shut them in, be sure the hieues bee alwaies close and sure: for the Bees will strue by all meanes to come forth, though they never finde the way in againe. Yet whēsoever in these three months there happen any pleasant day (namely when the sunne shineth, the winde is still, or bloweth mildly out of the south or west, & the earth is without frost and snow) it is very behouefull to giue them leaue to play, and to refresh themselues: the oftner the better: once in a fortnight or three weekes is to be wished: but

53

The first  
sharp weather  
in Capricorne  
shut the Bees  
in.

54

And in pleasant  
weather  
let the Bees  
if it may be  
once a fortnight  
or 3 weekes.

v. c. l. m. 57.

Of the hives

if you or the wether shut the in much longer, they wil bee so faint and feeble through their long restraint, that without very pleasant weather at their comming abroad, a number of the wil bee chilled while they rest themselves but a little in the open aire. And therefore as often as any pleasant day causeth you to set the hives open, let them alwaies stand vntil the frost or snow keepe the Bees in againe. And after Saint Pauls day or mid-aquarino shut them not, vntil the snow lie, or the frost hold two or three daies together. And if the faire wether, that let them out, continue, so that they vse daily to play abroad; you may nowe also cleanse the stooles, which otherwile is not to bee done before *Pisces*.

55  
**PISCES.**

56  
The 1. faire  
day in Pisces  
Let your Bees  
be liberie.

In *Pisces*, if not sooner, when the wether is pleasant, let them at liberty to go where they will: for warme daies or howres growing then more frequent, they will not go abroad at every sunshine, vnlesse they finde the aire somewhat pleasant withall.

57  
Howe to  
cleanse  
the stooles.

At this time, in a morning before the Bees come much abroad, lift vp your hives, & quickly sweeping the dead Bees and other noysomes away, & scraping cleane the stooles set the downe againe, v. And cloome them close as before. For altho the Bees in time would rid them cleane themselves; yet shal it be good for them to haue it done at once, that they be neither hinder

v. n. 21c

and the dressing of them.

dered nor annoied therewith: and now & then the carying out of a dead Bee at this time of the yeere doth cost a quicke Bee hir life: for being drawn with the waight of the corps to the cold ground, while shee standeth panting a litle she is chilled, and so not able to rise any more.

This cleansing of the stooles, after a calme *Aquarius*, when the Bees haue beene much abroad, is not so necessarie, and specially for the better stalles.

Those stals that by their lightnesse you perceiue to lacke hony, you may now saue by driving them into others that haue store. v.

58  
And drive  
light st. etc.  
v. c. 10 n. 20

*Aries* is almost as dangerous a month for robbing, as *Virgo*: and therefore you must haue a care in the euenings to shut the porch dores, and in the mornings not, before it be warme, to open them againe. The poore stals this month would bee halfe-shut all the day, as in *Virgo* and *Libra*.

59  
ARIES:  
The second  
chiefe rob-  
bing time.

At *Taurus*, & sooner, if sooner you see cause, That is when either they keepe watch at the dore in the euenings, or be so increased that they cannot easily passe to and fro in their worke: for if the passage seeme too straight only in their playing fit, v. c. 1. n. 57. that maketh no matter.

60  
In TAURUS  
remoue the  
porches.

from the better stals let the porches be taken away: and for the weaker sorte, let them all this month be shut in the euenings: & in the mornings, as soone as it is warme, be set wide open.

At *Grani* take away the barres from the bet

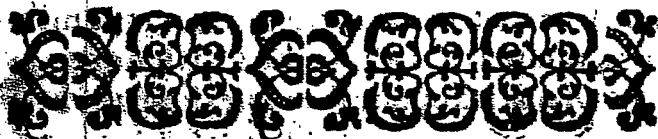
61  
GEMINI  
the barres.

## Of the hives

ter, and the porches from the weaker: & when  
 this month is halfe past, make the al alike: lea-  
 ving the dores as they were in *Germani* before,  
 v. some three, some towre inches wide, and one  
 inch high, or within very little.

E. 30.

of



# Of the breeding of Bees, and of the Drone.

## CHAP. 4.



**H**E Drone, which is a *The drone no labourer.*  
grosse hiue-bee without sting, hath been alwaies reputed for a sluggard, & that worthily. for howsoever he braue it with his round velvet cappe, his side gown, his great pauch,

and his lowd voice, yet is he but an idle person living by the sweat of others brows. For he worketh not at al, ether at home or abroad, and yet spendeth as much as two labourers: you shal never finde his maw without a good drop of the purest *nectar*. In the heat of the day he flieth abroad, aloft, and about, and that with no small noise, as though he would doe some great acte: but it is only for his pleasure, and to get him a stomach, and then returneth hee presently to his cheere.

*Faciunt enim exenut efferant sese fustis in sublimi gyrog, volant: quod ubi satis iam fecerint redant downon & epulis perfruntur.* *Hist. li. 9. c. 40.*

But for all this there is such necessary vse of him, that hee may not be spared, as without whom the Bees cannot be, For albeit he be not seen to ingender with



# Of the breeding of Bees

v. c. 1. n. 50.

v. c. 6. n. 4.  
c. 5

v. n. 11. c. 16

3

*Diuers reasons  
from prauing  
the drone to  
be the male.  
The first rea-  
son is, that  
they are suf-  
fered in breed-  
ing time  
only*

4

*No drone in  
winter.*

v. n. 16. c.

17.

*nae. hist. l. 11*

c. 11.

v. c. 5 n. 4.

5.

*The second  
reason is, that  
the drone be-  
ing taken a-  
way in breed-  
ing time  
the Bees  
breed no  
more.*

with the hony-bee, v. ether abroad, as other insects do, or within the hiue, where yet you may by means behold what they do; v. yet without doubt is hee the male-bee, by whose natural heat and masculine vertue the hony-bee, which breeds h both hony-bees & drones, v. secretly conceiuet.

The reasons that moue me thus to thinke are these. First because although they be great wasters of the Bees store, yet vntil they begin to leaue breeding, and haue conceived for the next year, (which some do about *Leo*, most before *Virgo*) they suffer them: afterward they begin to beat them away. Which if some few doe not, before *Scorpio* they die naturally: and from thenceforth al the winter, vntil the Bees breed new againe, v. there is not a drone to be had *seruatus*. When they are quite gone, then do the Bees lay no more seeds that yeere, but only hatch and breed vp those that are already in the celled.

Secondly, as the rather and the more the drones are, the more & greater are the swarms, (*Certe quo maior fuerit fucorum multitudo, eo maior fiet ex stirpe progenies* v) so where the drones are few & late, there is small increase. & therefore if you kill the drones of a hiue before the Bees haue done swarming, and breeding, (as some fondly haue don before *Midsummer*, to saue their hony from these greedy lurchers

chers) neither will the swarms come forth that were formerly bred, nor the stocke thence forth breed any more. After which time bringing in *Ambrosia* v. as much as before, and hauing no yong ones to spend part of it, nor taking any pleasure to worke it with the liquid *nectar*, as otherwise they vse to doe, v. they lay it vp carelessly in their cells, where it corrupteth & turneth to stopping v. which will cause them (so much to mislike their hiee, that the next *Virgo* they will easily yeeld it to the robbers v. And if by your industry they be then preserved, in *Pisces* when breeding time is, finding themselves barren, and therefore loathing eue themselves and all, they yeeld their goods to them that will take it: & after a while, when the strange Bees and they smel all alike by being together in the same hiee, & sucking the same honv, away they goe with them to their drones. But every faire day they will returne to fetch that they left behind them: you may see them flying so thicke to and fro that hiee, as if it were full of Bees: but when night comes, they are all gone.

v.c.6.n.17.

v.c.6.n.17.

v.c.6.n.12.

19.

v.c.7.n.22.

Thirdly because *omnis simile generat sibi simile* <sup>6</sup> Every liuing thing doth breed male, or female of his kind, and experience doth teach vs that the Bees doe breed as well drones as honi-bees. v. seeing the honi-bees are femals, it followeth necessarily that the drones are the males of the same

The third reason that they are bred by the Bee.

v.n.16.

# Of the breeding of Bees.

Hæc apis.  
 ἡ μέλισσα  
 ארית  
 actus fucus  
 ארית

same kind, And therefore not only in the Greeke and Latine, but also in the first language, wherein names were given to things according to their natures, the honi-bee hath his feminine appellation, as the drone his masculine.

7  
 The fourth reason that the wasps & their drones which are their

Fourthly wee see the like in the likest insects the waspe and the dorre: for the manifesting whereof I wil briefly shew you the breeding of them both.

6  
 The breeding of wasps by drones

The wasps nest is begun by one great wasp, which you may therefore call the mother-wasp, the which in *Cancer* (or in hote and dry Springs somewhat rather) within some hoale, usually made in the ground by a Moule, Mouse, or other meanes, worketh a combe, in forme of a round rent hanging by the top to the over part of the hoale. This combe containeth about sixelles of the bignes & fashion of the Bees cells, wherein shee breedeth so many young ones: which, when they are fledged, do breed as well as their dam: and so enlarge the combe to some eight inches over. Then making more roome beneath by moining & carrying out the earth, they hang an other combe vnder the first, by little pins, and so an other, and an other, increasing still in the same place til sommer bee done. For they goe not forth in swarmes as Bees doe.

Hal 9.c. 42

*Missa ut apum nulla vel crabronum vel wasparum fieri solet: sed qui subinde erantur ut vult ibidem*  
 used

## and of the Drone.

C.4

*ment, & alveum terrâ egestâ faciunt ampliorum.* In their last brood, which is in *Scorpio*, besides the smal or ordinary waspes, they haue al o two o-ther sorts, drones or male-waspes (which are somewhat bigger then the smal wasps, & with out stings as the drone Bees) & nother wasps, which are like the smal ones in al respects save that they are twice so bigge. These when they are fledge having cõceived, as the Bees, by the drones, leaving both drones and smal waspes to the mercy of the winter (which with the next cold-wet wether chilleth and killeth thẽ as they flie abroad) do forthwith betake them- selues to some warme place, as the thatch of an houle, a mortice in a post, an auger-hoale, or the like: where they abide til the next spring with- out any meate, as it were in a dead sleepe: out of the which neverthelesse a little warmth of the fire, or of your hande will awake them at anie time: At the blowing of palme, if the wether be warme, they fly abroad for food: and at *Cancer*, as I haue said, they begin to nestle and breede. He that killeth one of thẽ killeth a whole nest of waspes.

And that the drone-waspes are the males, some were of opinion in the daies of *Aristotle*: for thus he writeth. *Si vesperam ex pedibus ceperis* Hilli 9, 41;  
*bimilareq, si veris, advolant qua aculeo carēt: quod non faciunt qua aculeata sunt. Itaq, argumento qui- dam hoc vsuntur quod altera mares sunt, altera femina*

mine: which argumēt seemeth not vnprobable, seeing the fowlers counterfeiting the cal of the hen, quails catch only the cockes.

The breed-  
ing of Dorres  
by drones.

The dorre likewise beginneth hir nest single, being more like the Bee then the wasp is in that she maketh hony, and more vnlike in the fashion of hir combs: for she hath only a few round cells of the bignesse of grapes lying flit on the ground one vpon another without any order, the which are made after this manner. First either vpon the ground is the grasse, or in some straw low hoale within the ground, she prepareth a little stuffe which is soft lik: wax, but browne and more brittle, of the bignesse of hir head; & therein she layeth about six or seauen seedes together compassing them round with the same stuffe: which increaseth by little and little as the seedes doe: and when they begin to hūe, it groweth into so many severall cells, as there are grubs, each one hauing one to himselfe. When they be come to their bignes, the celles, which before vvere browne and brittle, do now wax white and tough that you can scarce reare the. And when the dorres are ripe they gnaw their way out at the toppe. Vpon these they make more in like manner, and the voide open celles they fill with hony, wherewith they feede both themselves and their yong vwhen the vweather suffereth them not to flie abroad. All this nest is covered with a litle mosse like a birds nest.

Vau

Vntill *Kings* they breede females only as the waspes doe: and then last of all for propagation of their kinde they breed their drones, being likewise, as the drones of Bees & waspes, without stings. And these, to put the matter out of doubt, within a while after do openly engender with their females, as the chaffers doe. After vvhich time the females breed no more till the next sommer, though you may see them gathering, and flying about somewhat longer then the waspes. In *Sagittis*: they betake themselues to their winter-rest, where they lie single as the mother waspe in a sleepe or swivet. But the drone-dorres, as the drone-wasps, are destroyed by the wether: not one afterwarde to be seene till *Virgo*, when the females breed new againe. But one thing in the dorres & waspes is more strange then in the Bees. For whereas the Bees as sone as they haue bred their first broode of females, doe presently breede drones, v. both v. n. 16. which, vvhhen they are ripe multiply together, the young dorres and waspes in the beginning of sommer do not immediatly take the drones (for thē there are none) but receiue frō their dās together with their nature & being that masculine seed, wherby whē they are ripe they breed at the sommer following, vntil in the end they likewise conceiue by their late-bred drones for the next yeare, both for themselues and the yong that shal come of them.

By

## Of the breeding of Bees

TO  
The first reason  
is the ap-  
parent signes  
of their sex.

By this time thou wilt say with me, that the drone is the male-bee: Whereof if some curious chirurgeon would make an anotomy, he should easily discern *duos amplos & candidos testes*, two sufficient witnessles of his masculine sex.

Hill. 5. c. 21

The light of this truth began to appeare many yeares agoe, even in Aristotles time. *Aliqui* (saith he) *mares esse fucos, feminas vero apes esse contendunt*. Which opinion he reciteth in another place. *Sunt qui fucos mares esse, apes feminas arbitrentur*. Where though he doe not approve it, yet hath he no other reason against it but this. *Arma ad pugnam virosq; exercenda nulli feminae a natura tribuntur*. Nature hath armed the Bees to chastice the drones. v. and therefore the drones cannot be their males.

Generat:  
13. c. 10.

v. 20.

The weaknesse of which reason I marvelle he did not see, seeing in all the kind of hawkes the female doth command the male, 'as being both stronger and better armed. VVherevnto may be added the example of the *Atmazus* reigning in his time: who by force of arms subdued many kingdomes of men, and held them in subiection: like vnto which, it is manvaille but there were then some masterful viragoes in Greece, as wel as there be now in other countries. But of this point in the end of the same Chap: hee yeeldeth himselfe to have no certaine knowledge. *Non tamen satis adhuc ex-*

plorat

*explorata qua eveniant habemus.*

To returne therefore to our purpose, the hony-bees hauing, as those other *insecta*, conceived by the drones; the best about *Pisces* when they first gather vpon flowers, others in *Aries*, and the weaker later, begin to breed their femals thus.

11  
When the Bees begin to breed

First close vnder the hony (which is at that time altogether in the vpper parts of the cōbs) in the middle of the bottomes of the void cels, as the waspes doe on the one side, they begin to lay their seedes, about the bignes of those which the butterfly leaues vpon the cabage leaues: but of different colour, the Bees being white like wasp seeds, and the butterflies yellow. And so they descend by degrees toward the nether part of: he combes filling one cell after an other. Although whē the chiefe breeding is past, they doe not precisely obserue this order; but lay vp their hony among the yong Bees where they find the cells void. The Bee seed at the first sticketh vpon one ende vntil it be a liue worme or grub: as soone as it lieth it is loose, and lieth in the bottome of the cell round like a ring, one end touching the other, till so the bottome can no longer containe it: after that, it lieth along in the cel til it be grown to the full bignesse of a Bee: and then doth the worme die and becommeth void of al motion and sense, and so is shut vp in the cell, the

12  
The manner of their breeding

13  
The Bee seed is first swarmed into a worthe.

E

Bees



# Of the breeding of Bees

Bees covering the top close with wax.

The worme  
being dead  
groweth to  
the shape of  
a Bee and  
then lieth  
again.

The worme thus lying dead doth by little and little grow to the shape of a Bee, but of colour white as before: and hauing obtained the full proportion, then doth it first begin to moue againe, and to liue hir second life: and thence forth by little & little turneth browne. Before she is perfectly browne, she flieth abroad practising to worke: and all this within the space of a month.

Hist. an. l. 5.  
C. 22.

*Fœtus positio incubans, exclusus inde vermiculus, dum par uix est, iacet in fano obliquus: postea sine ipse faciente se erigit, cibumq, capit. Fœtus apum & suorum candidus est: rex quo vermiculi fiunt, qui in apes faciosq, transeant.*

15

The breed-  
ing of the la-  
dy-bees.

But the Lady-bees are bred in the severall palaces of the Queene, v. after a peculiar and more excellent manner. For the goldē matter whereof they are made is not turned into a worme at all, but immediatly receiueth the

v. c. 6. n. 9. 10

Hist. l. 5. c. 22

shape of a Bee. *Primordium regum colore cernitur fulvo, corpulentia mellis crassioris, magnitudine illico proxima sua futura sobole: nec primum ex eo vermiculus gignitur, sed statim apis. Item. Higinius negat ex vermiculo, ut ceteras apes, fieri duces; sed in circuitu fauorum paulo maiora, quam sine plebeij seminis, inueniri foramina repleta quasi sorde rubri coloris, ex qua protinus alatus rex figuratur.*

Colum. l. 9.  
C. 11.

16

When the  
duces are  
bred.

When the old Bees haue ended their spring-broods of females, then last of all after the same manner

manner in wider cells made for the nonce v. v.c.6.n.8.  
 they breed the male-bees or drones: as was  
 long since obserued, *Sunt fuci sine aculeo velus* Pl.lib.c.ii.  
*imperfecta apes. nonissimeq; a fassis & iam emeritis*  
*inchoata, serotinus fetus.* And therefore some

7

When they  
 come abro.d.

stalls doe not drony before *Cancer*, nor many  
 before *Gemini*, nor any before *Taurus*; a'though  
 you may see the Nymphs of good Itals abroad  
 in *Aries*, of others in *Taurus*, and of all in *Gemini*.  
 By chance some few Cephens may be bred  
 betime with the femals: but they, as comming  
 out of season, are not suffered to liue.

The yong Bees are called schadons: *schadones sobolē*  
*dico.* Hist. l. 5 c. 21. The brood of femals, when they haue  
 the shape of Bees, are first called Nymphs; and the yong  
 drones Cephens: *Cetera turba cum formam capere cepit*  
*Nymphæ vocantur vs fuci & ephenes.* Pl. li. ii. c. ii.

18

Two uses of  
 the drones.

These Cephens or drones, when they are  
 fledged, doe not only serue for generatiō as hath  
 beene shewed, but also doe helpe the femals  
 much, by reason of their great heate, in hatch-  
 ing their broods. *In festis aduuant apes, multum* Pl. li. c. ii.  
*ad calorem conferens turba.* And for these causes  
 they are alwaies in breeding time mingled  
 with them throughout the hiue. Although af-  
 terward (when they haue beene much beaten,  
 and can goe no where single, but one or other  
 wilbe on their iacks) they gather altogether in  
 a cluster, for their safty in one side of the hiue: so  
 that it is true at some time which the Philoso-  
 pher spake indefinitely, *Teneat alius locum peniti.* Hist. l. 9. c. 40

19

Where they  
 ly.

## Of the breeding of Bees

orem. And yet their hanging together will not serue their turne; for the Bees, when they are disposed, will quickly make them part, and depart. When there is no vse of them, there will be no roome for them.

20  
The male-  
bees are sub-  
iect to the fe-  
males.

Nathist, 1.  
II. C. II.

For the drones are but vassales to the honny-bees, which as they doe excell them in virtue and goodnesse, so doe they also in power and authoritie, ruling and over-ruling them at their pleasures. *Sunt quasi seruitia verarum apū quamobrem imperant ijs.* For albeit generally among all creatures the males, as more worthy, doe master the femals; yet in these the femals haue the preeminence: and by the Gramarians leaue the feminine gender is more worthy then the masculine, *hac apes* then *hic fucus*, *hac Nympha* then *hic Cephon*. But let no nimble tonged Sophisters gather a false conclusion from these true premisses, that they by the example of these may arrogat to themselues the like superiority: for *Ex particulare non est syllogizare*, & he that made these to command their males, commanded them to be commanded. But if they would so faine haue it so, let them first imitate their singular virtues, their continuall industry in gathering, their diligent watchfulness in keeping, their chastitie, cleanness, and discrete œconomie, &c. And then, if they meete with such idle dotrels as these drones are, they may with lesse blame borrow a point of the law  
and

and enioy their longing.

Yet this they may note by the vway, that albeit the females in this kinde haue the sovereignty, yet haue the males the lowder voice, as it is in other living things, doves, owfils, thrushes, &c: the males being knowne by their sounding and thir notes frō the silent females. Yea the wiues themselues wil not suffer that hen to line, which presumeth to crow as the cock doth: nature reaching that silence, and soft noise becommeth that sex.

The Bees breeding or laying of seeds beginneth to cease, in some by *Leo*, in some not before *Virgo*. After which time these Amazonian Dames, having conceived for the next yeere, begin to send away their mates, & to kill those that afterward force in among them.

21

*When the Bees leaue breeding & bees away their drones.*

22

*The Bees compared to the Amazons.*

<sup>a</sup> Amazones bellicose erant Scythiæ mulieres, quæ cum viris exulantes in Cappadociæ ora iuxta amnem Thermodonca confederunt: vbi, viris plerisque per insidias accolarum trucidatis, reliquos qui domi remanserant, vt ipsæ solæ rerum potirentur, interficiunt: & armis sumptis etiam cum contèptu hostium se strenue tuentur, & imperium longe lateq; in Europam & Asiæ partem tandem proferrunt. Ne vero genus periret, finitimis tanquã maritis vtuntur: quos officio sanctos abigunt: Atq; quot pariunt virgines tovent, & armis exercent: masculos vero duræ enecant, vnde eas Aeorpatia i. Viricidas appellabant Scythiæ, vt tradit Hero dot. l. 4. Prima harum regina Marthesia dicebatur: quæ plures quidem peperit filias, vt Antiopen, Orythiam, Menalippen, & Hypoliten: è quibus duræ maiores natu matri successerunt, cæteræ imperium non sunt adeptæ. Amazonum itaq; regnum apud rempublicam apudissime refert: Marthesia apud reginam quæ plures solet producere foetus: Antiopæ & Orichya primores filias, quæ pri-

mu n & secundum examen educunt, iisque moderantur: Menalippe & Hypolite eis principes quæ aut nequaquam aut nequicquam dominantur. Nam post secundū examen aut in alveis morantes morte multantur, v. c. 1 n. 7. aut egredite fere fame pereunt, v. c. 9 n. 1. Vir usq; etiam populi mores non minus conveniunt: nam & apes feminæ sunt bellicose, quæ non modo Europam & quandam Asiæ partem, ut ille; sed universa orbis terrarum imperia possident: quæ sui sexus proles summa itidem cura epurientes mares omnes tam viros quàm filios cedere solent: ut & ipsæ vere Acorpatæ dici possint.

23

They rid not  
their drones  
all at once.

But because in the same hive they doe not leave breeding all at once; therefore nei her do they kil their drones al at once: but at the first taking away only the superfluous, they suffer as many as they need, to remaine logers: some sometime a whole month after.

24

When for  
ward stals  
begin.

The forward stockes that haue cast their last swarme in *Gemini*, or soone after, begin at *Leo*: the backward stales that cast not their last swarme much before *Leo* may stay til the ende of the same month: but vsually about *Virgo* or a weeke after, they make a cleane riddance of them. Those stockes that being full haue not swarmed at all, because they are rich and feare no want, vsc to suffer them so long and sometime longer, even to the ende of this month.

25

When she  
backward.

26

When full  
stockes that  
haue not  
swarmed.

Those stockes that haue overswarmed themselves, partly because they haue hony enough, and therefore can spare the drones their diet; and partly because they want Bees and therefore are willing to breede as long as may be, sometime keepe them till toward the end of

27

When those  
that are o-  
verswarmed.

*Virgo*

Virgo, sometime kil them not at all: but let them alone, vntill they die by nature: which is not long after: for few of them can liue til *Libra*, & & the yongest not to the end of that month, v. *v. n. 6*  
Take heede to such stals, for they are likely to die.

28

Those drones that are beaten away betime are easily admitted into other hives. Ten dates before *Virgo* I once saw all the drones of more then a dozen stals gathered into one of them; where they were so thicke in an afternoone, both within, and without the hive, that the little Bees could not passe for the thronge. But in the ende for the most part they finde *Tomme Drums* entertainment: and those that are not

*The drones first banished are welcome to other hives*

29

content therewith, but wil force in againe vpon them, they strike with their speeres: you maie sometime see a handful or two before one hive, which they bring foorth when they are deade within: but the greatest part flieth away, & dyeth abroad. For the drones are so great & strōg, that they complaine not presently as the small Bees do, but fly away lustily when they haue their deaths-wound, as though they ailed nothing. Sometime, when they see tis time to rid the hive cleane, they wil draw the yong cephs out of their cels while they are white, not suffering them to liue til they be ripe.

*In the end they are all killed.*

30

*Some die in the hive.*

31

*But most abroad.*

32

*Sometime the Bees cast out eue the white Cephens.*

33

Those that soonest rid their drones, are likely to be forwardest the next yeere. Sometime

*Timely ridding of drones the a good signe.*

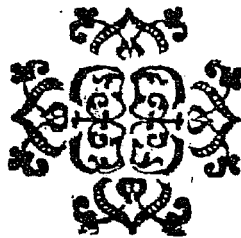
*Sometimes  
they ride their  
drones in the  
spring.*

*35  
And after  
ward breed  
new againe.*

## *Of the breeding of Bees*

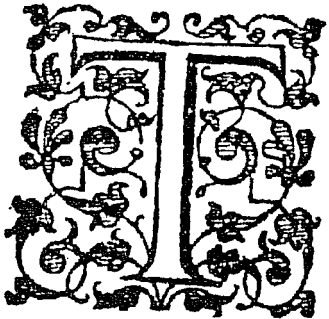
the drones are soyled in the spring. For when forward stals (which in their heat are bold to fly abroad while others dare not wagge) have lost many of their nymphs in a repelluous & stormie spring; they wil therefore destroy their drones also: but having formerly conceived by them, they then begin the world anew as after an other winter. And first breeding nymphs in the end they breed cephens againe: which if they can compasse before swarming time be past, they will swarme that yeere; otherwise they wil be fat & ful, & excellent good either to keepe or kill,

*Of*



Of the swarming of Bees, and  
the hiving of them.

CHAP. 5.



He stocks having bred <sup>1</sup> and filled their hives The parts of a swarme. do send forth swarms. A swarme doth consist of al such partes as the stocke doth, namely of a queene-bee, hony-bees as wel old as yōg, and drone bees.

If any mā desire to see the queene, he hath <sup>2</sup> now opportunity, when she goeth forth When you may see the with her swarme: *v. n. 27.* and dead ones he may find queene bee. many before the stooles when the stocks haue cast their last swarmes, *v. n. 29.* and also when many meete in one swarme, *v. c. i. n. 7.*

Men thinke that the swarme consisteth on <sup>2</sup> ly of yong Bees, and that the old Bees only ta- The swarme no yōger thē ry behinde: but indeed (though it may seeme strange) the swarme is no yōger, thē the stocke: for there are in both of both sortes. The yong Bees remaine in the stock with the old for their defence and for the greatest labours, *v. & the* v. c. i. n. 55. old ones go with the yonge in the swarme for their aid and guidance in their worke.

The drones they take with them for propa-  
gatiō



v. c. 4

4  
 Many drones  
 in a swarme  
 a good signe.

gation of their kinde. v. And therefore those swarmes that haue many drones will surely prosper: and if they be rathe will swarme againe, vnlesse they bee over-hived: whereas those that haue fewe or none, will increase little or nothing at the sommer after.

5  
 A kinde  
 spring for  
 swarmer.

A warme, calme, and showring spring causeth many & rathe swarmes: whereas dry, windy, and cold-stormy wether doth then worke contrary effects. For it both hindereth the breeding, because the old Bees at such times will go little abroad, and when they do, they find smal state in the flowers; and also destroyeth the breed, because the tender fry adventuring into the vngentle aire, are so beaten & chilled vpon a sodaine, that few are able to recover the hie.

Hist. s. c. 22.  
 Nat. hist. li.  
 xi. c. 17.

*Argent mella siccitates, sobolem inabres. Humido vere melior factus, siago mal copiosius.*

6  
 Swarming  
 wether.  
 v. m. 19.

Likewise in warme and calme weather the swarmes delighte to arise, but specially in a gloome after a showre; in extreme hot and dry wether not so: v. in so much that stals being full and ready to swarme with the first, are sometime so kept backe with cold dry windes in *Gemini*, and vvith extreme heat & drought in *Cancer*, that they haue not swarmed at al that yeere.

7  
 The swar-  
 ming houres

The swarmes vse to come forth betweene the houres of nine and three, but chiefly betweene eleven and one. They choose rather the forenoone if the wether please them: other

wise

and the hiving of them

C. 5.

wise they will stay for a faire howre in the afternoon. This time of the day therefore in the swarming months your Bees must continually be attended.

The swarming months are two, *Gemini* and *Cancer*: one month before the longest day, and an other after. I haue heard of a swarme vpon *S. Iames* his day, but surely those Bees had forgot themselves. Those that come in the ascending of the sun betweene *Gemini* & *Cancer* are the swarmes. Those that come in the descending betweene *Cancer* & *Leo* are late swarmes. But there are fewe that come in the first fortnight, and they very good: few also in the last fortnight, namely after *S. Peters*-tide, and they very bad. Yet the backwardnesse of the yeere, when it happeneth, may mend them much.

Those that swarme before the blowing of knap-weed, come in very good time, before the blowing of blackberies they may liue and doe well; but blackberry-swarmes are seldome to be kept, vnlesse you meane to feede or driue them. For they are more likely to die then to liue: & if they liue, they will not swarme the next yeere. And moreover they weaken the stocks from whence they came, which otherwise would swarme betime the yeere following: and then one such swarme is vworth three of those late-ward ones. Wherefore prevent their hiving, v.

8  
The two  
swarming  
monthes.

9  
Rashe  
swarmes.

10  
Late swarmes

11  
Black-berie  
swarmes are  
seldome to be  
kept.

12

*A prime-  
swarme & an  
after-swarme  
naturall*

An old stal ful, or yeereling welnigh ful doth naturally & vsually cast twife, a prime-swarme & an after-swarme: although some full stals do not cast once, some but once, and some having

13

*A stalle may  
cast 4. times.*

many princes (specially whē the prime-swarme is broken) doe cast three or fowre times! For sometime it happeneth that in the going

14

*Divers can-  
ses of break-  
ing the  
prime swarm*

foorth of the swarme a blacke clovde rising stayeth parte of them that are already come foorth, and lie aboute the hues-dore: sometime when they are al vppe either fearing a clowde, or disliking the lighting-place, or being troubled in the hyving, parte doeth returne.

15

*One prime-  
swarm worth  
three after-  
swarmes.*

One prime-swarme is vvorth two or three after swarmes, except it be broken: and then if the residue come foorth in one entire swarme, that after-swarme may bee the better of the twaine: but if it bee divided into two or three, then vvill they all bee but indiffent, vvhich can hardelie liue till the nexte sommer: and therefore must ether bee taken or fedde: except you put them to some other.

16

*The vulgar  
Bees appoynt  
the raising of  
the first-  
swarmes, &  
that upon  
a grounds.*

The choice of the time vvhen the first colonies, or prime-swarmes shall goe foorth, the rulers referre vnto the cōmons: vvho by reason of their continuall travell and businesse both vvithout and vvithin, doe best knowve vvhen all thinges are readie and fit for them:

First

and the hiving of them.

C. 5.

First within they will bee sure that they haue a Prince readie to goe with them, for without a governour they will not bee. Then that their hive bee full, so that it maie bee divided at the least into two or three sufficient companies: one to remaine with *Martbes* the olde queene, an other to goe foorth with *Antiope* the prince, and a thirde happylie, which together with the vnripe brood in the celles maie make an other swarme to serue *Orybia*. Without likewise they will see, first that the flowers be in state presentlie to furnish them with store of vvax and honie; then that the wether doe please them, as being vvarme, and calme, and moist, vnlesse, being continuallie vnseasonable, they haue no choice.

When the hives begin to be full, they will drone, or yeelde foorth fledge drones: which is a signe that the first broode of nymphes haue bene a good while flying abroad, and are now able to endure both vvether and labour.

17  
*Five signes  
of the first  
swarming.*

Other signes of the hives fulnesse and readinesse to swarme are at the hive-dore. First the Bees hovering in colde eveninges and mornings. Secondlie the moistnesse or sweating vppon the stoole. Thirdly their hasty running vppe and downe. Fourthly their first lyinge foorth in foggie and sultrie

mor:

## Of the swarming of Bees

mornings and evenings & going in againe whē the aire is cleere. But this last signe is seldome seene in temperate weather.

18.

The signe  
of present  
swarming.

v. n. 7.

Sometime, when they swarme, they fly away as fast as they come forth; but for the most part they first gather together without at the dore not only vpon the hieue, but vpon the stoole also: where when you see them begin to hang one vpon another in swarming time v. & to grow into a cluster that covereth the stoole in any place; then be sure they will presently rise, if the weather hold. The first that come forth will increase that cluster to some fourth part of the swarme: and then begin they to fly away first out of the hieue, and after from the cluster: &c. v. n. 27.

But here you must note that as to fill the hieues dore, or to fly forth a little now and then in foggie or sultrie mornings and evenings (which is because then they are most offended by heate within and can best indure the aire abroad) & otherwise to goe in againe, is a signe that the hieue is full, and therefore are like to swarme shortly after; so to fly forth continually (as in extreame hot and dry sommers they vse to doe) vnder the stock or behind the hieue &c. specially after *Cancer* is come in, is a meane to hinder their swarming. For the Bees knowing by nature that the greatest companies doe prosper best; vntil they find themselves so pestred

19.

To fly forth  
continually  
is a signe  
they will not  
swarme.

and the hiving of them.

C. 5.

red with heate and throng of multitudes that the hive can scarce hold any more, wil haue no mind to swarme. And when they haue once taken to y forth, the hive wil alwaies seem empty, as though they wanted company.

To remedie this, you must in hot weather How to temper keep the hives as coole as may be, by watering dy them by- and shadowing both them & the place where in 7 foris they stand.

If this cause them not to keepe in; then about eight or nine of the clocke in cleere and calme weather, driue them gently into their hives with your brush v. and ever now and then v. n. 39: powring a little water downe the forepart of the hive, keepe the doore coole and moist v. til either the Bees bee gon in or it be about 10 a clock: afterward let them doe what they list happily (if the wether like them) they wil come forth and swarme: vnlesse they haue no prince to goe with them, without whom they never remoue. Thus may you try them 5 or 6 daies so it be before Midsommer, and before the hony dewes be rise: for it is pitie they should loose their part of them. Therefore if by that time they swarme not, suffer them no longer: but if the stall be a yeareling, reare the hive and let the Bees in: and then wil they enlarge their combs and gather hony which before lay idle abroad, and increase almost to as much profit, as if they had swarmed, by the next yeeres great

## Of the swarming of Bees

great and timely swarmes. But if the stall be of many yeeres, then turning the bottome of the hieue vpward set a leere prepared hieue fast vpon it: into which they wil ascend and worke and breed there as well as in the old. At *Libra*

*v. c. 10. par. 1. n. 17.* you may drue v. them all into the new hieue, and take the old for your labour.

*21*  
The signes of  
after swarms

The signes of the after-swarmes are more certaine. For whereas the rising of the prime-swarme is appointed by the vncertaine vulgar, whose chiefe direction is the fulnes of the hieue; the hieue being now well emptied, for other

*22*  
The rising of  
the after-  
swarmes is  
appointed by  
the rulers.

swarmes there needeth some other warning, which the rulers themselves doe give by their voices without which that stock will swarme no more that yeere. And yet the choice of the hower, yea and of the day among foure or five is permitted vnto them, as best knowing the disposition of the weather.

*23*  
When they  
begin to call  
or sing.

When the prime-swarme is gon (if the stock shal swarme any more) the seauenth or eight evening after, somtime the ninth, tenth, or eleuenth, the next priuce, when she perceiueth a competent number to be fledge and ready, beginneth the musick in a begging tune, as if she did pray hir queen-mother to let them go: wherevnto if she yeeld consent by hir answering/ as to the petition of hir second daughter she seldome saith nay, though sometime shee consent not in two or three daies ) then looke

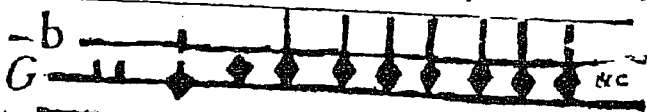
for

and the hiving of them.

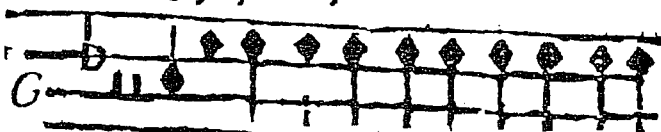
C. 52

for a swarme: which seldome ariseth the next day, vntilse the weather be very pleasat: but after two or three daies they will accept indifferent weather. I haue not knowne any stay after the fift day.

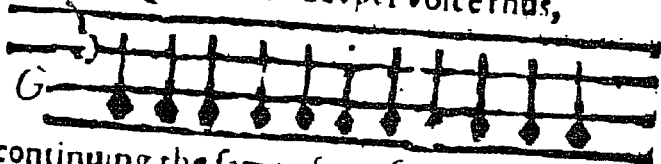
They sing both in triple time: the princess thus 24  
The Bees  
musicks.



with more or fewer notes, as she pleaseth. And sometime she taketh a higher key, specially toward their coming forth, and beginning the od minim in *Alamire* shee tuneth the rest of hir notes in *C sol fa* thus,



But the Queene in a deeper voice thus,



continuing the same, some foure or five semibriefes, and sounding the end of every note in *C sol fa re*. So that when they sing together, sometime they agree in a perfect third, sometime in a *Diapense*, & (if you respect the termination of the base) sometime in a *Diapaf o*. With these tunes answering one another, and some

F

pauses.



## Of the swarming of Bees

25  
When you  
may best  
heare it.

pauses betweene they goe solemnly round about the hieue, so to giue warning vnto all the company. This they continue daily vntill their swarming: but you may heare them best in the evenings and mornings. If there be many of the Queenes bred that are ripe, they will ioine with her in hir tune, the more to incite the swarme to goe, that their turne may come the sooner: I haue heard three of them together. But none dare counterfeit the voice of the Prince: for that were treason to hir person. And yet sometime one of them, in hope to part the swarme, wil steal out with her: but if the swarme be not parted, or being parted be put together in one hieue, it costeth her hir life. v. c. l. 7. 7.

26  
Before the  
Bees swarme  
the voices  
come downe  
to the stoule.

In the morning before the swarme come abroad, these Princes come downe neerer the stoule: and there they hold on their melodie somewhat longer, singing sometime about 20 notes together, and with shorter pauses.

27  
The manner  
of their swar-  
ming

At the very swarming time they descend to the stoule: where answering one another in more earnest manner, with thicker and shriller notes, the mainie begins to march along, thrōging one another for hast, and buzzing with their wings in great iollitie.

As soone as the legall Nymphs are aloft, they doe most nimbly bestirre theiueselves sporting and playing in and out as if they were dancing the hay, in this manner waiting for the

com-

and the hiving of them.

C. 5.

coming of their Prince. Now when some two third parts or three fourth parts of the swarme is pulled, the musick ceaseth, and then cometh forth his stately dame *Orybia*: who walking two or three turnes before the dore, of purpose you would thinke to be scene, shee takes hir leave, leaving but a smale traine to follow her: which hight her after as fast as they can. This decent order the great Lords of the earth seeme to have learned of this little Lady: who in their country progresse, goings to Parliament, and other solemne processions, doe send the greatest and fairest part of their retinue before them, having behinde but a smale troope of necessarie attendants to gard their persons.

28  
The prime-swarme being broken, the next may call and swarme with in shee his daie.

If the prime-swarme be broken, the second will both call, and swarme sooner: and by that occasion happily a third also may rise, yea and sometime a fourth: but all within a fortnight after the prime-swarme. After the second swarme I have heard a yong Lady-bee call: but the Queene not willing to part with any more of hir company did not answer: and the next day she with leaue more were brought forth dead.

29  
All the swarms of one hive bee within a fortnight.

When a swarme is up, it is a common fashion to make a harsh noise with a pan, kettle, basson, or other like thing, thereby to stay them from flying away. Which indeed is no new thing as being used in *Aristotle* his times.

30  
It is so done when a swarme is up.

## Of the swarming of Bees

deve etiam planu (saith he) atq, sonitu apes videtur. Quapropter timetur aris, aut fictilis convocari in alveum aiunt. But for any thing that I have observed, if it doe no hurt, it doth no good, and the least they loose their labour that vse it, you see them begin to fly aloft, which is taken that they would be gon, cast dust among them to make thē come down. Notwithstanding if you do what you can sometime they will away, and perhaps fly so far before they settle, that though you follow them never so fast, you must be content to leaue them, happily to the happy finder. For whē you have lost the sight & hearing of them, you have lost all right and property in thē. *Examē q̄ ex alveo tuo volaveris, eos q̄ intelligitur esse tuū, donec in conspectu tuo est, nec difficilis persecutio eius est: alioquin occupantis est.* Justinian. l. 2. institutionum in ru. iii. de re: divis.

3 -  
The swarms  
provide thē  
houses afore  
hand.

32  
and thē they  
fly away di-  
rectly to the  
place.

Sometime they wilbee provided of a house before they swarme, which some harbingers have found, and viewed, and dressed against their comming: as either a holow tree, or a void hive: and then wil they away presently, and by no meanes settle til they come thither. Vnto which place they wil flie, not, as at other times, uncertainly this way and that way; but as directly as they can guesse. In so much that if a tree stand in their way, they wil neither take the one side nor the other, but passe straight through him. A poore woman having taken a poore

and the hiving of them.

C. 51

a poore swarme to keepe for halfe, by newe-  
 yeeres tide lo t hir owne part and hir partners  
 and being carelesse of the hive when the Bees  
 were dead, shee let it stand abroad til shee had  
 forgotten it: the next sommer comming into  
 hir garden, shee found some Bees passing to &  
 fro hir hive, which were then busie in cleansing  
 and dressing it: she wisely fearing that the Bees  
 came to cary away the wax that was leaft, bad  
 hir daughter take the hive and carry it in: the  
 wench following hir play did happily forget  
 hir mothers command: & by that meanes the  
 hive stood stil, til the vnexpected swarm came,  
 that afterward stored hir gardē. It is not amisse  
 therefore to follow the counsel of Columella. O

*partes autē vacua domicilia collocata in apiariis ba-  
 bere. Nam sunt nonnulla examina quae cum profes-  
 serint, [e statim sedem sibi quarant] in proximo, eam-  
 demq; occupant quam vacuum repererint.  
 \*Seu potius prius questam, lustratam, & paratam ad-  
 ant. v. n. 31.*

33  
*Vacua alve-  
 aria sicut sem-  
 per parata  
 in apiario.*

When your swarme hath made choise of a  
 lighting place, you shal quickly see it knit togi-  
 ther in forme (if nothing let) of a pomegranat,  
 or cluster of grapes. As soone as the better part  
 is settled, or at least assone after as may be, hive  
 them. For the longer they hang the lother they  
 are to be put fro the place, the more time they  
 lose from their worke, & the more in danger  
 are they to bee gone. For when they are once

34  
*The hiving  
 of Bees.*

35  
*When they  
 are so be hi-  
 ved.*

Of the swarming of Bees

settled, they presently send forth spies, to search out an abiding place: who if they returne with good news before swarming-time be past that day, they rise presently, & are gone: otherwise they wil stay till swarming time the next daie.

But whensoever the spies haue soed, they returne withal speed, & no sooner do they touch the pomgranate, but they begin to shake their wings like as the Bees doe that are chilled: which the next perceiving do the like: and so doth this soft flouering passe as a watch-woorde from one to another, vntill it come to the most Bees: wherby is caused a great hollownes in the pomgranate. Whē you see them do thus, then may you bid them farewell: for presently they begin to vnknit, and to be gone. And the though you haue them never so wel, they wil not abide.

36  
 The token of  
 their flying  
 away after  
 they bee set-  
 led

How so fit  
 the hives to  
 the swarms

Whē you see your swarme, first make choice of a hie fit for it. If you would haue it to cast the next yeere, you must take a hie proportionable to the bignes & time of the swarme. A swarme of the beginning of *Gemini* put into a hie that containeth thrise so much as the swarme is. A swarme of the beginning of *Cancer* into a hie that containeth twice so much: And others as they come later, so let the hives be lesse in like proportion vnto these: So that the Bees may fill their hie that yeere, or at the least within a hadful or little more, which they may make

make vp the next yeere in good time. For they wil seldom swarme before the hive be full. For example: a swarme of a peck at the beginning of *Gemini* should haue a hive of three pecks: & such a one at the beginning of *Cancer* should haue a hive of halfe a bushel.

38

But if you desire to haue great & faire stals, How to make your stals great because little ones are not so wel able to defend themselves againti their enemies, namely weather, waspes, and robbers; then let your hives be of a bushel or thereabout, if the swarmes may at the least halfe fill them the first yeere: for then wil they thoroughly fill them the next, and perhaps swarme: & the third yeere if it be kind they wil not faile. But then are they to be kept warme the first winter, v. c. 3 n. 38. Otherwise you maie v. n. 52. put two good swarmes together, v. and then they wil be able to keep themselves warme. 39

Your hive being fitted & dressed, you must have also in a readines a Mantle, a Rest, and a brush. The Mantle may be a sheet or half sheet, or some other linnen cloth an ell square at the least. The rest is a three-square sticke eighteen inches long, & three inches thicke. The Brush is a handful of benets, hy sop, or other herbs, or boughs bound taper-wise together. A Mantle a Rest and a Brush alwaies in a readines.

40

All things necessary thus prepared, let the hiver, which must weare no offensive apparel, What the hiver must doe. first drinke of the best beere, and wet his hand and face therewith: and then let him go about v. c. 5. n. 5.

## Of the swarming of Bees

his busines soberly & gently taking good heed where he sets his foot & how he handleth the: for if hee tread vpon a Bee, or by any other meanes crush one of them; they presently finding it, by the ranke smel of the poisonous humor, wilbe so angry; that he shal haue work enough to defend him selfe, vnlesse he haue on his complet harnis, v. and being thus disquieted they wilbe the worle to hieue.

Cap. 7. n. 38.

4 t

The manner  
of hiving.

The māner of hiving is so manifold, by reaso<sup>n</sup> of the many and different circumstances of the lighting places, that it can hardly be taught by precepts; but is rather to be learned by vlc and experience, guided with reason and discretio<sup>n</sup>. Nevertheless for the helpe of novices, I vvil set downe some particular instāces, which may serue for direction in al other.

42

How to hive  
a swarme  
that lighteth  
vpon a low  
bough

When your swarme lighteth vpon a bough, if it bee within two foote of the ground, first spread your Mantle right vnder it, and laie the Rest vpon the Mantle about a foot from the midle, toward that side which is frō the winde, if the winde be rough: otherwise set it towarde the sun: for there must be their way in and out the hieue. Then cut the bough (if you may conveniently) & lay it on the mantle along by the Rest, & set the hieue over it, so that on side may stay vpon the Rest and hang out over it some 3. inches. If there be any other boughes with bees besides, lay them vpon the mantle by the  
hine

*and the hiuing of them*

C. 5.

hiue, which if you wag nowe and then a little they wil make the more speed into the hiue. Otherwise you may shake downe the Bees vpon the mantle; and set the hiue over thē as before, and they wil presently vp into the hiue. Otherwise you may shake them into the hiue, & set the hiue vpon the Mantle and Rest as before. And if any begin to knit againe vpon the bough, cease not to shake it, or else, whe they are knit, cut the bough, and lay it by the hiue.

And if some of them bee fallen to the ground, then placing the Rest as neere vnto them as may be, set the hiue over them as before without a mantle, and the rest of them having cut the bough or boughes lay beside the hiue.

If the bough be higher, cut it off likewise: and if some of the swarme chance to fall in the cutting, then hold the bough in the place, till they be settled againe, and so bring them downe in your hand: or for more suretie let an other second you with the ready hiue holding it directly vnder the swarme: thē hauing first taken away all the twigs of the bough that may let you, cut of the bough or boughs (for sometime they will hang vpon two or three) & put them into the hiue: & so bringing them down, set the hiue vpon the Mantle and Rest, as before. But if the tree be very high, and you want a ladder or other meanes to come downe gently.

43

*How if it  
lights vpon a  
high bough*

ly.



## Of the swarming of Bees

ly with them in your hand; you may let them downe by a corde. Then shake them from the bough vpon the Mantle, or into the hieue, and doe as before.

44

*How if it**light vpon a**bough that**is no beehiue.*

If you cannot conveniently cut the bough, your next way is to shake the Bees into the hieue, and presently, covering the bottom with a cloth, to bring them downe; and then taking away the cloth set the hieue vpon the Mantle as before. But then you must looke that many will rise againe, and not easily forsake the place. For which cause you must not cease to trouble them by shaking the bough, wiping them of gently with your Brush, and laying on mugwort, marges, nettles, or other weedes, or hearbes, and by spiring and blowing vpon the place; and after a while they will all to their felowes in the hieue.

45

*How if it**light vpon**the body of a**tree.*

If they light vpon the body of a tree, or vpon some great arme that will not be shaken, then set one side of the hieue right over the Bees, &c with the Brush driue them vp by troubling still the lower and waiward part. But if you haue no meanes to fasten the hieue by tying it aboue, or propping it beneath with prongs or the like, then must you be faine to sweep them into the hieue with the Brush (not in any wise with a goosewing v. as some vse to doe) and then setting them on the Mantle and Rest vnder the tree, trouble the place as before

If

*and the hiving of them.*

C. 5.

If they light on the top of any thing, as of a stub, pollard, or hedge; set one side of the hive over the propping the other side with a prong or two, and driue them vp as before.

46

*How if it  
lights upon  
the top of any  
thing.*

If they light in the middle of a dead hedge (vnlesse you can, by removing some sticks, conveniently come at them to driue them in) you must violently knock the hedge on the other side, so forcing the Bees into the hive: and then setting them downe, trouble the place as before. But then be sure to be troubled your selfe: for it is hard to get them from such a hold.

47

*How if it  
lights in the  
middle of a  
dead hedge.*

If they light on some hollow side of a stub or tree, which they wilbe loth to leane, beware in any case you wet them not, for that doth not only drowne many, but also maketh the rest more eagerly keep the place: because some through the wet cannot fly away, and then felowes finding them there will still resort vnto them. But when you haue moued them by other meanes as much as you may, put some mortar or cloome into the hollow place, mouing it forward by litle and litle so that you burte none of the Bees, vntil you haue spread it over the place: and then will they presently forsake that, and take some other part of the tree or stub, where you may more easly hive them.

48

*How if it  
lights on some  
low side of  
a stub, or tree*

When they fly into a hollow tree, so that by none of the foresaid meanes you can hive the, then must you remoue them by some offen-

49

*How if it fly  
into a hollow  
tree.*

siue

## Of the swarming of Bees

pany, they deeme these to be such by their lōg absence. And if you aske why they shoulde finde so hard entertainment in their old home frō whence they came, it is because they went away with a governour of their owne, and so became a severall company. And therefore if she hide away, as many as come backe (vnlesse they come presently) are vsed as strangers: but if part haue brought hir home againe, the rest do safely returne afterward, either that evening, or the next morrow.

51  
 What to doe  
 if a swarme  
 part.

If the swarm part, as sometime it wil, & settle in diuers places so neer that they may see each others; let the greatest part alone, specially if it be best to hie, & trouble the other in the settling with shaking, gentle rubbing with weeds, and spitting & blowing in the place, that they may go to their fellowes. If they be settled & hang vpo a bough, cut the bough and bring them to them. If they be settled in some other place, then put them in a hie without spleets: and if they bee within a perch of the other parte, moue them both, one towardes an other by little and little til they be close together. After they haue stood so about halfe an houre, lift vp the spleeted hie frō his Mantle & Rest, and shake the bees out of the vnpleeted hie vpon the same: you may first knocke the hie downe right vpon the mantle, & then presently clap it twice or thrise betweene your hands.

This

and the hiving of them.

C. 5.

this done sprinkle both parts with good drink, and then without any stay set the splected hive over them and they wil straight way vp into it. But lay the vnsplected hive along hard by, not where it stood, but on the other side: and those that remaine in it wil follow their fellows. But if the parts be farther a part then a pearch, thē drive them together the same night, v. c. 10. p. 1. n. 17. beginning at late in an evening, &c. vnto <sup>anc</sup> forthwith carrie, & when by clapping of the stranger you haue gotten as many Bees forth as you can, first pul out the little combe that they haue made, putting it into the receiver: & then vte the hive as the vnsplected hive.

In like manner when y u haue little swarms <sup>93</sup> *Whē they* about a gawne or vnder, specially after *Cancer*, <sup>to put two</sup> put two or three of thē together, whether they <sup>swarms to-</sup> gither. rite in the same day, or in diuers: (but thē make that the receiver which was first hived.) For being thus vnited they will labour cheerefully, gather store of weal h, and stoutly defend thēselues against al enemies: whereas if they vvere kept a sūder, they would sure. y perish the next robbing time, or winter; or living would doe you little good. And thus may you do to those that are good, if you desire to haue them excellent good, v. And therefore if two swarms <sup>v. n. 38</sup> riting at the same time do weld & knit together, (as lightly they wil doe, if they be within hearing one of another) never trouble your selfe

to part them, nor be sorry for the chance. For those two being all one, are better then three such that are alone. Wherefore they are little acquainted with the nature of Bees that fetch their similitudes from them to crosse that rich, mighty, renowned, thrice happy *Union*. In joining two swarmes together vie them as if they were two parts of one: And if they rise in divers daies, driue the later into the former.

54  
How to stay  
a swarme  
that is going  
home, againe

When a swarme vpon some dislike goeth home againe, if you perceiue it before many be entred the hiue, shut the dore: so will they settle vpon the hiue, where you may easilie hieue the. For the swarmes that returne into the hiue do sometime stay long before they rise againe, & when they rise, specially if they were hived, they are like to fly away: although I haue knowne a swarme to rise sowe times in three daies, and at the last to be quietly hived.

55  
How to keep  
them from o-  
ther hives  
when they ar  
going home

If anie of them bee going into an other hiue (as sometime, where the hives stand neere together they wil do, because they cannot discern their home for their fellowes that are so thicke before the dore) shut that hiue, or stand before it: for as many as enter will die, or scape narrowly.

56  
What to doe  
when the  
swarme is  
new-hived

When your Bees are hived, those that hang on the outside driue in gētie with your brosse and lay the corners of the Mantle, that are farthest from the Rest, over the hiue, with boughs

also

and the hiving of them

also to shadow it, if the weather be hot. But if you find them unwilling to goe in (as in extreme hot weather they wilbe, though they like the hive wel enough) then strue not with them; but laying the corners of the Mantle over the hive, as before, with boughs to shade it, there suffer them til the heat be abated, and then driue them in: and if you thinke they cannot otherwise wel endure the heate, cover the hive againe with Mantle and boughs. And so let it stand til it wax dark, and all the Bees be come home.

Then knitting the foure corners of the Mantle together, at the top of the hive, and binding the Mantle about close to the middle of the hive with a smale line, cary the swarme to his place. And after a while, taking away the Mantle, set it vpon his seate with the dore toward the South or rather Southwest: v. and leaving only a breathing place, for feare of stifling them if the hive be close, then cloome it vp close, and put on a hacle v. and so let it stand til it bee faire and warme the next day. For if the hive be leaft open, in the morning betimes they will resort to their former standing and there abide, sosome flying about, sometime settling on the ground: where if the cold or wet take the many dy. Whē you see the weather sic the, the hanging the Mantle, or other whit cloth vpon the hive, let them go: & at night take away your Mantle againe.

57  
How to red  
moue is in  
the evening.

58  
How to set in  
on his seas.

V. c. 2. n. 15.

V. c. 3. n. 13.  
& 19.

59  
How to use  
it in the morn  
ning.



60

A swarme  
lighting neer  
his seat is  
presently to  
be set thereo.

againc.  
If the swarme light in your garden within a perch of the seate that is appointed for him, it is best to set it there at the first. So will not the Bees loose any time the next day in haunting an other place, as knowing their home: and therefore need no white cloath over them for their direction, nor to be shut in in the morning as other swarmer.

61

Foul weather  
the first day  
doth much  
discourage a  
swarme.

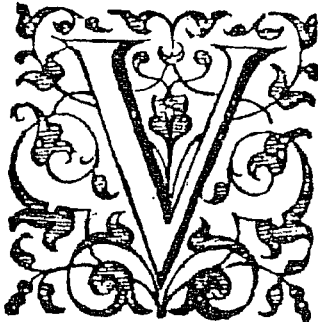
All swarmes, if the morrow be faire, will desire to be abroad betimes, and knowing their want, will bestirre themselves more lustily in their labour then other Bees.

62  
A swarme  
may live 5  
daies with-  
out hony.

But if the fowle weather keepe them in the first day, then are they much discouraged: the next day being indifferent, when other Bees worke hard, they will scarce looke out of the dore, not daring to commit their leere & thin bodies to the cold aire. And if they be shut in the second day also, then will they not wagge (though they dy for it) vntill the weather bee very pleasant. They may liue five daies in the hieue without hony: but afterward they begin to string downe hāging one at anothers heels: *Pedibus connexa ad limina pendent.* Which is a certaine signe of death, if they be not presently relieved with hony and faire weather,

Of the Bees worke,  
and labour.

CHAP. 6.



Nto the industrious nature of Bees nothing is more odious then sloth and idlenes: while there is matter to worke vpo, vnles they be let by vnkinde weather, their labour never ceaseth: yea the old Bees, which haue

<sup>1</sup>  
Bees most industrious  
*dustrans cre  
asuras.*

spent their daies in continual labour, wil not at the last allow themselves any immunity or rest in their hiues, as a recompence for their paines past, but cōtinue stil their travaile vnto death: v. In the three dead months indeed, *Sagit. Capric. & Aquar.* because then there is nothing to gather, they worke not, (yet when a faire daie or howre commeth they fly abroad to play & recreate themselves: v.) but so long as any good flowers grow, even from *Pisces*, or a litle before vnto *Sagit.* and some yeeres somewhat after, which is full nine months, they loose no time. *Nullus, dum per calum lenit, perit dies.* But follow their sweet worke tooth and naile.

<sup>2</sup>  
In three months they cannot work  
v.c. 1 n 55.  
<sup>3</sup>  
All the yeere after they loose no time  
Nathitt, l. 11 c. 6.  
Virg.

*Ac veluti lentis Cyclopes fulmina massis  
Quam properant, alij taurinis folibus aras*



## Of the Bees worke,

*Accipiant, red dunt q; alij stridentia tingunt  
 Aera lacu (gemit impositis incudibus Aena)  
 Illi inter sese magna vi brachia tollunt  
 In numerum, versant q; tenaci forcipe ferrum;  
 Non aliter (si parva licet componere magnis)  
 Cecropias in matris apes amor urget habendi  
 Munere quamq; suo ---*

How they gather wax.

Hist. l. 9. c.

40.

Nat. hist. li.

II. c. 16.

Nat. hist. lib

II. c. 14.

Their work consisteth in making either wax or hony. The wax they gather with their fags: which being kept soft with the heat of their little bodies, of the aire, and of their hiues is easily wrought into combs. This worke is so nimbly and closely done, that it can hardly be perceived; insomuch that *Aristotle* plainly confesseth, *Nec vero quemadmodum operantur visum adhuc est.* But *Plinie* willing to goe a little beyond him telleth vs a tale of a lanthorne hiue made at Rome, through which forsooth their doings in the hiue were discried, & in another place of another like devise. *Mulsi alvearia speculari lapide fecere, ut operantes intus spectarent.* But vnlesse the Bees also were transparent as well as the hiue, this cannot be: seeing they do alwaies frequently compasse the combes round about, A more likely way then that were to haue a moueable piece in one side of the hiue, which when you haue taken away, you may see the drones and the hony-bees walking together to and fro, and with their doubled heat hatching their yong, but their worke can you not see.

though

though you remoue and part the Bees til the bare combes appeare. But if your curiositie would so faine behold the maner of their curious & artificiall building, the only way is this. 5  
*How you may see the working of the combs.*  
 In *Gemini* let vp a last yeeres midling swarme two or three handfulls aboue the stoole: & thē when most of the Bees are abroad, but most fitly in the forenoone when they are most quiet, you may behind the stole behold them working on the edges of their combes, and hauing blowne their liquid and soft wax out of their mouths (as the waspes doe their drossie stuffe, which you may see them gather frō pales with their fanges and so carrie it away) to fasten and fashion it with their fanges and forefeet.

How much wax they bring at once, doth appeare by the new swarmes: whose first weeke worke is spent chiefly in building combes: wherein they are so earnest, that it falleth out with them as it is in the proverbe, *The more haste the worse speede*. For many of their burdens do fall from them before they can fasten them to the combes. You may then see great store of them vpon the stoole by the skirts of the hine, like vnto the white scales which fal from yong birds feathers. And therefore some haue imagined, that they also are scales, which the yong Bees doe likewise shed from their wings. But put you some of those parcells together with warme fingers, and you will quickly be resole-

6  
*How much wax they bring at once*

7

The fashion  
of their cōbs  
and celles.

ved of that doubt.

The Bees combs are placed otherwise the the waspes: for the waspes hang theirs one ouer another, and the Bees theirs one by another. Beginning them in the top of the hiue, at that distance that a Bee may reach from one to another.

Hexamer.  
l. sic. 21.

Their cells or little hoals are made six square according to the number of their feet, and of that length and widenesse, that each of them may easily containe a Bee. Which are so artificially wrought and ioined together, that S. *Ambrose* in the consideration thereof saith. *Quae castra quadrata tantum possunt habere artis & gratia, quantum habent crates fauorum, in quibus minima ac rotunda cellulae connexionem sui inuicem fulciuntur? Quis enim architectus eas docuit hexagoni cellarum indiscreta laterum aequalitate componere, ac tenues inter domorum septa ceras suspendere, stipare mella, inexta floribus horrea nectare quodam distendere?*

8

The drone-  
combe.

The vse of these cells is to lay vp their honny in, and to breed their Nymphs.

Hil. 9. c. 40

Besides these ordinary combs there is commonly one drone-comb in a hiue, wherein the Cephens are bred, made for the nonce with wider celles. *Sunt loculi ipsi fauorum ampliores, & finguntur seorsim quoque, per se faui fauorum.* Although in some hiues the neather parts of the drone-combs be made out with Nymph-celles. The drone-

drone-combe being no thicker then others, & yet the drones longer then the female Bees, they increase the length of his cels by covering them not with a flat cover, as they do the rest, but with a deepe hollow one like an old wifes thrumbd cap; which afterward, when the drones are bred, they take away. And when those cels are void of Cephens, they fill them as they doe the other with hony; yea and after swarming-time, if they want vpper celles for their hony, they wil not tarry til they come forth themselves, but liking better their roome then their company, they draw them out of their seminaries before they be ripe.

But the queenes celles are built single, every one by himselfe, and that in divers places of the huc, some above, and some beneath: that, as other princes, shee may for hir delight remoue at hir pleasure: but for the most part in the out-sides of the combes: for although it be fit for princes to be neere their chiefe cities, yet doe they not loue to bee pestered in the midst of them. In fashion they are round, which is the most perfect figure, as the six square is most fit for comely ioining many such buildings together. They are also larger then the rest, to shew that subjects houses should not match their soveraignes in greatnesse. In these pallaces doe they breed their yong princes, v. *Plinie* speaketh thus of them. *Regias imperatoribus extruunt*

<sup>9</sup>  
The queenes  
celles are built  
single in di-  
vers places.

10  
In fashion a  
round.

v.c.4.p. 15  
Nat.hist. l.

11  
The common  
error anent  
these celses.

*amplas, magnificas, separatas, tuberculo eminentes.*  
The common people finding them alwaies in those stais that die, take them for certain signs of death, and cal them pipes forsooth, or taps: and therefore when they see them in a stal that they take, they say this was taken in good time for it is piped, and therefore would haue stood no longer. But seeing none are without, no not the yongest swarmes, ordinary reason might teach them to forgo that fond conceipt.

12  
The combs  
haue 3 co-  
dours succes-  
sively.

The combs at the first are white, which they cal Virgin-wax: after the first sūmer they turne yellow: and in the end, when they wax old and begin to corrupt, they change againe to a blackish & durty colour. The time when they gather wax is only betweene *Taurus* and *Virgo*: vnlesse *Aries* bee warme and kinde, for then they may begin in that month.

13  
Wax is ga-  
thered only  
in 4 months.

But hony they gather al the yeere, saue only in those 3 dead months, when the weather keepeth in both Bees and flowers. And it is of two sortes: the one pure and liquid which is called *Nectar*, the other grosse and solid, which we may by like reason tearme *Ambrosia*. For both serue for the foode of these diuine creatures.

14  
Hony in 9  
15  
The Bees ga-  
ther 2 sortes  
of hony.

The grosse hony is gathered by their fanges: from whence it is conueied by the fore-legs to the thighes of the hin-legs (*Quae flores comportat*

16  
How ambro-  
sia or grosse  
hony is ga-  
thered.

17  
nat hist.  
lib. 6. 10.

*prioribus pedibus foemina onerant propter id natura scabra, pedes priores restrosos eq̄. om̄s ita remaneant sar*

*cinapandata*) and that so nimbly, that vnlesse you haue a quicke eye, you can scarce perceiue it.

This worke may best be seene in the spring, whē they gather vpon the blackthorne: for then by reason of the cold they are not so quicke.

In sommer, when they haue brought these burdens home, some vnload them into the dry cells for their yong to feed on, which are not yet able to fly abroad: others worke thē with the *Nectar*, which being of it seife cleere and thin, is thereby made thicke and yelow. And in the beginning & ending of the yeere, look what they saue when the wether is faire, they lay vp for thēselues against a rainy day. Which while it is good they wil feed on, to saue their old store as much as may bee. But this kinde of hony is like vnto fresh fish: it must not long be kept. For if, being laide vp in the cels, by reason of plenty that comes in fresh and fresh it ly vnspent; after a while it corrupteth, and of sweet becommeth the sowrest and the most vnswaury of al things both to the tast and smell, which then they cōmonly cal stopping. Where there is any store of this stuffe, it doth so offende the Bees, that oft times it maketh them to forsake all. Most of them wil that yeere goe soorth in swarmes: and those few that are leaft wil never prosper, v.

Ancient this leg-stuffe or grosse hony there is

17

*Ambrosia, some serueth to feed the scadons: some is wrought with nectar and laid up in store.*

18

*Ambrosia alone is soone corrupted.*

19

*And the beecometh most vnswaury stopping.*

20

*Much stopping maketh the Bees forsake their hives.*

v. c. 3. n. 43a

21

This *Ambrosia* is a general error. For without all scruple or doubt men do count it & call it wax: (as did some also in time of olde, whose opinion *Aristotle* doth thus deliver. *Ceram apes perreptando flores capiunt priorem acumine psam: mox priores in medios abster-gunt, & medios in ble(a posteriorum.)* But against

Hill. 9 40.

(as I shal shew you) both sense and reason.

22

Which error  
is disproved  
by sense.

If you put it to your tongue, it hath the taste of hony, which wax hath not. If you feele it betweene your warme fingers, it muttereth apart, where wax sticketh fast together. If you put it to the fire, it melteth not, as waxe doth. And whereas wax is al of one colour, that is white at the first, v. e. v. as those little fallings of the new swarmes, (which is wax indeede) this leg-honie is of divers colours, white, black, yellow, green, red, tawny, oringe, murry, and of sundry midling colours. Therefore sense doth say it is no waxe.

Hill. 12,

23

And reason.

The reasons are two. The first is because whē they gather abundance of this stuffe, they haue never the more wax. The other because vhen they make most waxe, they gather none of this.

For prooffe of the first, All Bees betweene *Virgo* and *Taurus* do gather abundance of it: & yet are not their combes in this time any whit enlarged. Also one of those old Itals that are full of combes, doth carrie more of this matter at the sommer long then many swarmes: & yet haue

haue they no more wax at the end of the yeere then at the beginning.

For prooffe of the other, The new swarmes within one weeke, if the wether serue thē, wil haue halfe filled their hives with combs: & yet in al this space shal you scarce see one carry a nie of this. If you would knowe the reason why the Stockes gather so much, & the new swrmes so little; it is because the stockes haue *schatons* which they feed with part, & the new swarmes haue none: but the more part the stockes doe mingle and worke with *Nectar*; whereas the swarmes at first do lay vp pure *Nectar* onlie, v. v. n. 16.  
 And if anie foolish Bee do carry in *Ambrosia*, it is put a dry cell where it turneth to stopping, v. as I haue scene within a fortnight after the hiving. v. n. 19.

And this though now it seeme new, yet was it knowne many ages agoe. *Plinie* writeth of it thus. *Prater hac* (i. *prater ceram & nectar*) *convehitur eribacc, quam aliqui sandaracham, alij cerinthum vocant. Hic erit apium dum operantur ci-*  
*bis: qui saepe invenitur in favorum inanitatibus se-*  
*positus; & ipse amari saporis.* Speaking in the last words of that which is corrupted. And before him *Aristot.* himselfe thus. *Mell apibus tum e-*  
*stase tum byeme cibo est: sed recondunt alterū quodq;*  
*cibarij genus, cui durities cere proxima quod sanda-*  
*racham non nulli appellant.* 24  
 And by au-  
 thoritis.  
 Nat. Hist. I.  
 II. C. 7.  
 Hist. 9. c. 40

The *Nectar* or liquid hony the Bees gather with



25.

How the  
pure nectar  
is gathered.

with their tongues, whence they let it downe into their bottels, which are within them like vnto bladders: each of them wil hold a drop at once, You may see their little bellies strut with all. Men thinke because they see nothing on their legs, that they come in leere: when they are better and more heavily laden then the other. These bottles, as soone as they come home,

Hist. an. l. 5.  
c. 22.

26

At the first  
the Bees lay  
vp more me-  
lar: after-  
ward they  
mix it with  
ambrosia.

they emptie into their combes, *Mel ore euomunt in cellas*. The swarmes beginning at the tops of the hives do lay vp cleere Nectar onlie, that it may last many yeeres if they can spare it: afterward they worke *Ambrosia* and Nectar together. And this is the cause why the hony in the vpper part of the combes differeth from the rest which is alwaies yellow and soft, whereas that is cleere as crystal at the first, and liquid as water: and when it is two or three yeeres old becommeth white and hard. *Concresecit autem*

Hist. an. l. 5.  
c. 22.

27

Nectar of  
two sortes  
Stone-honie  
and line-ho-  
ny.

*mel concoctum iam tempore: initio enim ut aqua dulcissimum est, & primis diebus sine crassitudine cervisimr.*

So that the Nectar or liquid hony is of two sortes: one hard and white even like vnto sugar, which is therefore called Stone-hony, or corne-hony: the other so soft that it will runne, which therefore is called line-hony. And the line-hony is likewise of 2. sortes: that which is cleere & crySTALLINE gathered by a swarme, and takē the

28

Line-hony  
of two sortes

Virgin-hony

ist yeere they cal virgin-hony which is there-  
fore

fore the purer because the cels are pure: the other which is yellow & thicker as being mixed with *Ambrosia* (and therefore in the clarifying yeeldeth more skum) is called second honie. *Second honie.*  
 The virgin honie by standing turneth yelovv: but it wilbe a bright and pure yellow, whereas the other is darke and dultie: except in plentiful yeeres of *Nectar*: for then the first shoot, *v. p. c. 10. p. 2.* if it be wel handled, wilbe litle inferiour to *Vir. n. 2.* gin-honie.

When the cels are full, they close them vp with little filmes of waxe, which they wil not breake vntill winter and hunger driue them to it. And thus do they al the sommer, descending lower and lower from one cel to an other, vntil *Virgo*: after which time they lay vp no more in store. For honie then vvaxeth scarce abroad, & thence-forth they can gather no more wax to shut it in. As for that vvhich they purchase by fight & foraging, it doth the litle good. For the most part of it they presently spend; & if they saue any, they halfe fill a few cels with it, which being vncovered, ether them selues or some other theeues quickly devour, according to the proverbe, *Evill gotten goods are scone spent.*

29  
*The full cels  
 they close  
 with waxe.*

30  
*After Leo  
 they lay up  
 no honie.*

This true *Nectar* and *Ambrosia* together  
 ⁊ Wherewith Iupiter was first nourished in the Ile of Crete while the *curres* hid him frō Saturne. Which gaue occasion to the Poets of this fiction, that the Bees were his nurces. *Dictæo cali regem pavere sub antro. Virg. Geor. 4.*  
 And afterward when they woulde make him immortall.

bee

31

Nectar and ambrosia made of many simples, whereof each month yeeldeth variety

because of the long-preserving vertue that hony hath (v. c. 10. par 3 n. 1.) they seined it to be his immortal food *Iuppiter ambrosia satur est & nectare vivis. Mart. l. 11. ep. 58*

with those sweet and wholesome vessels that do containe them, are gathered from infinite variety of herbs, flowers, and trees, which God in his bounty hath ordained to succeed one another. So that from *Pisces* to *Sagitt.* there never want some plantes or other containing these sweets: which the Bees fearely draw from them without any hurt to the fruites: *Fructibus nullis nocentur:*

Nat. hist. lib. XI. c. 8.

32

Dandelion continueth longest.

The dent-delion or after the french pronūciation dandelion may wel bee called *apiastrū* or *mellefophyllon*. For the Bees gather vpon it almost all the yeere. The dazy and yellowcrea are next for cōtinuance, but nothing so much regarded.

33

What Pisces yeeldeth.

The winter giliflowre and the hazel are the first. For they spring in *Pisces* and sometime before. After them the dazy and the hearbe bear-foot, the violet, &c.

34

What Aries

In *Aries* besides those before named, the box, the withy-palme, both greene yeelding *Nectar*, and yellow yeelding *Ambrosia*, daffadil, lide-flowre, blackthorne, &c.

35

Taurus.

In *Taurus* flowtree, plumtree, goosebery not blowne, and blowne, cherrie, pearce, cockbell, which is a wood flowre. About the middle of this month the chiefest plants begin to flourish.

in great abūdāce: as apple, crab, barbery, beech  
 crowpicks, charlocke, rosemary, &c. But  
 speciallic the plentifull Vetch, and Maple.  
 They gather on the flower of the maple a  
 whole month together, and somewhat on the  
 flower of the vetch when his time is v. but the  
 greatest store of hony is drawn out of the black v.n. 37.  
 spot of the litle picked leafe of the vetch, which  
 groweth on each side the two or three vpper-  
 most ioints. These they ply continually: I ne-  
 ver saw vetches, how farre soever from hiues,  
 that for three months together (if the weather  
 served) were not full of Bees.

36

Gemini.

In *Gemini* with the forenamed, beans, which  
 besides their flowers haue also blacke spotted  
 leaues like vetches, on which sometime they  
 gather, archangel, barbery, fumitorie, short plā-  
 tanic, holme or hollie, hawthorne, red hony-  
 suckle, red weed, white hony suckle, which they  
 like much better then the red. &c.

37

Cancer.

In *Cancer* with the forenamed, the blossome of  
 the vetch, as wel as the leafe, benet, unalows, the  
 soveraigne time, which yeeldeth only nectar: &  
 therefore he was deceiued that said *crura thymo*  
*plena*. time, for the time it lasteth, yeeldeth most  
 and best hony: and therefore in old time was  
 accounted chiefe (*Thymus aprissimus ad mellifici-*  
*um. Pastus gratissimus apibus thymum est.*  
*Dum Thymo pascentur apes dum rore cicada.*)

Pl. nat. hist.

l. 11 c. 21.

Arist. hist. l.

9 c. 40.

Virg. G. 4.

*Himettus* in Greece, and *Hybla* in Sicile were so  
 famous

Famous for Bees and hony, because there grew  
 Varro l3. such store of time (*Propter hoc Siculum mel fert*  
 a16. *palmas, quod ibi rhynum bonum & frequens est.*)  
 The rich knapweed & blackbery begin in the  
 38 end of *Cancer*.

Of honidew.

Virg.

39  
 The Bees  
 worke most  
 earnestly in  
 a honidew.

But the greatest plentie of the purest *nectar*  
 cometh from aboue: which almighty God  
 doth miraculouſly deſtill out of the aire (*acres*  
*melis celeſtia dona*) & hath appointed the *Oake*  
 among al the trees of the wood to receiue and  
 keepe the ſame vpon his ſmooth and ſolide  
 leaues, vntil either the Beestong or the heate  
 of the ſunne haue drawne it away. When there  
 is a honi-dew, you may perceiue by the Bees:  
 for, as if they ſmelled it by the ſweetnes of the  
 aire, they preſently iſſue out of their hives, in  
 great haſt following one another: and reſuſing  
 their old haunts ſearch & ſeek after the *Oake*,  
 which for that time ſhal haue more of their co-  
 pany, then al the plants of the earth. Somtime  
 the maple and hazell take part with the *oaks*,  
 but very little and ſeldome. While the honi-  
 dew laſteth, they are exceeding earnest plying  
 their buſines like mē in haſteſt: you may ſee  
 them ſo thick at the hives dore paſſing to and  
 fro, that oftentimes they throw downe one an-  
 other for haſt.

40  
 What the  
 honidew is.

Nat. hiſt. li.  
 22. c. 13.

What this *mel roſcidum* ſhoulde bee,  
 Plini ſcemeth much to doubt where he ſaith  
*Sunt illud ſis cœli ſudor ſive quadam ſyderum ſalina*  
 might

*ſine purgantis ſe aeris ſuccus.* But if coniectures might be admitted, I would rather iudge it to be the very quinteſſence of all the ſweetneſſe of the earth (which at that time is moſt plentiful) drawne vp, as other dewes, in vapors into the third region of the aire by the exceeding and continuall heate of the ſun; and there concret and condenſated by the nightly cold into this moſt ſweete and ſoveraigne *nectar*: and the doth it deſcē vnto the earth in a dew or ſmale drizzling raine: that he might wel ſay, *Conſtat Gal. de aë- materiã, ex qua mel gignitur, vniſſe congenerem.* ment. 13.

Which opinion is the more probable, becauſe that when the ycere is backward in his fruites, the hony-dewes are alſo backward, comming only at ſuch time as the fruites haue the moſt ſolid and beſt ioyce. Before, when the ioyce is weake and watryſh, and afterwarde, when it is dried and waſted, they are not. And this is the reaſon that in more hot & ſouthernly climats, where the fruites are more forward, the hony-dewes are more timely: as in *Italy* before *Gemini*, Nat hiſt lib II. c. 12

*Non omnino*, ſaith *Plinie*, *primũ vergiliarum exortu*: V. c. 10. p. 1. n. 21

v. whereas with vs they fal not vſually before *Cancer*.

The hotter and drier the ſommer is, the greater and more frequent are the hony-dewes: 41 *When ſhe* & as they are cauſed through heat, ſo are they *honydewes are moſt frequẽs* at the laſt diſſolved by cold: but much raine at any time, as comming from a higher regiõ, vva-

sheth away that which is already elevated: so that there can be no more vntill an other fit of hot and dry weather.

42

The time  
when they  
fall.

The time in which these hony-dewes fall is vsually betweene the first and last daies of this month: although the cōtinuance of hote & dry weather may cause thē come somewhat rather, or last somewhat longer, even vntil mid. *Leo* or after. They may happen at any time of the day: but for the most part in the morning before it be light, *Sub lucanis temporibus. Itaq; tū prima aurora folia arborum melle rosida inueniūt.* And then shall you haue the Bees vp in a morning allone as they can see, making such a shrill noise where they go, that a man may here them father then he can see them.

Nar. hist. li.  
I. c. 12.

43

*Leo.*

In *Leo* vetches, malows, tyme, knapweede, blackberrie, white hony-suckle, redweed, thistle, &c.

44

*Virgo.*

In *Virgo* knapweed, blackberry, redweed, dandelion, malows, heath, &c.

45

*Libra.*

In *Libra* dandelion, heath, Ivy, &c.

46

*Scorpio.*

In *Scorpio* dandelion, Ivy, archangel, &c.

47

The bees gather  
the best of  
one kinde of  
flowre in  
one place.

And in this great variety this is strange, that where they begin they wil make an end, and not meddle with any flowre of other sorte vntill they haue their load. *Mos apibus ne florum plura genera petant vno eodemq; profectu, sed singulis singulis.* In somuch that those which beginne

Hist. an. l. 9.  
p. 40.

with the flowre of the vetch wil not once touch  
the

the rich spotted leafe of the same, before they haue beene at home. Although when they come to a flowre that yeeldeth both *Nectar* & *Ambrosia*, they wil vse sometime the tongue, & sometime the fanges, and gather them both.

48

*They gather  
honyous of  
poison.*

But this may seeme more strange and wonderfull, that out of the most stinking and poisonous weeds, as redweed, \* margs, hēbane, & the like, they gather most sweet and wholesome hony: and yet regard not the best and sweetest herbs and flowers, as the rose, the prim-rose, clove-gillflowers, lavender, &c. wheat, barlie, pease, and such like.

*Mathers or  
May-weed  
Cotula fatid  
da.*

49

*What store  
of hony a stall  
may beue.*

What store of wax and hony a stall may gather, is vncertaine, some having more, some lesse, according to the number of the Bees, the greatnes of the hiue, & the plentifulnes of the yeeres. With vs it is counted a good stall that yeeldeth two or three gawnes of poulse: although in a tree there haue beene found more then 7. or 8. But in other northerne countries we read of farre greater quantities. *Plinio affir-*meth that there was scene in *Germany* a hony-comb 8. foot long. And *Paulus Iovius* that in *Moscovia* there are found in the woods & wildernesses great lakes of hony, which the Bees haue forsaken, in the holow trunks of marvelous huge trees. In so much that hony & waxe are the most certaine commodities of that country. Where, by that occasion, he setteth downe

*Nat. hist. li.  
II. c. 14.*

*De legatio:  
ne Moscovj  
rarum, &  
Munsterus  
de Moscov  
via.*

H a

this



## Of the Bees worke

this story reported by *Demetrius a Moscovite* ambassador sent to Rome. A neighbor of mine (saith he) searching in the woods for hony slippt downe into a great holow tree, and there sunk into a lake of hony vp to the brest: where whē he had stucke fast two daies calling and crying out in vaine for helpe, because no bodie in the meane while came nigh that solitary place; at length when he was out of all hope of life, hee was strangely delivered by the means of a great beare: which comming thither about the same businesse that he did, and smelling the hony stirred with his striving, clambered vp to the top of the tree, & thence began to let himselfe downe backward into it. The man bethinking himselfe, and knowing that the worst was but death, which in that place he was sure of, beclipt the beare fast with both his hands about the loines, and with all made an outcry as lowd as he could. The beare being thus suddenly affrighted, what with the handling, & what with the noise, made vp againe with all speed possible: the mā held, & the beare pulled, vntil with main force he had drawne *him out of the mire*: & the, being let go, away he trots *more afeard the hurt*, leaving the smeared byvaine in a ioyful feare.

50  
Bees have  
necessary use  
of water.

The Bees earnest and hot labour, and the drought of the aire, together with their chole-  
like complexion, which their very colour be-  
vyraeth, doth cause them much to desire cold

water

and labour.

C. 61

water. Some thinke it serveth chiefly to feede <sup>51</sup> *Chiefly for*  
 their schadons. *Aquam tuu portant, cum prolem* *their breed-*  
*ustrinne* : and that not without reason, seeing <sup>cut an. 19.</sup>  
 that *Ambrosia* their daily food is hot and drie: <sup>c. 40.</sup>  
 and indeed when the droves are done away,  
 and breeding is ended, the Bees are nothing  
 so frequent at the watring-places. But *Columel-*  
*la* thinketh the vie thereof to be more general, <sup>De re rust.</sup>  
*sine qua neq, favi, neq, mella, nec pulli deniq, figurati*  
*queunt.* <sup>1. 9. c. 5.</sup>

The watring-place should <sup>52</sup> not be far from *The making*  
 your garden, <sup>of the water-</sup> in the next side of a ponde or *ing place.*  
 brooke <sup>ing place.</sup> made she v'ng not steepe in maner of  
 a foord, and <sup>d</sup> detended frō beasts, geese, ducks,  
 and such like.

<sup>a</sup> For they wil never go far for water, if any be to be had  
 neere hand *Sub menibus urbis aquantur.* And therefore  
 whē you see Bees watring in woods, or other places not  
 neere any hives, be sure those are wilde Bees, which are  
 not farre frō their neast. Watch them therefore which  
 way they flie: for they wil thence directly to it. Watch  
 if it be not within view, take a reede or kee, or some like  
 hollow thing open at one end, with a chinke cut in the o-  
 ther to let in light: and taking vp a Bee by the wings put  
 her into the cane, & shut her in with your thumbe: while  
 shee goeth downe to the light, put in an other, and so as  
 many as you thinke good. And then where you last see  
 the Bees flying homward frō the water, go to that place.  
 and there let out one of the Bees in the box: which, whē  
 shee hath cast a ring to know where shee is, wil fly as di-  
 rectly home as the other: likewise where you see her last,  
 let out an other: and so the rest, vntil they haue brought  
 you to the stalle.

Virg. Geor  
 53  
 How to find  
 wild Bees.

## Of the Bees worke

<sup>b</sup> Lest the Bees flying over the water vnto it be throwne downe by tempestuous windes, & so drowned: for which cause it is good to lay lugs overthurt the water & other staies, that recovering them they may drie themselues a gaine, and so escape.

Virg. Geor.

*In medium seu stabis iners, seu profluet humor,  
Transuersas sulices & grandia conijce saxa,  
Pontibus ut crebris possint consistere, & alas  
Pandere ad aestiuum solem, si forte morantes  
Sparsis, aut praecipis Neptuno immerferis Furus.*

<sup>c</sup> That they may safely settle vpon it, and that it maie alwaies be kept moist by the neerenes of the water. For they choose rather to draw their drinke out of moist earth then from the water it selfe, though it be never so cleare: peradventure that the earth having received his earthynes, which before was insensibly mixte with the water, their triple searching tongue might the better trie out the pure element of water.

<sup>d</sup> Which otherwise wilbe the death of many: for they are so earnest in their businesse, that though you offer to tread vpon them, they will not moue.

54  
The fashion  
of a watering  
trough.

For want of such a vvatring-place make a shelving trough, and set it in your garden the space of a perch or two from the stals. And having filled it with water, lay a piece of a thinne bord or lath in the middle of it vpon the water, to saue them from drowning, if any happen to fal in. When the trough is old & the sides earthy they like it best.

Of a planke or other piece of timber 3. foot long, 13. inches broad, and 3. inches thicke you may make a double trough with a partitiō. The length of the concavities let be two foote, the breadth of each 4. inches, the depth at the par-

tion

tion 2. inches, from whence each bottom must ascend shelving by little and little vnto the ouer sides. So that there may be least vncut at each end six inches, at each side 2. inches, and in the middle for the partition one.

It you haue no such certaine watering-place, they must spend more time in seeking farther: & in rainy wetter they will ly about the neer places & puddles in the streets, where they are oft times trod vnder feet of men and beasts.

After a showre they water for the most part in your garden vpon the bare earth, the grasse, and where soeuer they finde it wet from above. In the chiefe breeding months *Aries* and *Taurus*, when the colder raine or winde hath kept the in some part of the day, they will lie so thick vpon the ground, if you haue any store, that you can scarce tread beside them. At such time therefore let no heedles stranger come among them.

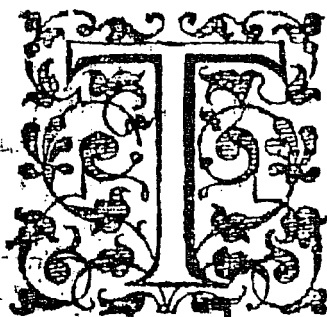
35  
After a  
showre they  
water as  
before.



## Of the Bees enimies.

## CHAP. 7.

<sup>1</sup>  
The Bees enimies are many.



He good Bee, as other good things, hath many enimies, fro which she needeth your help to defend her: namely, 1. the mouse, 2. the woodpecker, 3. the rit-mouse, 4. the twallow, 5. the hornet, 6. the

waspe, 7. the moth, 8. the snaille, 9. the emet 10. the spider, 11. the toade, 12. the frogge, 13. the Bee, and 14. the weather.

<sup>2</sup>  
The mouse

The mouse, whether he be of the field or of the house, is a dangerous enemy. For if he get into a hiue he makes havocke of the hony, and so starues the Bees. Some enter by the dore, or by some open place in the skirtes of the hiue: some gnaw a hoale through in the toppe of the hiue, where they know the hony lieth. Some keepe their old homes, and come to the hiue only for their baits: some make their neasts betweene the hacle and the hiue, that they maie the sconer and the safer come to the hony at their pleasure.

<sup>3</sup>  
How to know whe a mouse is in the hiue.

When a mouse is in the hiue, if it be in the day-time, you may know by the Bees: for they will

Of the Bees enimies.

C.7.

will sodainly flie forth, as when they swarme, & that so eagerly and angerly, that you may easily know they doe not play, as sometime they vse to do, v. when they are wel pleased: neither wil they cease flying about, vntil he be gone. But for the most part they steale in the night, when the Bees will not stirre.

For remedy, first you must looke that your hives, whether they be of straw or wicker, be close and fast wrought. For if the straw be loose and soft, they vwill more easily gnawe their way through: & if the wicker be thinne, when they haue torne down the cloome, they wil creepe in betweene the twigges. Next see that the hives be dauvbed close round about the skirtes, that there be no entring but by the dore: vvhich in the ende of *TANTUM*, when the Bees come dovvne to vwatch, and thenceforth all the sommer, they wil keep wel enough both day and night: but in the winter, at which time the mice make most spoile, it must be made so narrow, that they cannot get in. v. Also it behooveth you to remooue all things about your hives, that may hide and harbor them: for they vwill feare to come and goe in sight, lest the cat meete vwith them by the vvaie. Moreover it is good now and then, in drie and vvarme daies to take of the hacles, as vvell to meete vwith the mice, as to ayre the moist hives, and to kill mothes,

4  
Remedies a-  
gainst the  
mouſe.

1

2

V. c. 3. n. 24  
& 26.

3

4

mothes, and spiders, and the like. Those mist that nestle vpon the top of the hie, when the hacie is take of, wil sit stil amazed so long, that you may be sure to crush them against the hie with your hand. 5 Lastly you shal doe wel to set baited traps in their waie, that so they may come short.

5

2. The wood-pecker

The wood-pecker or yippingale, if hee find any hoale in the hie against the hony, doth with his long round tonge draw it out: but hee doth more harme to wood-bees then garden-bees.

6

3. The Tit-mouse:

Of Tit-mise there are three sorts. The great Titmouse is a very harmful bird. For although sometime he seem contented with dead Bees, yet is he a great devourer of the quick also. In winter he taketh them at the hie, as they come forth: and in very cold weather when they are loath to stir, he wil stand at the dore, & there never leaue knocking til one come to see who is there: and then sodainely catching her away he flies with her: and when he hath eaten her, he comes againe for more: eight or nine will scarce serue his turne at oncc. But in the spring when the Bees come to the palme, he standeth there watching for them, and while they are busie at their worke he deuoureth many. The little russet one in the winter feedeth onely on dead Bees, but in the spring hee wil take part with the great one. The little greene Titmouse

# Of the Bees enimies.

C. 7.

I cannot accuse.

The swallow taketh them as they fly, *popula- Nat. hist. l. 1,*  
*hir hirundo, & alibi ea demum sola avium non nisi 11. c. 18.*  
*in volatu pascitur.* But I am perswaded she doth *Nat. hist. l. 1,*  
 much lesse harme then the Titmouse, although *10. c. 24.*  
 she have a worse name. These birds therefore  
 are not to be suffered. 7  
4. The swal.  
low.

*... Absint meropesq; aliq; volucres,  
 Et manibus Progne pectus signata cruentis.*

Let boies destroie their neasts in sommer, & 8  
Remedy a.  
gainst the  
Titmouse and  
swallow.  
 kill the old ons in winter with traps and pit-  
 falls baited with oats or tallow. *Aristotle* teach-  
 eth the waspe, the little titmouse, the swallow,  
 and the great titmouse together. *Inferunt inu-*  
*riam apibus maximè vespe, & aviculae quas paros*  
*vocant, atq; etiam hirundo, & merops qui apiafter*  
*est. Quamobrem apiarum vesparum lasibula & hi-*  
*rundinum ac meropum nidos propinquos alacris tollunt.* 9  
5 The hornet

The hornet also devoureth Bees, being so  
 much to strong for them, that they can make  
 no resistance, which the Poet meant where he  
 said *aut asper crabro imparibus se immiscuit armis.*  
 Hir manner is to fly about before the hiue, til  
 she haue spied hir pray settled at the dore, and  
 then sodainely she taketh it in hir feet, and flie-  
 eth away with it as a kite with a chicke.

In destroying the hornets you must be wa- 10  
The hornets  
sting is dan-  
gerous.  
 ry: for one stinging doth oft times cause an ague  
 and lesse then thirtie, as some lay, will kill a  
 man. *Idem crabronum hand tenerè sine febris est.* 11. c. 25, ~

An.



## Of the Bees enemies.

*Auctores sunt ter nouenis punctis interfici homin-  
nem.*

II

6 The waspe

The waspe doth much more hurt then the hornet: for the hornet now and then killeth a Bee, but the waspe waiteth the hony, whereby many whole stalles doe perish. For besides the harme that shee doth hir selfe, shee doth oftentimes set the robber on worke, who, when the waspe hath begun, will be ready to take part with her, add then all goes to wrack. A waspe is by nature harder and stronger then a Bee, specially in *Libra*: insomuch that oftentimes shee breaketh from two or three of them, though they haue all hold of her at once: and perhaps killeth one of them out of hand. About *Cancer* shee beginneth to bee bred: v. about *Leo*, and the spring being hot and dry somewhat rather, shee first appeareth: and in a while shee beginneth to feed vpon dead & weake Bees, which she quickly cutting of in the middle with hir fanges, first carrieth away the neather part, and anon fetcheth the rest, when she hath bitten of the winges for easier carriage not far from the place where shee took it vp. About *Virgo* she waxeth bold, and aduentereth into the hives for hony: but by reason of the strangenesse of hir voice and habit, she is discried before she come neere: and at the first (while the weather is warme, & the Bees both early and late keepe watch and ward at the hives

v. c. 4. n. 8.

12.

The wasp as  
first feedeth  
vpon dead  
Bees.

13.

At *Virgo* she  
firstly hony

hive-dore) comming single against many she is commonly beaten back: and if by chance she slip in, she doth not alwaies escape, sometime she is slaine in the hive & brought forth dead; and sometimes she is killed without dore, when she hath got hir pray. But afterward, the weather waxing cold, and specially in mornings & evenings, and the Bees therefore retiring from the dore higher into the hive, the waspes make great spoile among them. And this they continue until *Scorpio*: after which time they begin to ware. Nevertheless while they liue, that is until *Sagis*, if abundance of cold and wet rid the not a little rather, they wil be filching: & one waspe vwill carrie out as much as two Bees bring in. In a wet sommer (because they breed for the most part in the ground) much raine rotteth their combes, and chilleth their yong, and so spilleth the increase of them, that your Bees shall not be much troubled with them that yeere. But the sommer being dry they grow very rife: and if many dry sommers come together, there wil be such multitudes of them in every place, that, without continual and diligent attendance, you shall be sure of great losse among your Bees by them.

14  
How long  
the waspes  
last.

---

15  
In what year  
the wasps are  
most rife.

---

16  
Remedies  
against the  
waspes.

---

Wherefore if you loue your Bees, suffer not a wasps nests about you. The readiest way to rid them is, if they be in the ground, to calde the; if in a tree or other place, where they build  
above

about the hoale, so that you cannot scald thē, then smother them with brimstone, as you kil Bees. And to destroy those that are acquainted with your hiues, set by thē silder, vertuoice, sowre drinke, meth, or hony-water in a viol open, or other glasse covered with a paper that hath a hoale in the middle: & so you shall take many: and if the meth or honi-water doe now and then drowne a Bee with them, pittie them not, for they are theeues. *Aristotle* teacheth you another way. *Impugnatur* (saith hee) *apes a vespis: quamobrem apiarie eas venantur constituta olla, & carnis in ea posita. Vbi enim multa ad carnem accesserint, apposito operculo super ignem ollā ponūt.* You may also vse other meanes to kil thē your selfe. How to helpe and defend your Bees against them, see c. 3. n. 36, 37, 38, & 39.

Hist. li. 9. c.  
49.

17  
7. The  
moth.

The flying moth lyeth betweene the hacle and the hiue, and breedeth little wormes, or crawling mothes, some in the skirts of the hiue, some within vpon the stoole, and some without vpon the hiue, specially in the crackes of the dawbed hiues. *Plinie* speaketh thus of thē.

Nat. hist. li. 11. c. 19.  
18  
8. the snaille

*Papilio etiam ignavus luminibus accensis aduolūtā pestifer, nec vno modo: nam & ipse ceras depascit, & relinquit excrementa quibus teredines gignuntur.*

They offed the Bees also with their mealines, as the snailles do with their slimines. Wherefore rid your hiues of these guests, and specially of the snailles: which wil not long abide, if there be no

hars

## Of the Bees enemies.

C. 7.

harbor of long grasse, weeds, or other thing about the hiues.

If emets breed neere your Bees, they will much trouble them, biting them, and hanging vpon them: although the Bees if they be luttie, will kil many of them that come to the hiue. But if it bee a poore stale, they wil in time possesse the hiue and eat vp the hony. The best remedy against them is to scald them.

19

9. The emes,

The spider, as the moth, doth vse to harbour betweene the hacle and the hiue, where commonly she hath a Bee or twaine in store to feed on, an vnfit messe for such a mouth: Sometime she hangeth hir nets vnder the stoole, which easily intangle a wearie Bee, when she cometh laden home, and missing of the lighting-place falleth into them: yea & sometime where the Bees are few, chiefly in the winter, they will be bold to enter the hiue, & there weaue their cruell webbes. *In foribus laxos suspendit aranea* Virg. *tasser,* and then are they very dangerous. *Ara-* Nat hist. L. *nei quog, vel maxime hostiles: cum praevalere ut* 11. c. 19.

20

10 The spider.

The toad is by nature so noisom to the Bees, that while he is about the hiue, though hee ly but vnder the stoole, the Bees will not prosper.

21

11. The toad.

22

He is said also to deuoure them at the hiue, as the frogge at the wating-place. *Rana apes, ubi* Hist an. l. 9. *ad aquam accesserint, rapiunt: quamobrem eas apes* c. 40 *ari per paludes & stagna vnde apes aquantur ven-*

ri

Ibidem.

ri solent. Rubeta etiam apes interimit: sibiens enim  
aditus alvei astitit, & observans rapit evolantes.

Nat hist. li.  
II c. 18.

Nulla hac affici malo ab apibus potest, sed ab apiario  
facile interimitur. Item insidiantur aquantibus ra-

V. c. 6. n. 51.

na: qua maxima earum est operatio, tum cum sobolē  
faciunt. v. Nec haec tantū qua stagna rivisq; obsident,  
verum et rubeta veniens ultro, adrepenteq; foribus  
per eas sufflans: ad hoc provolant, confestimq; abripi-  
untur.

23

13. The Bee  
the Bees grea-  
sest enimio.

But not any one of these, nor all these togi-  
ther doe halfe so much harme to the Bees, as  
the Bees. *Apes api, as homobomini, lupus.* They  
make the greatest spoile both of Bees & hony.  
For as they of the same huc live in inviolable  
peace one with an other; so haue they no en-  
tercourse, no friendship or society with others,  
but are rather at perpetual defiance, & deadlie  
feud with them. In fight they are fierce, and in  
victory mercilesse: within the space of a day, or  
twaine, yea of 3. or 4. howres sometime, if the  
huc be open that they may haue easie passage  
to and fro, they wil haue rid him cleane. And  
therefore all Bees of all their enimies do most  
feare strange Bees, knowing well in what dan-  
ger they are to bee robbed by them both of  
goods and life. This robbing is practised all the  
yeere. In winter, as oft as the weather is faire &  
warme, some wil be prowling abroad. And some  
are so theevishly disposed, that all the sommer  
long, when abundance of hony is every where

24  
Robbing or  
fighting of  
Bees in win-  
ter & som-  
mer thus title

*Of the Bees enimies.*

C. 7.

to be had for a little labour, they will yet be  
filching though they dy for it. At the spring,  
specially in *Aries*, they are more earnest: and  
therefore you must then haue an eie vnto them.

25

*In the spring  
more earnest.*

Those stalles that haue lost their Queene, or  
doe dislike their standing for coldnesse, moist-  
nes, mustines, blectnesse, or vnfauorinesse, as  
taking no pleasure in their liues, doe easily suf-  
fer themselues to be robbed in the spring. And  
if none wil come to rob them, the on some faire  
daie they wil away together, sometime leauing  
both hony and yong ones behind them. But in

26

*The most  
spoil is made  
in Virgo.*

*Virgo* is the most dangerous time of all. Then  
shall all the stalles in your garden bee tried,  
whether they be such as will yeeld or no. And

27

*What stals  
are most sub-  
iect to rob-  
bing.*

*Libra* would not be much better, but that the  
most spoil is doe before. Little & poor swarms  
are much subiect to robbing: likewise those Bees  
that are offended with the blacknesse and rot-  
tenesse of their combes, caused through age  
or wet, or with abundance of noisome stoppings;  
wil most of them goe forth in the swarmes, lea-  
ving a very few, sometime not pass a handful in  
the stocke: which yet in robbing-time wil keep  
the dore, as though the hiue were full, but the  
robbers finding their weaknes wil surely spoile  
them, if they be not prevented. How to knowe

28

*The robbers  
are the lusti-  
est stalles.*

such Bees, & what to do to them, see c. 3. n. 43.  
The robbers are thought to be poore swarms  
and stockes, which haue not sufficiently provi-

ded

Nat. hist. 1.  
11. c. 17.

ded themselves for winter: of which opinion was *Plinius* where he said. *Quod si defecerit aliquibus alvei cibum, impetum in proximas faciunt rapinae proposito.* but indeed such are fitter to be robbed, as before is said, then to be robbers. There is no thiefe to the rich thiefe: who although he haue enough and more then enough, yet by hooke or by crooke he will haue more, though the poore starue for it.

29

How they be.  
gin the fray

At the beginning of *Virgo* the fat and full stalles doe send forth some of their stoutest yōkers to spie and giue the onset: vvhich going about from hieue to hieue so far as their walke extendeth, doe proue al. Where they haue once sped; at their returne they bring more of their company, vntil in the end that whole stall bee made acquainted with it. Sometime it happēneth that though there be an hundred stalles within a walke, yet the robbery is done altogether by one, sometime by two or three, al the rest being quiet. And this one thing is strange, that whereas no Bees wil abide strangers in their hieues with them, yet theeeues wil suffer on another & agree altogether in stealing, though they be of diuers hieues.

30

Theeeues of  
diuers hieues  
agree toge-  
ther in rob-  
bing

31

The descrip-  
tion of the  
Bees battell

When the theeeues hauing first made an entrie begin to come thicke, and the true Bees perceiue themselves to be assaulted by many, they suddainely make an outcrie: and issuing out of their holds by troopes presently prepare them

## Of the Bees enimies.

C. 7.

themselues to battaile. Some keepe the gates  
some as skout warches fly about some ruune in  
agaime to see what is done there : some begin  
to buffel with the enimie : and that with such a  
noise and dinne, as if the drum did sound an a-  
larne. Besides which base sound you shal est-  
soones, in the heate of the battaile, heare a  
more shril and sharpe note, as it were of a flute.

32  
*In the battaile  
is heard  
a sound like  
a drum and a  
flute.*

--- & vox

*Auditur fractos sonitus imitata tubarum.*

Which I am out of doubt is tuned by their ge-  
nerall commander, encouraging them to fight  
for their Prince, their liues, and their goods.

Then shal you see the enimies bestirre them-  
selues most venterously: some violētly through

33  
*The assault  
of the enimie*

the thickest thrusting in at the gates, others  
scaling the wals, and rearing them downe. If  
they once make a breach, without present suc-  
cor, you shal quickly haue an end of that fight.

34  
*The defence  
of the besee-  
ged.*

One the other side, the defendants wil behaue  
themselues as bravely, not giuing any rest to  
the enimie: part encountering with them that  
are without, part with them that haue broken  
in: whome in a while they drawe out by the  
heelles, some dead and some alieue. Likewise  
without you may see some flaine forthright  
with the thrust of the speare: some so deadly  
wounded, that they are not able to goe three  
foot from the place: & some more lightly stro-  
ken, presently to loose the vse of their wings, &



## Of the Bees enemies.

for a while to leap vp and downe, forward and backward, like mad things.

How long they liue after they are hurt see c.

I. n. 21.

35  
Neither side  
willing to  
yeeld.

So loath are these courageous warriors to yeeld on either side, vntil there be no remedie.

*Ingentes animos angusto in pectore versant*

*Vsq; adeo bñixi non cedere, dum grauis aut hos,*

*Auc hos versa fuga victor dare terga coegit.*

In their fight they are so furious sometime, and so thicke about the garden, that vnles you haue

v. c. 1. n. 38.

on your cōplet harness, v. you may not dare to come nigh them.

36

the exercise  
of the defen-  
dants when  
the enemy re-  
sizeth.

This also I haue noted, that when the robbers are so few, that smal resitāce wil serue, yet being called forth they wil not be idle: for you shall see some of them running vp and downe about the huc, to seeke and search if any more come: others like trained souldiers, practising to fight, here one wrestling with another in single cōbat, there 2 or 3 or 4 setting against one, as their vsual maner is to deal with the thecus. If you would knowe whether this fight bee iust or earnest, with fellowes or with foes, the maner and the end thereof will shew you. For if they be fellowes, their fight is not so fierce, & they wil part quietly as friends: whereas if they bee foes, though they scape, it shall bee with much adoe. For if the true men cannot kill the thecus, yet wil they hold them by the legges

Of the Bees enemies.

C. 7.

or by the winges so long as they can, in hope to haue help, though they be drawne after. More- over the yong souldiers which haue scarce bin abroad before, you shall see the elder sort goe rounde about them, smoothing and trum- ming thē in every place, as if they did addeesse, and hearten them to fight.

During the time of this battail, as afterward, the waspes like vultures pray vpon the dead carcases, carrying them away peece-meale. v.

The battaile being ended by repulse of the enimie, those corpses, which the waspes haue least, they honestly bury as far from the hives as they can beare them.

--*Tum corpora luce carentium*

*Exportant seclis, & tristia funera ducunt.*

And then they draw together at the city-gates and there they buze one to an other, as if in their language they did talke of the fight, and commend one an other for their fortitude.

The robbers, prevailing not that day, wil vp the next day so soone as it is light, an howre before the Bees vse to come abroad: & thē doe they make a fresh assault. The Bees finding the enimie among them, are presently vp in armes: and so begins the seconde skirmish, vvhich, without the taking of the city or the over-throw of the assailāts (which seldome hapneth) continueth, vntil very darknes part them.

When the true Bees finding themselves o-

37

The waspes  
like vultures.

v. 11. 12.

38

The battaile  
ended: they  
bury their  
dead.

Vulg.

39

The second  
assault of the  
enimie

40  
 When the  
 true Bees  
 yeeld, they go  
 with the co-  
 querours.

vermacht with multitude, see there is no reme-  
 die, and that no resistance wil serue; at length  
 they yeeld, and suffer the conquerours quietlie  
 to spoile their goods. And after a while, when,  
 by being together in the same hieue and sucking  
 the same hony, al smel alike; they wil ioine with  
 their enimies, and help cary away their owne  
 goods, and so become friends & liue together.  
 At night they lodge with them: but in the day-  
 time they returne with their newe fellows to  
 fetch that is leaft behinde. And when they  
 haue done, it is marvaile but, being encouraged  
 by this victory, they set vpon some other stall  
 neer adioining: and so is your whole garden in  
 danger.

41  
 Remedies.

Seeing therefore in so cruel and continuing  
 a fight oft times the enimies are conquerours,  
 and then al is lost; and if they be vanquish't, yet  
 this victory is not without losse of men and  
 goods, which the enemy ever nowe and then  
 shifteth away: I knowe your desire is to knowe  
 how to succour the true men, either by preven-  
 ting this dangerous conflict, or by rescuing thē  
 in the same. For the first read c. 3. n. 36, 37, 38,  
 & 39. For the other many practises haue been  
 tried: some cast dust, some drinke, among thē;  
 the one wherof doth no good, the other harm.  
 For drinke maketh them to smel al alike, so that  
 the true men cannot knowe the theeces from  
 their fellows: and therefore some vse to do so,  
 when

42  
 To prevent  
 robbing.

43  
 And so stay  
 as if you find  
 it in time.

## *Of the Bees enimies.*

C. 7.

when two swarmes are put together, that they may seeme to be of one company. If these vsual helps be no helps, what helpe is there then? If you perceiue their fighting in time before any great harime be done, thē this must you do. First stop them vp close that none can passe either in or out, leaving only a breathing place. Then shal you haue a double conflict, one within, an other without. The thecues that are within, having no way to escape with their prayes, first or last vvil be staine al. They that are without, after a little wrestling, seeing nothing to be had but blows, vvil not long abide this bootles danger. When you perceiue the siege to be raised, and that there is litle or no fighting without (which wil be about an howre after) then may you let out your Bees, making the dore half an inch high, & scarce half an inch wide. Those fewe that were within will they bring forth to burial, some then, some on the morrow. In the evening, when the Bees are al in, shut them vp as before. The next day betimes, before the Bees would bee abroad, must you looke for some of them againe. Whē they are come, beat them away with a bough, but kil them not: for so may you do your neighbor a shrewd turne, and your selfe too.

But let not the Bees out before noone: and then make the dore so narrow, that but one Bee may passe at once. So will the Bees keepe the

robbers out, and followe their busines nevertheless. The nexte day you may let them out rather: and if the dore be so narrow that it hinder their passage, you may make it wider. If this do not suffice, but still the strange Bees will strue to get in; assure your selfe that stall hath but few Bees, and is not in case to be kept. And therefore if you be loth to take it now, because of the schadons that may corrupt the honic, then must you looke vnto him carefully, least by little and little it come to little or nothing.

44  
When it is  
too late, and  
what is then  
to be done.

But if the Bees haue yeilded before you are aware of it, so that the thieues rob quietly with out resistance; or the stall be much spoiled and the hony-cels brokē (which you may perceiue by the crumbs of waxe vpon the stoole) the ha-ving shut the hieue close as sone as you can, the next evening or morning take that is least: otherwise in the end you shall loose all. For the Bees thereabout smelling the hony when the combs are broken, will haue it or die for it.

This fierce and cruell robbing being alwaies in haruest, when people are busie in the fields, many hieues are leaft honyleffe, and they never the wiser. Wherefore it is good to leaue some body at home, as wel to watch these as the two legged robbers.

45  
In what  
yeeres rob-  
bing is most  
rife.

After a moist spring when swarmes are most plētifull, v. is robbing most rife: otherwise there is less danger.

Besides those Bees that are thus spoyled in robbing, many also are killed by other stalles when they come to them for succour. For in the spring those swarmes that were late ward, or haue beene halfe robbed, when they haue spent all their store, the next warme day aiter away they fly: some to a tree where they hang til they be deade, some adventure into other hives, where if they haue large entrance, that they may throng in sodainly, sometime they scape with the death of some few, and being mingled together continue with them as one stal: but for the most part they die every each one, v.

46

Bees kill  
poore swarms  
that wander  
in the spring

V. c. 1. n. 20.

47

To prevent  
the death of  
poore swarms

V. c. 10. par.  
1 n. 20.

To prevent this losse, (1) when you perceiue them to wax light and weake, drive them into a stalle that hath provision enough, v. (2) If it be your happe to see them entring a stal that is well stored, lift vp the hive and let them in together: and (3) if you finde any hanging abroad, you may put them into what stal you list. By rearing the stal before a handful fro the stoole, and laying the Bees vpon the table, v. close to the dore.

V. c. 10. par.  
1. n. 9.

48

14 The wea.  
ther.

Next vnto Bees the greatest enemy that the Bees haue is vnkinde weather: whereby at all times of the yeere both they and their fruits are much empaired.

In sommer extreame heate melteth the combes specially of swarmes, and so sheddeth the

49  
In sommer  
bees bursteth  
the Bees.

the hony, if the hives be not shaded, and well  
 huddled. It also causeth the Bees to lie out, and  
 so hindereth their swarming, v.

v.c. 5. n. 19.

50

In winter the  
 sun shine in  
 frost & snow

At winter, the sun shining in frosty or snowie  
 weather is dangerous to the Bees. For the sun  
 calleth them abroad, and the frost chilleth the:  
 many as they fly, that they cannot returne: and  
 many that return, while they rest on the ground  
 before the hive: but the snow amazeth the, &  
 causeth them presently to fall & rise no more.

51

Also the ea-  
 sterne winds  
 and great  
 frosts

v.c. 3. n. 53.

Also the freezing Easterne windes, & all great  
 frosts kil many in the hives that be open, or vn-  
 covered: and therefore at such times it is good  
 to shut them vp close, v. and to see them well  
 huddled, v.c. 3. n. 16.

52

And the cold  
 continued  
 maketh the  
 sicke.

And if the cold continuing keep them long  
 in, it maketh them so sicke, heavy, and chillie;  
 that many die assone as they come abroad into  
 the aire, v. lesse it be very pleasant, v.c. 3. n. 53.

53

The raine  
 rotteth the  
 hives.

Also the raine doth oft times soake into the  
 hives and so corrupteth the combs and killeth  
 the Bees: specially where the company is smal,  
 not having heat enough to drie them againe.

54

The remedy.

Wherefore provide that alwaies your hacles be  
 good. And for remedie (if any such chance hap-  
 pen) pul of the hacles in warme daies, that the  
 sun may dry them: and in the 3 dead months  
*Sagit-Capr. & Aquar.* because the sun is then  
 of lesse force, drie the vicker hives vwith  
 fire of straw but then you must be sure they be  
 close

close, lest the Bees moued vvith the heat come forth and either fry or freeze.

But the greatest losse is in the Spring. For the Bees, specially the yong frye, being laded and wearie vvith their labour, some at their vvorke, some in the vvay home, some at the Inue-dore are bearen downe, not only through suddaine stormes, but also through cold rough vvindes: and then vnlesse the sun shine, or the wind ly, they neuer come home againe, insomuch that sometime you may see the lanes v. strewed vvith them.

55  
The greatest losse by weather is in the Spring: for then infinit multitudes are bearen downe laden and wearie vvith storms and vvinde.

v.c. 1 n. 47.

56

As the rising of a c.owd they pist hōe

And therefore, vvhen being a field they see a stormie or rainy clowd arising, presently they high them home for life: tumbling to the hiue as thick as haile, thrunging, & throwing down one another before the dore for hast. Where if the cold raine catch them before they can recouer the hiue, they are in no better case then those that the storme beat down by the way: although vvhen they are fresh and light, they vvill fly abroad in the midst of a warme shower, not caring for it.

57  
Yes vvill they goe a field in the midst of a warme shower.

They which are thus taken abroad must take their chance: but if you defend your Bee-garden as you ought, v. you shall prevent the fall of many at home. And those that you find chilled vvith cold, though they be quite dead, vvithout sense, motion, and breth, yea and haue laien so all the day; you may if you be disposed

v.c. 2. n. 2.

4 & 5.

58

How to re-  
store Bees to  
life.



## Of the Bees enemies.

revive with the warmth of your hand, so that it will seeme a miracle vnto you. For presently (their spirit returning) you shall see them begin to pant and breath againe, and anon they will fly away as lustie as the best.

59

The world  
confereth  
my to be  
drownel.

Also where palme-witchies, or other trees whereon they gather, do hang over the waters, the rough windes throwe downe and drowne a number of them. Wherefore if you haue any such trees, in any wise let them not stand.

Nat hist. li.  
ll. c. 19.

*Tot habibius tot casibus tam manifestum animal  
exposuimus est.*



Of the remouing  
of Bees.

CHAP. 8.



Remoue your Bees al  
waies in a faire day, and <sup>I</sup> *Remoue Bees*  
as neer as you cā gesse in a faire day  
in settled weather. For  
when they are moued  
to another place, if it be  
within their circuit or  
walke, they will fly to  
their old stāding as soon

ast they are let goe, and hanker about it some-  
time six or leauen daies: where if the cold wee  
catch them, many loose their liues. And if you  
remoue them out of their knowledge, then, as  
amazed in an vncouth place, they fly about for  
a while viewing the country, and searching for  
their old home: when they are weary, they rest  
where soeuer: and if foule weather come vpon  
them, they are in like danger.

It is not good to remoue Bees in sommer, <sup>2</sup> *Not in sum-*  
or letting their work in the chiefest hony-ga- <sub>mer</sub>  
nering.

And it is worse in winter, for loosing the <sup>3</sup> *Not in win-*  
bees. For if fowle weather fall not, the very stil <sub>ter.</sub>  
old wi kil many, while they are straying a-  
road: and of those that returne, being not yet

## Of the removing of Bees.

acquainted with the hiue-dore, some will fall short, some vpon the hiue: where, while they rest panting, the cold chilleth them.

4  
The fittest  
time is in the  
autumne &  
spring.

The fittest time is either in *Libra* & the fore part of *Scorpio*, that they may throughly know their new standing before the weather be too cold; or in *Aries* & the later part of *Pisces*, that they may bee acquainted with it before any great gathering of hony.

Nevertheless if you haue Bees in other mées keeping, whose care and skil you mistrust, you were better to remoue them in sommer before *Virgo* for feare of robbing; or in winter for feare of mife & other evils, then to hazard al by their ignorance and negligence.

5  
*Libra* the  
best month  
in all the  
year.

But if you may choose, remoue in *Libra* only, which is simply the best.

6  
The time of  
the day and  
manner of  
remouing.

In the evening, when you meane to remoue, an howre before sunset prop vp the hiue from the stoole with three bolsters two or three inches thicke, that the Bees may ascend from the stoole; about halfe an howre after, having prepared an other stoole of the same highth & of sufficient breadth, and having covered it with your mantle so that the middle of the mantle be over the middle of the stoole; moue the stall with his stoole, if you may, a little aside; and set this covered stoole in his place: or if it cannot wel be moved, thē set the covered stoole close to the old stoole ether beside it, or before it.

This

## Of the removing of Bees.

C.8.

This done, lift vp the stal from his old stoole & set it vpon the new: and then wiping the Bees from the old stoole (if any remaine) with your brush, either take the stoole away, or cover it with a cloath: and then if your new stoole be only a plank without legs borne vp by some other meanes, it is good to set it vpon the old. Within a while when the Bees are all in, knit the mantle at the fowre corners over the top of the hie so as the knots may not slip, and presently binde it to the hie about the middle slackly with a smal line, and wrest it fast with a little sticke. And so is the stal ready to be removed.

They vse commonly to make no more ado, but after sunset when the Bees are at rest to lift vp the stal and set it vpon a mantle spreade on the ground, and so to binde them vp, leaving the Bees vpon the stoole (which in a good stal are not a few) behinde them. Which way, for such stals as haue al their Bees vp in the hie, may serue wel enough.

The best way to carry your stal is vpon a cowl-staffe betweene two, and rather with the top downward then vward. If it be light, one may carry it in his hand. But howsoeuer, be sure it hang perpendicularly for feare of breaking the combs, specially if you chance to remove before *Libra*, when the waxe is soft and the lower partes of the combs are heavy with yong

7  
*The vsuall manner of removing.*

8  
*Which is fit for poore stalties.*

9  
*How a good stal is to be carried.*

10  
*How a bad.*

## II. yong Bees.

What to doe  
when they  
are brought  
home

12  
And what  
when they  
are tested.

16. 5. n. 58.

When you haue brought the stal home, you may let it stande bound, as it is, il night in the house. The morrow, whē the wether seruet, set him on his feet: and then having loosed the line, & taken away the mantle, cloome him vp presently: leaving for three or fowre daies a very narrow entrance for feare of robbing. For their new neighbours wil try what mettle they are made of: and they wil not so stoutly resist, vntil they be acquainted in the place.



Of the feeding  
of Bees.

CHAP. 9.



Lackberie-swarmes, which by reaso of their latwardnesse have not gathered provision enough to bring about the yeere, with third & fourth swarmes, if anie be, which are smale and weake, and others also

<sup>1</sup> *Whas Bees are to be se*

which through your negligence the robbers haue least in the same case, must haue soe help at your hands if you mean to keep them. As for stockes that haue not gotten sufficient stockes, or being once gotten, haue lost them againe; there is no hope that they will thriue, & therefore take no paines about them.

At *Virgo* the Bees cease to lay vp hony: yet all that month they vvaist not their store, vnles they be robbed, but liue of their daily labour from hand to mouth. In *Libra* likewise they spend litle or nothing.

<sup>2</sup> *When they cease to lay up in store.*

But in *Scorpio* & *Pisces* their gathering is litle in the three months betweene the nothing at all. In *Aries* & *Taurus* the plants yeeld the more plentie of food of both sorts: but then

<sup>3</sup> *When and how long they spend on the stock.*

K

they

they haue more companie to spend it, and vnkind weather oftentimes suffereth them not to goe forth for it. So that all this while they liue vpon the stocke: yea the weaker stals somewhat longer, as being not so vvel able to abide the cold aire. And therefore for want of some store to feed on between whiles at home, I haue knowne some die after *mid-gemini*.

4  
Some are stored for a longer time, for a lesse.

v. n. i.

5  
The usual way of feeding.

Of which seauen months some haue provision only for six, some but for foure or fiue: and some also not for so long a time: which you may well ioine vwith the vnthrifc stocks. v. for they are not worth the feeding.

V When men perceine by the lightnesse of the hieues that they wax leere and honiles, they begin to feed, some about *Pisces*, some looner, some later, giuing to each one euerie morning, before other Bees are abroad, a spoonful of hony: and so they continue vntil *Gemini*, if the vweather be then warme; otherwise somewhat longer, vwithout intermission. For the Bees will duly looke for it, and languish if they lack it.

6  
The usual manner of feeding.

Some giue it them in a spoone: but that way many of them besmeare their wings, & if their fellowes licke them not cleane presently before the cold chill: hem, they die. Others, to avoid this incouenience, giue it them in a roff, which being warme drinketh in the hony, vvhence they draw it out vwith their tonges: but this way wasteth hony, and doth not al

# Of the feeding of Bees.

C. 9.

together avoid the former inconvenience. Others haue other devises: but indeed the only good waie is to giue it thē in a pæc of a comb. v. v. n. 19.

If you vie to knock the haue, when you put in the hony; they wil come down as duly as sheep to a cal, when they are to be fodered.

This feeding of Bees is altogether condemned by some as painefull and fruitlesse, saying if you feed them not, they can but die: and so wil they doe when you haue bestowed your labour and cost. Indeed many of them, that are thus fed,

7  
*This late feeding of it fayleth.*

do, miscarric: but if the hony be good, and duly giuen them before their store be al spent, for the most part they liue: the sommer following they provide sufficiently for winters; & the next they are likely to swarme and grow fat.

8  
*Yet it may saue such as haue some store.*

But if any of your stalles, at any time in the spring, be so neere driuen that they haue spent all (which you may know by their lightnesse and lðthnesse to come abroad, when others are busie) then because feeding in such a case doth seldome fay, if you will saue their liues, driue them into a stall that is fat, and they wil agree and cast the sooner: the manner of driving see

9  
*How to saue those that haue no store in the spring*

c. 10. part. 1. n. 20.

For want of hony many other things haue beene vsed instead thereof. Aristotle mentioneth figges, and all such sweet things. *Apiarj ficut ac reliqua id genus dulcia in cibum apponunt.* and Plum speaking more particularly commen-

10  
*How to feed Bees without hony.*  
*Hist. li 9. c. 40.*



Nat. hist. l.  
21. c. 14.

dethraifings, and figges, and tealed wooll wet with meth, or hony-water, or sweete wine made of raffings, or new wine boiled. *Sicribus deesse censetur apibus, uuas passas siccas (ue, ficos), ius ad fores earum posuisse conueniet: item lanas tractas madentes passo aut defrato, aut aqua mulsas.* And some of our country-men haue practised to giue them bay salt, and beane flower, and sweet wort. Al which things though they wil spēd, yet cannot the Bees be preferued by thē without hony.

Touching the councill of *Plinie* this is to bee noted, that if you place their food *ad fores* before the doore, it wil draw strange Bees vnto them: whereby the hives of the one, and the goods of the other wil be endangered: if you place it abroad from your hieue, then wil it bee common: and if within vpon the stoole, which is best, then must you remoue it in time, v. n. 16. otherwise it will be no better for them then if it were set *ad fores*. And as for the devise of tealed wool, it is a fitter meanes to catch Bees then to feede them: for if the liquor bee about the wool, it will lime the winges of many; if not, many wil be entangled in the smale haïres as birds in a grinne. Cover it therefore with a linnen cloath so that the Bees may not creepe betweene.

II  
The best  
time of feed-  
ing.

But it is far better to feed Bees before they need (that they may saue their store which they haue shut vp in their celles vntill the spring) namely in *Scorpio*, when otherwise they would begin

## Of the feeding of Bees.

C. 9.

begin to spend on the stock. And not before, lest it be taken from them ; nor yet when it is colder then they can endure, lest in seeking to saue their liues you cause their deaths, either within as they are feeding, or without whē they are gon for water, which at such time they can not want.

Halfe the hony that they spend in the spring, as they are commonly fed, wil serue them at this time, and doe them twise so much good. For those that haue spent their owne store, and haue litle or nothing left at the end of winter, ar so discouraged & so feeble with fasting, that knowing their thin bodies can beare out no cold, they wil not come abroad but when they are fed, and then only to fetch water, vnles the weather be exceeding warm & calme: & the more they keepe in, the vweaker still they are. But those whose rathe feeding hath caused thē to spare their store till the spring, vwill bee as cheerefull as the best: in any reasonable weather they vvil abroad, and fetch in that fruitfull *Ambrosia*, vvich causeth them presently to breed. *v. c. 4. n. 11.*

12  
*The beneficia  
of rathe feed-  
ding.*

The poore swarmes are to be fed much or little, longer or lesse vvhile, according to their vvant. What each svvarme vvanteth cannot certainly be knowvne: nevertheless, through some direction together with experience, you

13  
*Bees are to  
be fed accor-  
ding to their  
want.*

K 3

may

## Of the feeding of Bees.

may guesse nere the matter, alwaies obseruing this rule, that it is safer to offend in the excellē, then in the defect: although vvhath wā-  
retth at this time, may, be supplied in *Pisces* fol-  
lowing. v. n. 17.

14

What pro-  
portion of ho-  
ny to the Bees  
is requisite.

Halfe the same quantity of hony that is of  
Bees wil keepe them al the winter. And there-  
fore a gawne of hony wil serue a pecke of Bees  
without feeding. And a pottle will serue so ma-  
ny from *Pisces* forward. So that such a stal ha-  
ving but a pottel, needeth an other pottel to be  
given them in *Scorpio*. to feed thē til *Pisces*. And  
so proportionably of the rest. You may also cō-  
iecture, when you haue fed thē, whether they  
haue sufficient, by comparing them in weight  
with other like swarmes that are vvell provi-  
ded.

15

The best ma-  
ner of feed-  
ing.

The best way to feed Bees is this. First take  
an emptie combe, and powre thereon so much  
hony as it may receiue: if you thinke it be not  
liquid enough, then either warme it first in a  
pot over the fire, or else spread it all over the  
combe with your knife, that it may sinke into  
the cels: for which purpose liue-hony is the  
best. This honied combe place vpon a treene  
platter, or hollow round bord almost of the cō-  
passe of the hieue within: & then in a faire calme  
evening when the heat of the day and of the  
Bees worke is past, put it vpon the stoole, & so  
set downe the hieue over it. Thē wil those Bees

16

The best  
time of the  
day for it is  
the evening.

## Of the feeding of them.

196

to worke a fresh, being out of danger of other Bees which then begin to rest their wearied limbs. And in the morning they wil at it again betimes with al possible speed, that they may haue made cleane worke before the heat of the day: by which time the bordering Bees, being rise abroad, wil be ready to rise thē if they once relent the hony. And therefore before that time, whether the combe be rid or no, take it away, and close vp the hie. The next evening (if the weather fit) dresse it so againe, not ceasing vntil you haue given them so much as wil suffice. This hony, when they haue first taken their refection, they convey into their voide cels: which because they cannot nowe shut vp (as before *Virgo*) for want of waxe, v. they do but halfe-fil. And therefore they first spend of it, reseruing that which was more safely laide vp vntil the last.

v.c. 6. n. 13.

If instead of this combe thus drested you wil take a ful hony-combe, then first open the cels with your knife: otherwise they wil not covey it, but wil cover and keepe it as their own cōbs til the weather wax cold, & then they forsake it and suffer it to spil.

At *Pisces*, if you feare they will lacke, (which you may perceiue by their lightnes) doe likewise, and supply their want: but then it is best to giue thē their food in a morning, least colde and darknes overtake them, whiles greedy hū-

17

The second feeding time

## Of the feeding of Bees.

get maks them stay to long; & so to let it stand vntil they haue conueied it. For in that month there is no great foare of robbing.

18

The third  
time of see.  
ding if need  
be.

And if having omitted to feed them sufficiently at these due times, you thinke it necessary to giue them somewhat in *Aries* or after, whē the wether is warme againe, let it be done in the evening as before in *Scorpio*.

19

A general  
caueat.

But alwaies bee sure, as sone as the combe is laid, that the hiue be made close, with no greater entrance then must needs be: lest the borderers smelling the booty breake in, not without danger to the stal, and death to manie of chemselues.



## Of the fruit and profit of Bees.

## CHAP. 10.



Herein is shewed first the vindemiation or taking of the combes: secondly the trying of the *Waxe & Hone*, with the making of *Meth*: & thirdly the singular vertues of them, for the vse and comfort of man.

*The first part of this Chapter sheweth the saking of the combes.*

**T**HE ordinary taking of the combes is by killing the Bees. For which the fittest time is in *Libra*: because til then the cōbs are full of schadons, which deceiue the honi-mē, making the hiue heavier and the hony vvorse: for the young Bees as well as the stopping corrupt the same. *Pullis & rubra sordes sunt mali saporis, & succo suo mella corrumpunt.* Neither do the Bees any whit diminish the hony in their hives vntil the end of this mōth, vnlesse much fowle weather keepe them long in before. But if you see them in danger of robbing, rather thē loose u, take them sooner, and picke out the grubs as wel

<sup>1</sup>  
The first  
kind of vindemiation.

<sup>2</sup>  
The best time  
of killing  
Bees.  
Col. 1. 9. c. 15

3 wel as you may.

*What stales  
are to be sa-  
ken*

v.c.9.n.1.

At this time therefore consider with your selfe what itals you wil kill. Swarines that maie liue, yeerlings, & two-yeerlings, you must keep for store. Those that haue stood three or fowre yeeres, and, by reason of their not swarming the last sommer, are full of Bees, lightly are very fat, and therefore worth the taking: but they are also good for store. But if they haue cast twice that sommer (vnlesse they were very forward & had beat away their drones by *S. James-side*) then are they not likely to continue, and therefore are to be takē. Likewise al poore v. swarms, vnlesse you meane to helpe them. Nether is it safe to trust any, after they haue stood five yeeres.

4.

*The manner  
of killing  
Bees.*

Having made choice of your stales to be killed, thus must you do. Early in a morning before any Bees be abroad, or in an evening whē al are come in, first digge a hoale in the ground as neere the stoole as may be, about six inches deepe and almost as wide as the hiee-skirtes. Then having a litle sticke whose length is more then the semi-diameter of the pie, put a brimstone-match in the one end being slit, and the other end being shipt ticke into the side of the hoale, so that the match may lunde right in the midle. This match is to be made of a linnen rag, wound in fashion of a candle, & dipt in melted brimstone, after the maner that maides

## Of the fruit, & profit of Bees.

C. 10.

maides make sluts. When you haue fired this at the vpper end, set over the hiue: and presentlie shut it so close at the skirres, that none of the smoke maie come forth. So shal you haue them al dead in lesse then a quarter of an howre.

Next vnto brimstone is the smoake of such-wood, or puckfists vsed in like māner: but they are neither so quicke nor so tweete. And for a need some smother them with danke straw or hay: but then the hony wil smel of the smoake. And therefore some for want of brimstone, such-wood or puckfists, will drownethem in a tub of water: but that hurteth the hony, & doth the h u s no good: and besides that, many of the Bees being not quite dead wil sting thē that handle the hony. Therefore he that hath Bees must not lacke those forsaide necessaries.

The Bees being dead, squat the hiue softly against the ground vpon his sides: and then ha-ving loosed the ends of al the spleets, you maie easily take out the combes together.

Some careles honi-men will take your Bees at any time of the daie, when many of them are abroad: the which at their returne finding all gone, presentlie invade the next. And some wil carry away the Bees alieue, and either willingly or against their wils let many out: which returning home will likewise trouble the next stals, and having begun wil set others a worke. It be hovertb you therefore to prevent this danger, if  
you

5  
*Sundrie  
meanes to  
kill Bees.*

6  
*How to take  
the combes  
whē the Bees  
are dead*

7  
*Bees not to  
be killed  
when some  
are abroad.*



you may. But if at any time you be thus served, the Bees will first come to the stoole where they stood, and settle there: where, if you attend a while, you maye kil most of them.

8

*The second  
kind of vin-  
demiatiou.*

An other way to take the combes is by driving the Bees. The maner of it is this. At Mid-summer, or within two or three daies after, in

9

*The time &  
maner of dri-  
ving Bees.*

a faire morning an hower before sunrising, lift the stalle from the stoole, and set it vpright & fast on the ground by some staires, with the bottome vppward: & then quickly set on the emptie hiue, hauing first layed two spleetes vpon the full hiues bottome, that the emptie hiue may stand the faster. And so wrapping a Mantle round about the chunke or meeting of both the hiues, and binding it fast with a smale cord aboute and beneath, that a Bee may not get forth, knock the ful hiue round about a good many times, pawling now and then a little betweene, that the Bees may ascēd into the void hiue. And when you thinke that most of thē are driven vp (which wilbe about half an houre after) set the vpper hiue vpon the old stoole, & knock the Bees that remaine, out of the nether hiue vpon a table two or three foot square, set close to the forpart of the old stool, that thēce they may walke into their new home. When so you haue got forth as many as you can, carry the hiue away from place to place ever now & then

P. 1. Of the fruit, and profit of Bees.

C. 10.

then knocking the same.

They which in the meane space fly out, will go to their fellowes. After a while, either without your garden or in the most remote part thereof, squat the hie a little on every side: and the, having loosed the spleetes ends, take out the combs one after another and wiping the Bees, that yet remaine, from each comb into a keuer or other like vessel, send the combes as fast as you haue wiped them into the house. And when you haue done, set the keuer and the emptie hie before the stoole: and in a while the Bees wil goe al together, and gather vp cleane that little hony that is leaft.

10  
How to take  
the combs

Provided alwaies, before you goe about this busines, that al the stalles in your garden bee first shut vp, least they trouble you, and your poore Bees.

This kind of taking is much applauded at the first, because men thinke thereby to saue both Bees, and hony. But it oft times falleth out with them, as it is in the proverb, *All combs all loose*. For the hony is neither so good, as being not yet in season, and to bee corrupted with the schadons, v. which can hardly bee cleane takē from it; nether so much by almost the one halfe, sith there remaine yet sixe or seaven weeks of the chiefest hony-gathering.

11  
This driuing  
of Bees un-  
profitable.

12  
The hony  
taken is lit-  
tle & nauybs  
v. n. 2.

And

13  
 And the Bees  
 driven fewe  
 and poore.

And the Bees, as men forcibly driven from their goods and children, are so discouraged; that they seldome thrive after it: specially those that haue swarmed, seeing their company is least but smal, and the after-brood is destroyed, which should haue supplied the roomes of the that are gone. And as for those that haue not cast, they might after that time yeeld a swarm, which would be better then the whole stal being driven: and if they did not swarme at al, the would they be so much the better, ether to take for hony or to keepe for store.

The next yeere, if the stormy colde spring make not much spoile among the (for in such weather the best stals, as most bold, loose most of their company) they vvill be sure to cast one very good swarme, if not two: and, when they haue done, to yeeld good store of honie.

14  
 An other  
 kind of dri-  
 ving.

This driuing of Bees into leere hives being nothing so profitable as it seemeth, I doe rather commēd vnto you the driuing of one stal into another: vvhereby the fruit of one is takē, and the liues of both are saued together.

15  
 At 2 times.

And thus some are to be driuen in *Libra*, or rather in *Scorpio*, because then other Bees vvill not be so busie: and some in *Aquarius* or *Pisces*, before they begin to breed.

16  
 Driving  
 in *Libra*.

In *Libra* such stales onely are to be driuen, as are fit to bee killed. v. and that into yeere-  
 lings or two-yeere lings, vvhich that yeere haue  
 cast

Of the fruit, and profit of Bees.

C. 10.

cast tvvise, and therefore haue fevv Bees least in them; or into after-swarms, which haue half-filled their hives vvith combs, and not much more: for if they haue vvrought them downe vvithin a handfull of the stoole, they are sufficient of themselues.

The manner of it is this. First moue these <sup>17</sup> *The manner of driving in Libra.* two stales, the *stranger* that is driven, and the *receiuer*, as neere as may be one to another: & so let them stand together six or seauen daies, til they be vvell acquainted vvith their standings: and then, the vveather being faire and cōstant, late in an evening, about ten or eleve a clock, let the stranger fast on the ground vvith his bottome vppvvard, and the receiuer vpon him: & binde them close together as in the former driving. And then, by often clapping the stranger between your hands: about the space of a quarter of an houre, now and then pausing betvvene, hauing driven most of the Bees into the receiuer, and so mingled them altogether, let them so stand til the morning. In the morning, an houre before sun rising if the weather be faire, otherwise you must stay longer, doe the like. This done, let the receiuer vpon the strangers stoole (but be sure to boister him vvith three tileshardes, that the driven Bees may easily get into the hieue on every side) and then knock the stranger downe vpon the table set before his stoole: and by clapping of the hieue

hiue presently, get as many of the Bees forth as you can. And forthwith carry the hiue away from place to place: & ever when you be come to a newe place, and there haue knocked out some Bees, leaue there the stranger, and go directly to the receiver, and a little beyond: for the Bees wil follow you, and thereby the sooner recover the hiue. When by this means you haue wel nigh rid the stranger of his Bees, begin to take out the combs, proceeding as in the former driving. As soone as you haue done, and the Bees begin to be quiet, take away the bolsters, & cloome vp the receiver very close, leauing the dore no wider then must needes bee. And when they are quiet, let out your other Bees.

18

*How to re-  
vive those  
that are chil-  
led in dri-  
ving.*

*V. 7. n. 58.*

If, the wether being not warme, you finde some Bees to be chilled about the hiue; fil your warme hands ful of them, and anone they will fly away to their fellowes: & if happily any of them chance to picke you (which they will seldome do) your hand wil haue the more vertue to revieue the rest.

19

*How to help  
those driven  
Bees that  
want.*

*V. 6. n. 16.*

If you thinke there be not sufficient provision for this double stal in that single hiue, bestow a ful combe or twaine, & as neede requirerh, of the strangers vpon them: and thus vil your Bees delight and prosper in new waxe, which in olde corrupte combes woulde decay.

P. I. Of the fruit, & profit of Bees.

C. 10.

In *Aquarius* or *Pisces*, when you have poised your hives, those that you find by their lightness vnlkely to endure the spring for lacke of food, you may in like maner drive into such provided stalles, as haue fewest Bees: and so wil those receiuers be much the better, & cast both the rather and the greater swarmes. And if by chance at any time after, you find a stall decayed, thus may you saue them.

20  
2. driving in  
*Pisces.*

This driving wil not be so troublesome as the former, because the poore Bees wil easily change their hungry home for a place of plenty.

Exsection or castration is a third kind of taking: which is the cutting out of part of the combes, part being leaft for the Bees provision. And this was to bee done at two times in the yeere, \* *In ortu & occasu vergiliarum.*

21  
A third kind  
of vinding  
tion.

\* *Vergiliarum ortus* after *Columnel* 19. c. 14. is the 48 day from *equinoctium verum* after *Varro* the 24 but then you must vnderstand that they accounted the *equinoctium* to be in the 8 degree of *aries* (alth' ugh *Hipparchus*, as *Col.* saith, had then found it to be in the first) With vs the cosmick rising of *Vergilia* or *Phidias* being 7 itaire in the neck of *Taurus*, and in the 24. degree of that signe, is known to be in the 3 of May, the 55 day after the true *equinoctium* which runneth with the account of *Colymbella*. And *Vergiliarum occasus* being in the same degree of the opposite signe, is vpon the 5. day of Novemb.

22  
Exsection  
used at two  
times.  
17

But what part is to be taken, & what leaft, I find it not determined. *Priore messe* (saith *Colymbella*)

23  
If has part  
to be exsected  
is vnder  
saine.

L

lunella)

L.9.c.15.

lumella) diem adhuc rura passionibus abundans, quinta pars sanorum; posteriore, cum iam incipit hyems, tertia relinquenda est. But Varro then requireth for their store two third parts; *ut ne plus tertia pars eximatur mellis, reliquum hyemationi relinquantur.* And Aristotle because (as Col. graeteth) *hic modus non est in omnibus regionibus certus,* doth not prescribe any certaine part, but leaving it to the diltcretion of the Bee-master,

Hist. an. l. 9. c. 40.

saith, *Cum fauos apiary eximunt, cibus tantum relinquunt, quantum per hyemem sufficiat: quod si satis sit, seruetur examen; sin minus, vel moritur ibidem (sine discedat hyems abster) vel deserit sedem, si serenum manserit.*

24.

Exfection  
ancient, but  
not profissa-  
ble.

Neither  
first.

This way of taking, as appeareth, vvas anciently vsed in plentifull countries, as Greece, Scicile, Italie, &c. But the former exlection, so wit in the spring, Aristotle nowhere mentioneth; and surely it must needs doe more harme then good, seeing the hives are then full of schadons, which being spild, spilleth their swarming; and the store of hony, vvhich they seeke for, is then vvel spent.

25.

Not second.

And that also in the autumne (which yet is the fitter time) seemeth no lesse vnprofitable then trouble soe; because the Bees in the spring following, if they lack not hony to liue on, yet that they lacke celledes to lay their yong in, wher by their breed wil be hindered. And at neither time can it be don without much spoil of bees.

But

P.2. Of the fruit, and profit of Bees.

C.10.

26

But howsoever it faied with them, for our country I take it to bee very vnfitting. And therefore I lay the lesse of referring the curious reader vnto the fifteenth Chapter of the ninth booke of *Colum.* and vnto *Georgius Pistorius*, who in his foureteenth Chapter writeth thereof at large.

*Specially for our Country.*

*The second part of this Chapter sheweth the trying of hony and wax with the making of mebbe.*

**T**HE combs being taken forth break the presentlie, while they are vvarme, into three parts: the first cleane hony & wax: the second hony and wax with stopping: the third wax without hony. But that they maie breake right where you would haue them, first marke them out with the edge of your knife.

<sup>1</sup>  
*The combes to be broken into 3 parts.*

The first part breake into a hair-sieue set ouer a pan, bowle, or other fast vessel that maie hold it (Coopers-ware wil leake though it be wel jointed) and so let the liue-hony, v. run of it owne accord, so long as it wil: when it ceaseth running, breake the pieces and let them run againe: and lastly with a warme sharpe knife cut those pieces a hurt the cels, & so let them run the third time. If the weather bee not warme, set the hony by a fire to helpe the running.

<sup>2</sup>  
*The dressing of the first part for hony v. c. 27.*

This first shoot put vp apart for fine hony.

<sup>3</sup>  
*The first shoot is fine hony.*



C. 10. Of the fruit, and profit of Bees. P. 2.

4  
How to know  
good hony.  
Nat. hist. li.  
II. c. 15.

omni melle q̄ p̄ se fluit ut mustū oleūq̄, appellaturq̄, acaton, maxime laudabile est. Which you shall finde to haue these properties: cleere, odorous, yelow like gold, (vnlesse it be virgin-hony, for that is more chry stalline) sharpe, sweet, & pleasant to the tast, of a meane cōsistence betweene thicke & thin, so clammy that beeing taken vp vpon your fingers ende, in falling it wil not part but hang downe togither like a long string, as that vseth to do which is clarified. And such doth *Iacobus Sylvius* describe the best hony to be.

L. I. de medicam. simp. delectu.

*Mel optimū sit purum adeo ut totum perluceat, odorum, flavum, acerrimū, dulcissimumq̄, gustantis & incundissimum, consistentiā nec crassā nec liquidā, sed tam sibi coherens ut conuinitatem suam, quasi linea longissima, non intercissū seruet, si digito at tollitur: idem coquendo parca spumam emittit.*

5  
The best hony in the bottome.

But alwaies the best part of this best hony is that which is lowest in the vessell.

Hist. an. l. 9. 640

For as the best oile is in the top, and the best wine in the middle; so the best hony is in the bottome. *Mellis exilior pars fluitat, que eximenda est: pura vero & valida subsidet.*

As among liquors oile excelleth in lightnes & hony in heaviness; so in both, that part is best which excelleth in his excellling qualitie: & wine being of a midling weight is best in the middle. The weight of these three one to another hath this proportion. Oile is not so heavy as wine by one tenth part: for if you fill a measure with wine and divide it into ten parts, the same measure of oile is no heavier the nine of them. And hony is heavier the wine by

P.2 Of the fruit, and profit of Bees.

C.105

by the halfe: for if you fill a measure with wine, the same measure of hony wil weigh that & halfe so much more. *Quoniam moleum levius est vino parte nonâ, mel vero: gravius vino parte dimidiâ; quæcumq; mensura capis mellis uncias 15 capis vini uncias 10, & oies 9.. Fern. math. l. 4. c. 6.*

This hony when it hath wrought & settled, specially that which is in the bottome, will in time grow like vnto the corne. hony in the vppermost parts of the combes, hard and white: which indeed is the very best, & if it coulde be got forth in his kinde: such as is the honic of *Spain* and *Narbon*, in *France*, which is couëd the chiefest, and compared with that of *Hymettus* & *Hybla*.

6

Corn-hony  
the best.  
v.c. 6. n. 26

*Quin Hispani & Narbonenses mittunt albiſſimum & longè proſtantiſſimum iſtèque prædurum Sylv. l. 1. med.*

*Nec Attico aut Hyblæ inferius cum regionis temperatura, & thymi largæ luxuries utrobique conſentians Idem. l. 2.*

The rest of the first part pound with a peſtle, or crush often with your hands al to pieces, & let it run as before. When it hath done, put this second shoot being but course hony, in a pot by it selfe, and that which remaineth in the sieue vnto the seconde part of your combs for methe.

7

The second  
shoot is  
course hony.

8

If there be any store of stone-hony, and you be loth to wash it into the meth-liquour, set it in some vessel over a soft fire, and stil keep your hand in the vessel stirring about the honic and wax, and opening the wax piece-meale vntil the hony and not the wax shalbe molten; and then powre out all into a strainer, & wring out

Corn-hony  
got out by  
water or fire.

C.10.

Of the fruit, and profit of Bees. P. 2.

the hony: But thus this good hony wil become but course: and therefore put it to the second shoot, and that least in the strainer to the second part. Otherwise you may clarifie it wel enough v. part. 3. v. 8.

9  
Most make  
but one shoot  
& so mix al

But the most part, partly for that they are loath to stand long about it, and partly that the liue-hony might be a meane to get out some of the hard or stonchony, doe vse al alike. For when they haue pounded it altogether, they hang it vp in a thin heare bagge, and thence let it run into a vessel. & some (which is wor(e) doe violently presse it out. But by these means they shal haue no fine & pure raw hony, how-soeuer afterward they handle it.

10  
The working  
of hony, and  
how so helpe  
it.

The hony being put vp into pots, wil in two or three daies worke vp a skum, of wax, hony, & drosse together, which, being taken of with a spoone, put to the second part now dissolued in water. In cold weather the hony wil not worke wel without the heate of the fire. The best way is to put it into an oven after the batch is forth, but not before you can abide to hold your hand vpon the bottome, for feare of overheating the hony.

11  
The dressing  
of the 2 parts  
for mesb.

The second part of the combes you must first rid of the stopping as neere as you can, cutting of that which is by it selfe, & picking out that which is among the hony: al which refuse, because of the wax that is with it, cast to the third

P. 2. Of the fruit, and profit of Bees.

C. 10  
12

third part. The other, with the remainder of the first part, lay a soake all night in warme faire water (that which cometh from the cloudes is best) the next day al-to-wash it and crush it betweene your handes, and then let it runne through the clen-sieve: that which is least, whē you haue crushed out the liquor, wash it once againe in fresh water: which water adde to the other liquor, and then put the residue vnto the third part. And thus shall you loose none of your hony.

How to make  
the liquor.

If the liquor be not strong enough to beare an egge the breadth of a two-pēce about it, the put so much of your course hony into it, as wil giue it that strength: or rather, when it is so strong powre in more water (stirring it with the liquor) vntil the egge sinke. If any man thinke this to be too smale; it may be amended in the boiling: which (as anon is shewed) wil giue it what strength you wil, and cleerensse withal. After this, stirre it wel together twice a day vntil the skum of the hony be ready to put to it, which when you haue added, and haue likewise stirred it about the vessel, as soone as it is setled, straine it againe through the clen-sieve. If you mean to haue your meth very strong, you may make it to beare an egge the breadth of a goat. But the ordinarie meth is not so strong as the first.

13  
How to know  
when it is  
strong enough

v. n. 10.

If you would make a greater quantitie, then

14  
What proportion of  
water to hony.

must you adde a proportionable measure of water and hony: namely fowr of that, for one of this.

15  
How & how long the liquor must be boiled.

The liquor being thus prepared let seeth an houre or better, even to the wasting of one fourth part, or as long as it will yeeld any skum: which you must continually take from it, as fast as it riseth. For if it once sink down againe, the liquor will not be cleere without putting in some cold liquour to raise it. And therefore it is good to keepe backe some eighth part of the liquour, and, when the rest hath boiled about halfe an howre and is wel skimmed, to powre in that cold liquour, & to skim it cleane againe.

16  
A receipt of spice to bee added.

When it wil cast no more skum, take it frō the fire, and set it a cooling. When it is but milke-warme, straine it through a thicke linnen cloth into a tubbe to worke: & put into it a little bag of spice, viz: to 8. or 10 gawnes of *mesh*, ginger and cloues of each halfe an ounce, cynamom and mace of each 2. drachmes al grossly beatē: and when it is wel soaked, rub the bag in your hand and wring out the liquour, & then leaue the bag in the tubbe, vntil the *mesh* be tanned. At which time do the like.

17  
Boiling diminisheth the quantity & increaseth the strength.

If after the *mesh* is wel skimmed, you would yet haue it stronger, boile it longer, to the vva- sting of a third part, or of the halfe: for the longer you boile it the stronger it wil be.

18  
How to set it a working.

To set it a working you may put into it a lit-  
tle

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C.103

the barme. And when it hath done working, put it vp into a barrele: where the *Meth* in time will be covered with a mother, which if by raggging the barrele, or by other meanes it be broken, the *meth* will sower; but so will it make excellent vertuice, and the sooner, if it be set in the sun with the bung open.

The learned Physitian *Masbias de Lobelre*. requireth this proportion: vnto one measure of hony take sixe of water, and let them boile to fowre. His receipt of spice is this, cynamom, ginger, peper, graines, cloues, *ana* drachm. 2.

*Methbeglen* is meth compounded with herbes: so called *quasi Meth e glen*, meth of the vallis, because it is made in the vallis, where is abundance and variety of holosome herbes. He that listeth to knowe the many and sundrie makings of this holosome drinke, must learne it of the ancient Britaines: vwho therein do passe all other people. One excellent receipte I will heere set downe: and it is of that, which our renowned Queene of happie memory did so vvel like, that shee vwould every yeere haue a vessel of it.

First gather a bushell of sweete-bryar-leaues, and a bushell of tyne, halfe a bushell of rosemarie, and a pecke of bay-leaues. Seeth all these being vwell washed in a furnace of faire vwater: let them boile the space of halfe an hovre, or better: and then powre out all the

19  
The proportion  
of Lo-  
be.  
20  
His receipte  
of Juice  
21  
Methbeglen.

22  
The Queens  
methbeglen.

water and herbes into a vate, and let it stand til it be cold. Then straine the water frō the herbes, & take to every <sup>b</sup> six gallons of water one gal-

<sup>b</sup> If you maruaile that so great a quantitie of water is required; it is partly because of the goodnesse of the hony, which being pure and fine goeth further then ordinary: but chiefly that it may haue the longer time to be clarified in boiling, before it come to his strength. And therefore some wil haue eight parts of water to one of hony: but then they boile it so much the longer.

lon of the finest hony, and put it into the water cold, and labour it together halfe an houre, and let it stand two daies, stirring it well twise or thrise each day. Then take the liquor and boile it anew, and when it doth seeth, skim it as long as there remaineth any drosse. When it

<sup>a</sup> The third part at least being wasted.

is cleer <sup>z</sup>, put it into the vate as before, & there let it be cooled. You must then haue in a readines a kive of new ale or beere: which as soone as you haue emptied, suddainly whelme it vp-side downe, and set it vp againe, and presently put in the metheglen, & let it stand three daies a working: and then tun it vp in barrels, tying at every tap-hole, by a packthread, a little bag of cloues and mace, to the valew of an ounce.

It must stand halfe a year before it be drunk of.

23  
The dressing of the third part for wax

The third part, consisting of wax and drosse, set over the fire in a kettle that may easily containe it: and powre into it so much water as wil

fill

P. 2. Of the fruit, and profit of Bees.

C. 10.

fil it vp about the waxe, that it may boile without burning: and for this cause, while it is seething with a soft fire, stirre it often. When it hath sod halfe an howre, take it of the fire, and presently powre it out of the kettle into a strainer of strong twisted haire, and crush out the liquor with a wrench or presse into a kever of cold water: but first wet that the bag lycch on with cold water, that the wax may not stick to it. At the first commerth forth most water, at the last most drosse, in the middle most wax.

24  
First boile it  
with water.

25  
Then strain  
"

The wax being colde make into balls, squeezing out the water with your hands. When you haue this done, breake al the balls into a skillet or kettle: where being melted strain it through a linnen cloath into a bason, and skim it clean with a feather, and so let it stand til it bee cold: and then warme the bottome of the bason, & it wil easily come forth. The properties or tokens of good wax are, most yelow, sweet, fat, fast or close, light, pure, and void of all other matter. *Cera sit flavissima, odorata, pinguis, coacta, levis, pura, & aliena omni materia carens.*

26  
Next make  
it into balls.

27  
Last of all  
melt it and  
make a cake.

28  
How to know  
good wax.

Syl. de med  
simp. delect.  
tu lib. 1.

The





The third part of this Chapter sheweth the  
singular vertues of (1) Honie (2)  
Methe and (3) waxe for the  
use and comfort of man.

**I**  
The proper-  
ties & ver-  
tues of hony.

**H**onie is (1) hot & dry in the second de-  
gree: it is of (2) subtil partes, & therefore  
doth pearce as oile & (3) easily passe in-  
to the parts of the body: It hath (4) a power to  
clense, and some sharpnes withal, and therefore  
(5) openeth obstructions, it (6) decereth the  
breit & lights of those humors which fall from  
the head to those parts, it (7) looseth the belie  
(8) purgeth the fowlnes of the body & (9) pro-  
voketh vaine, it (10) cutteth and casteth vp  
flegmatike matter, and therefore sharpneth the  
stomachs of thē which, by reaso thereof, haue  
little appetit, (11) it purgeth those things vvhich  
hurt the cleerenes of the eies (12) it nourisheth  
very much (13) it breedeth good blood (14) it  
stirreth vp and preserveth natural heat, & pro-  
longeth old age (15) it keepeth al things vncor-  
rupt, which are put into it, & therefore (16) Phy-  
sicians do temper therewith such medicines as  
they meane to keepe long: (17) yea the bodies  
of the dead being embalmed with honie haue  
beene thereby preserved from putrefaction.  
And *Athenius* doth witnes it to be as effectual  
for the living, writing, out of *Lycus*, that the

*Cyrus*

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C. 10.

*Cyrus*, or inhabitants of *Corfica* were therefore long-lived, because they did daile vſe to feed on hony, whereof they had abundance: & no marvaile: ſeeing it is ſo ſoveraigne a thing, and ſo many waies available for mans health, as wel being outwardly as inwardly applied. (18) It raiſeth humours to the vppmoſt parts, and therefore is fully laid to fowle ulcers: (19) it helpeth the griefes of the iawes, (20) the kernels growing within the mouth, (21) & the ſquinancie or inflammation of the muſcle of the inner gargil, for which purpoſe it is gargarized, & the mouth waſhed therwith: (22) it is drūke againſt the biting of a ſerpent (23) or mad dog: and (24) it is good for them which haue eaten muſhrooms, (25) or drunke popy; againſt which evil yet, roſed hony is taken warme. (26) It is alſo good for the falling ſicknes, and better thē wine, becauſe it cannot ariſe to the head, as the wine doth. (27) Laſtly it is a remedy againſt a ſurſet; for they that are ſkilful in phyſicke, when they perceiue any mans ſtomach to bee overcome, they firſt eaſe it by vomit: & then, to ſettle his braine and to ſtay the noyſome ſume from aſcending to his head, they giue him honie vpon bread. In reſpect of which great vertues (28) the right compoſition of thoſe great antidotes *Treacle* & *Mitbridate* requireth thrife ſo much hony, as of al other ſimples. Yea hony if it be pure and fine, v. is ſo good in it ſelfe, that

2  
As well out-  
wardly as in-  
wardly  
ma diſcretio  
vid.  
D. Anſette.  
Angina.

it

## Of the fruit, and profit of Bees. P. 3.

It must needs be good, evē for thē whose quea-  
sie stomachs are against it. But indeed the or-  
dinary hony may wel be disliked as being flut-  
tishly handled, and much corrupted with stop-  
ping, and Bees both yong and old, yea & other  
mixtures also.

(1) Galēn. de simp. med. facult. lib. 7. (2) tenuium partium. Simeon Seth (3) facile distribuitur. Matthias de Lo-  
bel (4) detergenti vim. Galēn & Seth (5) Lobel. (6) Wi-  
kerus, & Freitagius. (7) Seth & Freitag : & Plantius in  
Fernelium de syrupis. (8) Seth. (9) Seth & Pictorius.  
(10) (11) Lobel. (12) Freitagius (13) Freitagius (14) ca-  
lorem nativum suavitat & tuetur, & longam prologat se-  
nectam. Plant. loco supra citato. (15) Seth & Plin. hist. l. 7.  
c. 3. (16) Pictorius. (17) Claudius Cæsar scribit hippocen-  
taurū in Thessalia natum eodem die interiisse. Et nos  
principatu illius allatum illi ex Aegypto in melle vidimus  
Pl. hist. l. 7. c. 3 (18) (19) (20) (21) (22) (23) (24) (25) Pictor-  
ius. Mellis natura talis est, vt putrescere corpora non fi-  
nat. Faucipus, t. insillis, anginæ, omnibusq; oris desiderijs  
vtilissimū, arefcentiq; in febribus linguæ. Pl. hist. l. 22 c.  
24. (26) Lobel. (27) Pict. (28) Fernel. Method. l. 7.

<sup>3</sup>  
For whom  
hony is best.

Hony is most fit for (1) old men, for womē &  
children; for such as are reumatike & flegma-  
ticke, and generally for all that are of a cold tē-  
perature. (2) To yong men, and those that are  
of a hot constitution it is not so good, because  
it is easily turned into choler: & yet Lobel saith  
we know that hony taken fasting doeth much  
good vnto some natures, which haue hot livers:  
and in this point he preferreth our English ho.

<sup>4</sup>  
English hony ny *Mimus* (saith he) *speciosum ac delicatum An-*  
*glim: sed, quibusdam præsertim salibus & pasconis,*  
ubi

P. 3. Of the fruit, and profit of Bees.

*ubi lana commendatio lectum, biliosa excrementa inferius extergendo pellit, & aciei oculorum prodesse putatur.* So that hee seemeth to say that our hony is hurtful to none, because it purgeth that evil humor, which other hony in some bodies is thought to breed. But al hony often & immoderately taken (3) causeth obstruction, and so in time (4) breedeth the scab.

5  
*Too much hony unbol- some.*

(1) (2) Galen l. 4. simpl. med. d. st. 3. c. 5. Item Seth, Pictorius, & Freitag. (3) Wikerus & Freitagius. (4) Lobcl.

Raw hony doth (1) more loose the belly (2) causeth the cough, & (3) filleth the entrals with winde, specially if it be of the courser sort. Being boiled it is (4) more nourishing (5) lighter of digestion, and (6) lesse laxative, also (7) lesse sharpe and abstersory: for which cause they vse it to knit together hollow & crooked vlcers, & likewise (9) to close other disioined flesh. It is also good against the (10) pleurisie, against the (11) phtisis, and al other diseases of the lungs.

6  
*The differē operations of raw & boi- led hony.*

(1) (2) (3) Freitag Pictor. & Wikerus, (4) Freitag. & Wiker. (5) Wikerus (6) Pictorius (7) Gal. & Seth. & Fernelius Methodi. l. 6. c. 12. Crudum cetero & despumato detergentius quidem multo est & mordacius: sed eo minus agglutinat (8) ad sinuum glutinationes, Seth. sinuorum vlcium, Gallen. (9) (10) (11) Pictorius.

You may boile hony either by it selfe, or else with the like quantity of water, or other liquor. But alwaies in boiling skim it, that it may be pure. By it selfe you must boile it vntill it will yeild

7  
*Two waies to clarifie hony.*

yeild

yeeld no more skum,

The right skum, which is droffe, is short and brittle: which when it is cleane taken awaie, the force of the fire wil cause the very hony to rise vp like a skum: but that will then be rougher and more clammy then the droffe skum, and so wil al the rest be, when it is cold, as being over-boiled: the refore be sure to take it off in time.

(which wil be about haife an houre) and that with a very soft fire, or in a double vessel, lest, by over-heating, it get a bitter tast, and lest it suddainely run over and flame.

With water it is to be boiled an houre at the least, evē vntil the water be evaporated: which thing is knowne by the bubbles that rise from the bottom, & by the wasting of the one halfe: then, to make it more pure, put into every pouūd of hony the <sup>r</sup> white of one egge, and aftarward skim it againe in the boiling. The fire may be more fervent at the first, but toward the end it must be slack: for it is then apt to be set on fire, as the meere hony, and to become bitter with violent heate.

¶ Lefs white  
may serue  
if the hony  
be good.

8

How to cla-  
rifie stone ho-  
ny.

¶ If you wil clarifie the stone-hony remain-  
ing in the combs, thus doe. When you haue  
pared away as much of the wax as you may,  
breake the hony combes into a vessel to boile;  
and then powre faire water into it, vntil the wa-  
ter rise an inch or twaine aboue the bottome.  
Whē you haue set this over the fire, stirre it to-  
gether ever now and then: as soone as it is al-  
melted and beginneth to boile, take it off and  
straine

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straine it, and then let it over a soft fire againe, & skim it cleane. vnto the skum put faire warme water: whē you haue stirred it about, crush the wax together in your hand, and lay it aside: & the water (if you make no meth) either giue it to your Bees, or, having boiled and skimmed it, put it to your brewlock.

The course hony being boiled and clarified hath a most pleasant & delicate tast, & is comparable for most vses to the purest bottome-hony being raw.

Which pure hony if you be disposed to boil, it, will aske lesse time to be clarified, as yeelding little or no skum at all, and in tast & vertue it is more excellent.

When your hony is boiled enough, take it from the fire, and rather too soone, then too late: for if there be any drosse remaining, you shall find it in the top, when it is cold: but overmuch boiling consumeth the spirituous parts of the hony, and turneth the sweet tast into bitter.

And such is hony in his owne kind, both raw and boiled. It is also altered by distillation into a water, which *Raimundus Lullius* that excellent Chymist calleth the quintessence of hony. This quintessence dissolveth gold, & maketh it potable, & likewise any sort of precious stones that is put therein. It is of such vertue that

9  
*The quintessence of hony*

10  
*The vertues of it.*

M

if

if any be dying, and drink 2 or 3 drams thereof, presently he wil reviuē. If you wash any wound therewith, or other sore; it wil heal quickly. It is also good against the cough, catarre, & paines of the melt, and against many other diseases. Being giuen for the space of 46 daies together to one that hath the palsie, it helpeth him. Which thing *Iohn Hester* a practical Chymist, in his key of Philosophie professeth himselfe to haue proued. It helpeth also the falling sicknesse, and preserueth the body from putrefaction. Of so marvellous efficacie is this water.

## II

The making  
of it.

The lute  
may be  
made of  
clay, flocks,  
& salt-water,  
tepered  
together,  
or of meal  
and whites  
of egges.

The making of it is after this manner. Take two pound of perfect pure hony and put it into a great glasse, that foure parts of siue may remaine emptie: a lute it wel with a head & receiuer, and giue it fire vntil there appeare certaine white fumes, which, by laying wet clothes on the receiuer and head and changing them when they are warme, wil turne into a water of a red colour like blood. When it is all distilled, keepe the receauer close shut, and let it stand til it be cleere, and of the colour of a rubie. The distil it in *Balneo Maria* leauen times, and so it wil loose this redish colour, and become yelow as gold, hauing a great smel & exceeding pleasant.

## II

The vaine  
of hony in cō  
fectione.

Now as hony is good by it selfe, either altered or in his owne kind, so is it also being mixt with

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C. 10.

with many other simples, which heere to declare would seeme but tedious and impertinēt. Notwithstanding it shal not be amisse in 2 or 3 instances to gieve you a tast of such confections: and first of those that are inwardly, thē of those that are outwardly, receiued.

Of the first sort are marmalade, and marchpane, preserued fruits, as plums, & cherries: &c. Conserues of roses, violets, &c. with syrups of the like matter.

Marmalade is thus made. First boile your quinces in their skins til they be soft, then having pared and strained them, mix therewith the like quantitie of clarified hony, and boile this together til it be so thick, that in stirring (for you must continually stirre it for feare of burning) you may see the bottom, or being cooled on a trencher, it be thick enough to stile: then take it vp and box it speedily. This is very good to comfort and strengthen the stomake. For want of quinces you may take wardens, peares, or aples, and specially the peare-maine, giliflower, pipin, and roial.

13

*Marmalade  
made of hony*

Fernel method 1.7. de eclegmatitis.

14

*Marchpane.*

Marchpane may be made after this manner. Boile and clarifie by it selfe, so much hony as you thinke meet: when it is cold, take to every pound of hony the white of an egge, and beate them together in a bason, til they be incorporated together and wax white, and when you haue boyled it againe 2 or 3 walmes vpon a fire of

M 2

soles



coles, continually stirring it, then put to it such quantity of almonds stamped as shall make it of a iust consistence: and after a warme or two more, when it is wel mixt, powre it out vppon a table, and make vp your marchpane. This is good for the consumption.

*Preserue fruit s after this manner.*

15  
Preserues.

The damascens, or other fruit, being gathered fresh from the tree; faire, & in their prime; neither Greene or sower, nor over-ripe or sweet; with their stalkes, but cut short: weigh them, & take their weight in raw fine hony: & putting to the hony the like quātity of faire water, boile it some halfe quarter of an howre, or til it will yeeld no skum: then having slit the damascens in the dented side for feare of breaking, boile them in this liquor til the meate cōmeth clean frō the stone, & then take thē vp. If the liquor be thē too thin, boile it more: if in the boiling it be too thick, put in more faire water, or rose-water if you like it. The liquor being of a fit consistence, lay vp and preserue therein your fruits.

16  
Conserues.

*Melrosarum*

• Cum vnc

js. aque tri-

but medio-

enter def.

punctur. v.

D. 7.

Conserues of Roses is thus to be made. Take of the ioice of fresh red roses 1 ounce, of fine hony clarified 10 ounces, boile this together: when it beginneth to boile, adde of the leaues of fresh red roses clipt with scissors in little pieces 4 ounces, boile them to the consumption of the ioice, and presently put vp the conserues into some earthen vessel: keepe it long therein

for

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C. 10.

for in rime it waxeth better and better. *Sylv. l. 3*  
*de med. simp. mist.*

After the same maner is made cōserus of violets.

Mel violatū

Syrup of Roses make thus. Steep fresh roses in hote water, the vessel being covered:

17

Syrups.

when the water is cold, straine out the roses, & heating the water againe, steep other roses therein: this doe so often til the water be red.

Syrup of roses.

And this being purged with whites of egges, boile it with like quantitie of fine hony, vntil it be of convenient thicknes.

If you prepare it for present vses, the lesse boiling wil serue, if you meane to keepe it, it requireth more,

Sylv. med. simpl. mist.

for which purpose the sunning of it is good: This purgeth a little, specially being new.

13.  
Sylv. ibid.

Or thus. Steep one pound of red rose leaues in 4 pound of water 24 howres. When the water is strained, put vnto it 2 pound of fine hony, and boile it to the thicknesse of a syrup, taking of the skū as it riseth. It tēpereth the hot affections of the braine, it quencheth thirst, it strengthneth the stomake, it procureth sleep, & staieth thin rheumes. *Fern. Meth. lib. 7.*

The syrup of violets is made, after the same maner, of fragrant violets a little dried in the shade. Being wel boiled it may be kept a yeere without vinewing or corruption. It tempereth and purgeth hot and sharp humors; and therefore is good in a pleurisie: it expelleth melanchollie and the effects thereof, as headach, wa-

Syrup of violets.

## Of the fruit, and profit of Bees. P 2.

king, dreaming, and heauinesse of hart: it is fit to be vsed before and after purging. *Plantius in Fernel Meth. l. 7.*

If any man like better to make these confectiōns with sugar, let him take the like quantity as of hony, for sugar also hath with his sweetness a power to<sup>a</sup> preserue, as being a<sup>p</sup> kind of hony,

<sup>a</sup> Condiuntur fructus aut melle, aut saccharo. *Fernel. Meth. l. 4. c. 17. & Syll. simpl. med. misc. l. 3.*

<sup>p</sup> Saccharum quod ex India & felici Arabia conuehitur, concretum in calanis est; mellis species, nostrate certe minus dulce, sed similes ei vires obtinens, quod ad abstergendum, desiccandum, & digerendum pertinet. *Galen. de simp. mell. facult. lib. 7.* Saccharum est mel in arundinibus collectum *Plin. l. 42. c. 8.* Saccharum mellis species cum sit, siccat quoq; & abstergit. *Fern. Meth. l. 6. c. 12.*

18

Hony so bee preferred before sugar.

v. p. 2. n. 3.  
v. p. 3. n. 1.  
c. 2.

But in respect of the marvellous efficacy, which fine v and pure hony hath in preserving health, v. that grosse and earthie stuffe is no white comparable to this celestial nectar. Although some queint & ladilike palats (whom nothing but that which is, far sought and deere bought can please) unhappily neglect it. In preserving fruits it hath more power through the viscositie thereof. Also conserues, & syrups being made with hony<sup>p</sup> continue longer, & doe more kindly worke their effects.

<sup>p</sup> Ex melle confectus syrupus diutius asservatur; is quoq; magis incidit, ac detergit. Ex saccharo suavior, sed non aq; efficac. *Fern. Meth. l. 4. c. 12.*

19

Hony good in outward medicines.

Hony is vsed in outward medicins for diuers purpo-

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purposes, <sup>a</sup> not only to containe the other ingredients in forme of a plaister; but also to open, to cleanse, to dry, to digest, and to resist putrefaction. And therefore it hath the predominance in that excellent salve called <sup>b</sup> *unguentum Egyptianum*: which serveth to cleanse and mundifie old sores, and to take away both dead and proud flesh. The receipt whereof is this, Of verdegreece ounces 5, of strong vinegre ounces 7, & of hony 14. boile first the hony and vinegre, & stirre them together: after a little while put in the verdegreece: and then, stirring all together, let them boile vntil the ointment haue his iust thickness, and purple colour.

20

A salve for an old sore.

<sup>a</sup> Mel panacæ & alijs quibusdam emplastris miscetur, vt corpus prebeat emplastrum, & preterea siccat, tergeat, digerat, a putredine vindicet. *Sylv. de med. simpl. mist. l. 3.* Mel calidum siccumq; ordine secundo aperit, putredini obstitit, siccat, deterget, expurgatq; meatus & vlcera, nec, vt sal. corporum substantiam coarctat. *Fern. Meth l. 6. c. 12.* <sup>b</sup> *Sylv. de med. simpl. mist. l. 3. sect. 10. & Fern. meth. 47.*

21

Another.

*Another of like virtue but not so much corrosive*

Boile a quart of good ale in a skillett to a pinte: then put in one fourth part of a pinte of hony: and skimming stil as need is, let them boile together to the quantitie of the hony, or til it be of the consistence of a thick syrups.

22

What are the virtues & properties of *meth*, may partly be knowne by that which hath bin said of hony. For seeing hony is the chiefe mat.

The properties and virtues of *Meth* or *Methaglen*.

## Of the fruit, and profit of Bees? P. 3.

ter whereof Meth is made; the meth must needs, together with the substance of hony, participate the naturall qualities thereof. The which, by the purifying in boiling, together with the accessse of sundry wholesome spices and herbes, are rather confirmed & increased, then any way extenuated or diminished. Therefore saith Lobel, *Melsum, ubi aqua plurimum, mellis non multum, diuurna intestinaq, mellis ebullitione in vinum longè utilissimum abis.* And PiCTORIUS, *Hydromellongâ vetustate transit in vinum stomacho convenientissimum.* Meth, when it is olde, is a wine molt agreeable to the stomake: it recovereth 1 the appetite being lost, it 2 openneth the passage of the spirit or breath, it 3 softeneth the bellie, it 4 is good for them that haue the cough. 5 If a man take meth, not as his ordinarie drink, but, as physick, now and then; he shal receiue much benefit by it, against quartran agues, against cacexies, and against the diseales of the braine, as *analepsie*, & *epilepsie*, or the falling euill: for which wine is pernicious; it 6 cureth the yelow iaudise: it 7 is also good against henbane with milke, and against the winter-cherie, it 8 nourisheth the body, 9 So that many haue attained to long old age, only by the nourishment of meth. And therefore no marvaile that *Pollio Romanus*, who was an hundred yecres old, imputed the greatestt cause of his long continued health: o

this

**P.3. Of the fruit, and profit of Bees.**

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this soveraigne drinke. 10 For being asked of Augustus the Emperour, by what meanes especially hee had so long preserved that vigour both of mind and body, his answer was, *hinc vinum, foris aleo.*

<sup>b</sup>(1.2.3:4) *Pistorius, & Plin. hist. l. 22. c. 24 (5) Lobel. (6.7. 8.9.10.) Plin. hist. l. 22. c. 24.*

The samething is more manifested by the generall example of the ancient Brittaines: who, aboue al other nations, haue ever beene addicted to Meth and Metheglen. For vnder heauen there is no fairer people of complexiō, nor of more sound and healthfull bodies. Of whose Metheglen *Lobel* writeth thus, *Cambri- cus ille potus Methegla, non patrio, ut putant illi, sed Græconome dictus, est altera liquida & lim- pida Septentrionis Iberica.*

23  
Meth much  
used of the  
ancient Brit-  
taines.

24  
Whence  
Meth hath  
its name.

<sup>c</sup> *Meth. Vinum.* From whence commeth our word Meth, which some corruptly call Mede, because it was wont to be written with a kind of *d*. For whereas wee haue in English two sortes of *sh*. as you may perceiue in these words, *sheath, shin, shat, & heath, shiffe, shanke*, the ancient English did expresse the former by *a* aspirat, wh. h for difference from *d*. *tenuc* (as in *mead shed, &c.*) they noted with a dash.

Waxe hath no certaine elementar quality, but is a meane betweene 1 hot and cold, and betweene dry and moist, It 2 mollifieth the fi-

25  
The prop-  
ties & vir-  
tues of natur-  
all wax.

newes

news, it (3) ripeneth & resolveth vlcers. (4) The quantity of a pease in waxe beeing swallowed down of nurces doth dissolue the milke curded in the paps, and (5) ten round pieces of wax of the bignes of so many graines of millet or hēp-seede will not suffer the milke to curdle in the stomach.

1. *Galen de simp. med. facul. i. 7 (22. 2, 3, 4, 5.) Georgius Pictorius.* Cera ssa va magis emollit, relaxat, dolcre solvit. coq; illā vtimur ad abscessus calefaciendos, emolliendos, concoquendos, & maturandos. *Iohannes Guintherius\* Andernacur.* Omnis cera mollit, calefacit, explet corpora: recēt melior. Datur in sorbitione dysentericis, faviq; ipsi in pulte aliq; prius coste, aduersatur; lactis naturę; ac milij magnitudine decem grana cera hausta non patiuntur coagulari lac in stomacho. Si inquentumeat, albam ceram in pube fixisse remedio est. Nec huius vsus quos mixta alij præstat, enumerare medicina potest. *P. li. nar. hist. li. 22. cap. 24.*

26

Artificial  
wax.

This natural yellow wax is by art for certaine purposes made white, red, and Greene.

27

To make  
white wax

Wax is whited after this manner. Take the whitest and purest wax, which, being cut into smal pieces, put into an earthen vessel, & powre sea-water or brine into it as much as may suffice to boile it. And cast in also a little niter:al this set over a soft fire: when it hath boiled vp twice or thrise, list the vessel frō the fire, & the wax being presently cooled with cold vwater, take it out, and when you haue scraped of the drosse, if any such hang on, & put it into other salt water, seeth it againe. And having boiled vp  
twice

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twice or thise, as before, lift it from the fire againe: and then take the bottome of an other earthen pot, or a little round bord with a handle in the middle like a churn-staffe, but without hoales: and having first wetted the bottome of it in cold water, dip it into the hot vessel, & as soone as this wet bottome toucheth the wax, pul it out againe, and you shal haue sticking to the bottome a thin cake, which whē you haue taken of, wet the bottome againe, and dip it as before: and thus do til you haue taken vp al the wax in cakes. These cakes hange in the open aire vpon a line drawne through them, so that they may not touch one an other, besprinkling them with water in the sun-shine vntil they be white. If any man would haue waxe whiter, let him boile it oftner, & do all other things in like manner as before.

28

To make waxe red, Take to one pound of wax, in sommer three ounces of cleere turpentine, in winter fowre. These dissolue over a soft fire, and by & by take it of to coole a little. Afterward mixe therewith the red root of anchusa or vermilion, well grounde on a marble or glasse, & sweet oile, of each one ounce. stirre al these and mix them vvel together. For want of vermilio they take three times so much red lead, but that is not so good.

To make red wax.

<sup>d</sup> Cinabrium.

<sup>c</sup> Minium.

To make greene wax.

29

To make greene wax take in stead of vermilion the like quantity of vert-degreece,

And



C. 10:

<sup>30</sup>  
Oile of wax.

Of the fruit, and profit of Bees. P. 3.

31  
The vertues  
of it.

And such is wax in his kind, both natural & artificial. Natural wax is altered by distillation into an oile of marvelous vertue. *Raymond Lull* greatly comēdeth it, proving it to be rather a celestial or divine medicine thē humane; because in wounds it worketh miraculously: which therefore is not so well allowed of the common chirurgians. For it healeth a wound, be the same never so wide & big, being afore wide-stitched vp, in the space of 11. daies or 12. at the most. But those that are smal, this oile healeth in 3. or 4. daies, by annointing only the wound therewith, and laying on a cloath wet in the same. It stayeth the shedding of the haire, either on the head or beard, by annointing the place therewith.

Also for inwarde diseases, this oile worketh miracles, if you giue one drachme at a time to drinke vvith white vvine: for it is excellent in provoking vrine which is stopped, it helpeth stiches and paines in the loines, it helpeth the cold gout, or sciatica, and all other griefes coming of cold.

32  
The making  
of oile of  
waxe.

The making or drawing of this oile is on this wise. Take of pure newe yellow vvaxe so much as vvill halfe fill your retorte or bodie of glasse: melt it on the fire, and then powre it into sweete vvine, vvherein let it soaker wash it often, and vvring it betveene your hands: then melt it againe and powre it into fresh vvine, vvherein soake it, wash it, and vvring

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it as before, & this do seaven times, every time putting it into fresh wine. When thus you haue purified the waxe, to every pound thereof adding fowre ounces of the powder of red bricke finely bruised, put it altogether into your retort of glasse wel luted: then set the retort into an earthen pot, filling it round about and beneath with fine sifted ashes or sand, & set the pot with the bodie in it on a furnace, and so distill it with a softe fire. And there vwill come forth a faire yelovve oyle, the vvchich wil congeale in the receiver like pappe vvhen it is colde. If you should rectifie this oile, or distill it often, vntill it vvil congeale no more, then shall you make it over hot to take inwardly, and so quick in the mouth, that you cannot drinke it down. In the comming forth of this oile, shal appear in the receiver the fowre elements, the fire, the aire, the water, and the earth, right marvellous to see.

So vertuous is waxe by it selfe, both in his owne kinde, and altered by distillation. It is moreover of great vse mixed with others, and is the grounde and foundation of cere-cloaths and salues: whereof to set downe 2. or 3. exam- ples shal not be amisse.

33  
The vertue  
of waxe in  
compound  
medicines.

A cere-cloath or *ceratum*, so called of *cera* doth consist chiefly of wax & oile mixed in such proportio, as may make the ointment of iust consistence: & therefore being made in sommer, or

34  
*A cerecloth*

5 Fer. merb  
L. 4. c. 19. &

compounded with turpentine, lard, gum, marrow, or any liquid thing, a greater quantity of wax is required: and being made in winter, or compounded with rozin, pitch, metals, dried herbs, powders, or any dry thing, a lesse quantity sufficeth.

The ingredients being prepared, first melt the wax, and whatsoever els of like nature, as pitch, suct, &c. in the oile over a gentle fire, or in a double vessel, for feare of burning: when they are melted together, put in'the powders and other like ingredients: if there be any: and allone as you haue stirred them well together, (before the liquor be very hot) set it a cooling, and make your cere-cloath,

35  
*A cere-cloath*  
*to refresh*  
*the sinews &*  
*muscles.*  
 A cere-cloath to refresh the wearied sinews & tired muscles is thus to be made, take <sup>a</sup> oile & wax of each 2 ounces, turpentine 2 drams, and hony halfe an ounce.

<sup>a</sup> Fern. Method. l. 4. c. 19.

36  
*A cer-cloath*  
*to comfort*  
*the stomach.*  
*Nardinii.*  
 To comfort the stomach and helpe concoctio<sup>n</sup> make a cerat thus take <sup>b</sup> oile of mastich, of mint, of wormwood, of nutmeg & <sup>c</sup> speeke, or any of these, and a convenient quantitie of wax,

<sup>b</sup> Fern. Meth. l. 5. c. 22.

For the wormes in the belly of a childe or o<sup>th</sup>er: take 1 ounce of yelow wax, 1 oūce of rozin, 1 spoonful of triacle, 2 pennyworth of Aloes *ad usum.*

For

P. 3. Of the fruit, and profit of Bees.

C. 10.

For example of a plaister, take *emplastrum de ianna*. <sup>37</sup> *A. false for a green woud.* marvellous effectual in curing greene wounds and new vlcers. It asswageth inflammation, it cleanseth, it closeth, & filleth with flesh, and maketh whole. It is thus made: <sup>p</sup> take the ioice of parsley, plantan, and betonie, of each, one pound: wax, pitch, rozin, and turpentine, of each halfe a pound: boile the wax, pich, and rozin in the ioices, softly stirring al together vntil the quantitie of the ioices be wasted: & then taking them of the fire, put in the turpentine, and mix it with the rest.

<sup>p</sup> Sylvius de medicam. Simpl. m. ist. l. 3. & Fern. meth. l. 7.

*Another of like effect,*

38

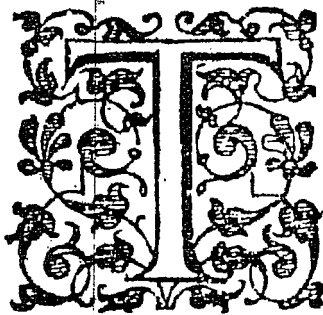
*Another.*

Take deer or mutton suet, wax, rozin, and turpentine, of each two ounces: boile these together, & skim them: then take this liquor from the fire, & when it is somewhat cooled, put in two handfulls of the tops of hysop, and stir it about, and setting it over the fire againe, boile it softly about a quarter of an howre, til it bee greene: and then straine

it, and let it coole. This is chiefly to bee made in May, because then the hysop is in his prime.

*Thus*

## The conclusion to the Reader.



Hus haue I (industrious Reader) disclosed vnto thee the hiddē secrets of the Bees and their fruits. Now when thou haste, through my instructions, received the profite and pleasure, which these diuine cre

atures abundantly yeelde; be thankful vnto God, giue him his part that giveth thee all, and  
**Lev. 27. 30.** pay iustly the tithe of the increate: for God maketh claime vnto that part, as peculiarly belonging to himselfe. So that, although he haue assigned it to the priests & ministers for the time being, that are consecrated to do him service at his altar; yet doth he hold himselfe perpetually interested therein. And therefore, howsoever some may thinke that in deteining tithes they rob only men; yet the Lord doth charge such malefactours with a greater crime, saying *you haue spoiled me:* & when they taking it (as manie do now) to be no such matter, did aske *wherein haue we spoiled thee?* The Lord answereth *in tithes and offerings.*

**Mel. 3. 8.**

But some new-fangled Brownist, that loues still to be broaching frein opinions, or some corrupt atheist, that lieth gaping for the ruine

of

## *The conclusion to the Reader.*

of the church, wil say, The paying of tithes was commanded by the law of Moses, but in the time of the gospel it is not necessary: A competent exhibition indeed is to bee allotted to the clergie for their maintenance; but that may be better effected by other meanes, then by tithes. As though the foolishnes of men were wiser then the wisdom of God: as though we in their blind and vncertaine imaginations could devise a better way for the continuall maintenance of the ministry and seruice of God, then that which himselfe in his provident and all-seeing wisdom hath appointed.

This competent maintenance (as one wel saith) is a Castle built in the aire, which never yet stood vpon the earth. It hath bene indeed attempted in many places: but what is done? The tithes are wickedly wrested from the true owners, and the competent maintenance, in lieu thereof, is a poore pittance (God wot), cut to that scantlet, that it may serue only to keep them alieue. Yea some of them are held in that base and contemptible state, that, to the great slander of the Gospel, and the scandall of the weaker sort, they are faine to goe from house to house for a morsel of bread. Can they think that God, who did sufficiently and liberally provide for the Priests vnder the law, hath leaft the Ministers of the glorious Gospel of Christ to the courtesie of them, which (as wofull ex-

## The conclusion to the Reader.

perience doth dayly manifest) are more ready to rob, then reward thē? Which do even straine their wits to the vtmost, by one trick or other, to seaze vpon their mangled portion, with griping talents to rent it piece-meale from them, and so, cruelly to prey vpō them, which in the meane space doe pray for them?

It cannot be denied that tithes were once the Lords, when it was said, *All the tith of the land, both of the seed of the ground and of the fruit of the trees, is the Lords, it is holy to the Lord.* If it were once his, why is it not his stil? Who is he that hath dispossessed him of his right? And if, being his, it were to be paid vnto his seruāts the Priests and Levites, for the service of God vnder the law; why should it not likewise bee paid vnto his seruants the ministers of the word and sacramēts, for the service of the same God in the Gospel? Our sauour reproving the Scribes and Pharises, because they stood more vpon the observation of the smaller duties of the law, thē of those that were greater; saith vn. *to thē, Ye tithemint & anise & cummin, & leaue the weightier matters of the law, as iudgement and mercy and fidelity; giuing his sentence of them both, These things ought you so haue done, and not to haue least the other vndone.* Where you may see that Christ himselfe commaundeth the paying of tithes, which are the smaller things; though hee prefer iudgement and

merit

## The conclusion to the Reader.

mercy & fidelity, which are the greater things, of the moral & perpetuall law of God. So doth that ancient father *Origen* expound these words of Christ, shewing that the commandement of paying tithes is to bee observed according to the letter, *Ut hac observanda, etiam secundum literam, ipsius Dei vocibus doceantur; dicit Dominus in evangelio, va vobis, &c. Vide ergo diligentius, quomodo sermo Domini vult fieri quidem omnimode que maiora sunt legis, non tamen omitti & hac que secundum literam designantur.* And therefore in the same place he saith, *Non mihi videtur huiusmodi anima habere memoriam Dei, nec cogitare nec credere quia Deus dederit fructus quos cepit, quos ita recondit quasi alienos à Deo. Si enim a deo sibiistos crederet, sciret usq; munerando sacerdotes, honorare Deum de datis & muneribus suis.* Likewise *S. Cyprian*, who lived in his time. After them *Cyrilostome*, and *Ierome*, who hath many places to this purpose, as these, *Quod de decimis diximus, In Mal. 3.8. qua olim dabantur à populo sacerdotibus & Levitis, in ecclesia quoq; populis intelligite.* And againe, *Eccl. Ibid. ecclesie populis præceptum est dare decimas.* Also *S. Ambrose*, *S. Augustine*, *Leo the first*, *Gregorie the great*, with the other good bishops of the see of Rome. Neither only these chief, ancient, most learned, and godly fathers and doctors of the primitiue church; but also whole counsels, is an vndoubted truth, *unanimes consensu* teach the same; as is at large declared in the learned



## The conclusion to the Reader.

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& religious discourse of that godly Divine Mr, George Carleton; where he maketh it cleere, that tithes are consecrated to the Lord for ever, and that the cōmandement of paying them is moral and perpetual, *Concil. Metisconense. 2.* which was held *An. Do. 530. Can. 5.* hath these words. *Leges divina cōsultentes sacerdotibus & ministris ecclesiarum, pro hereditaria portione, omni populo preceperunt decimas fructuum suorum sacris locis prestare; ut nullo labore impediti, spiritualibus possent vacare ministerijs: quas leges Christianorum congeries longis temporibus custodivisti intemeratas. Unde statuimus, ut mos antiquus reparetur, ut decimas ecclesiasticas omnis populus inferat.* In which Canon the fathers of this council do witnes, that the ordinance of tith was very ancient in the church before the, & vniuersally kept amonge Christians, as being commanded them by the law of God. Vnto this council the forenamed author addeth many others (as in his book you may read) succeeding one another from time to time. Where vnto also at corde the writers of later times, as *Beda, Casarius & Arelutensis Episc. Nicolaus Lyra* and *Walafridus Strabo*, whose words are these, *Decimas Deo & sacerdotibus eius dandas. Abraham factis, Iacob premissis insinuat, deinde lex statuit, & omnes doctores sancti commemorant.* And therefore the constitutions of princes, as of <sup>a</sup> Charles the great, of <sup>b</sup> William the conquerour, & other kings of this Realme both

v. The  
mainte-  
nāce of the  
ministry  
written by  
R. Eburn.

<sup>b</sup>v. Ibidem.  
<sup>b</sup>v. The  
view, pag.  
335.

be

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before and after have confirmed the same.

So that this Catholike doctrine was alwaies taught and observed in the Church of Christ without contolement or contradiction, vntill that Antichrist sitting in the seate of God, but teaching doctrines of Devils, as hee corrupted other waightie points of christian religion, presumed also to change the right & ancient vse of tithes, and translated them from the ordinary Pastors and Curats, vnto regular or rather irregular Priests, which wickedly wasted them in idle Monasteries.

But that lay men, which wait not at the altar, should lay their prophane hands vpon the Lords portion, and receiue tithes, is such a sin, as the man of sinne himselfe would not attēpt, and such an abomination as in former ages among Christians or heathen the world never heard of; nor ever was knowne in this famous Iland, since first it imbraced the faith of Christ, vntil that strange act, whereby the Church was vnmercifully spoiled, not only of hir lands, the gifts of men; but of hir tithes also, the gift of God. The fact of *Charles Martel* in France was indeed more ancient; but what affinity hath that with this? For there a portion of tithes was granted to this Champion for the defence of the Church, against the violent irruptions of the barbarous Gothes & Vandals, which would have robbed and ruined the Church: but here

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## The conclusion to the Reader.

the tithes were given to the robbers themselves. Since which time, they are so farre from restitution, or any remorse of the fact, that they daily thirst after that little which is leafe: and, like drunken men, the more they drinke, the drier they are. It is a world to see how witty & diligent they are in laying plots, what shifts and slights they invent and practise for the withholding of tithes: abusing the very laws to their purpose, and making even those to maintaine their sacrilege, which were made to a contrary ende.

If in former times, when the land was so overgrowne with trees that it had enough for it selfe and other countries also, it were enacted, An. 45. Ed. that, *wheras mē did sel their great wood to merchāts*  
3. *to their owne profit, or in aide of the king in his wars, and the merchants were impleaded in the spirituall court for the tithes of the said wood, whereby the owners cannot sell their woods to the very valem, to the great damage of them and of the realme; it is ordained that in this case a prohibition shalbe gransed, &c.* If this I say haue been enacted, then the worde *great wood* or timber trees, shalbe taken in the largest sence, and shal containe not only oake, elme, and ash; but beech also & maple, for they be trencher-timber, and with some withy also, for that is harow-timber, and I doubt not but in a while they wil haue vnder-wood and al, & say tis fire timber, as in many places they haue  
begun

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begunne already. And these trees shall be tithed free, not body only, but bough also; not only when they are felled, but as often as they are lopped. Whereas, if the meaning of the statute may be knowne by the wordes, the statute giveth vway to none of al these evils. For first, there is no mention at al in these wordes of any immunity or discharge of tith: vnles they wil say that wheresoever a prohibition is granted in a cause of tith, there he that sueth for the tith must loose it: which, albeit the modern practise make it seeme probable, yet wil they not say that it is perpetual. But bee it so. Yet how doth this concerne the lops of trees which are cut from the standing stems, and serue not for timber but for fuel? Nay where are the trees themselves, as now they are vsed, freed from tith? It is ordained by this law, that *wheras great wood is sold to merchants for the owners profit, or in aide of the king in his warres, &c. in this case a prohibition shall be granted.* They therefore that would pay no tith must shew that their case is this case (which I think in these daies few can do) or els their trees are no more freed from tithing by this statute, then any other fruits of the earth: as good reason is they should not be, seeing God giveth the increase of them with so little cost & care. But even in this case, where the bodies were discharged of tith, because they were sold to the merchants (who, if they should pay for

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the tith to the church, would not giue the full value of the timber to the seller, to the great damage of the Realme) the boughes were not exempted which were leaft behinde, for which the merchantes could not bee impleaded; nor the Realme receiue any great damage, if the parson made him a fine with the tenth part?

If the law haue said, that *barren beach or wast ground, which before this time haue been barren and paid no tith by reason of the same barrennes, being now improved and converted into arable ground or meadow, shall after seaven yeeres pay tith;* this is sufficient reason for some, whē they haue grubbed vp a few bushes or trees in a fat & fertill ground, to pay no tith thereof for seaven yeeres after: whereas indeed the law speaketh only of such ground, as by reason of his barrennesse did pay no tith. But in the text proviso, it speaketh of ground that yeeldeth some tith. That cannot be vnderstoode of tith that the ground yeeldeth in any fruit: for then there would follow a manifest contradiction betweene the two provisoes, the first speaking of land, that, by reason of his barrennes, yeeldeth no tith: the seconde saying, that such land yeeldeth sōe tith: neither do the words of themselves import such meaning: for it is not said, *if any such ground haue yeelded or brought forth any tith*: but *if any such barren ground haue bin charged to pay any tith*: as it might formerly haue beene, by some composition or

agree-

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vnto the euil disposed, that with any sense it cā bee enforced against the good meaning of the law-makers, which, as appeareth by the title, preamble, and the whole tenor of the act, was made for the good (as is said) of the clergy, & not for their hurt, as now, by the iniquity of the times, it is vied.

If the same law, for the true payment of personal tithes by the Merchants, Clothiers, Buyers and sellers, and other trades-men, shal but say, that it shal bee lawful to vse all lawfull and reasonable meanes, *other then the parties owne corporall oarb*; this shal be an occasion vnto many, yea, if not to all, to almost all, to discharge themselves of al such dues. For albeit the personal tithes of the trades-men are no lesse due, as wel by the temporal, as ecclesiastical law, the the predial tithes of the husbandmen; yet they which by their trafike or trade haue gained cleerely 40, 50, yea hundreds of pounds, are not allumed to come to the Church at Easter, like poore day-labourers, with their bare two-peny-offerings: but as for their tithes, because they cannot be put to their othes to say what they are, they keepe both the knowledge and payment of them from the Priest, and make no reckoning at al to honour God *de datis & annu-*  
*ribus suis*, out of his owne giftes and benefites: as if God were the God of the husbandmē only, and not of the trades-men; or as if they re-  
ceiued

An. 27. H. 8.  
c. 20. & An.  
2 & 3. Ed. 6  
c. 13.

Orig. *supra*



## The conclusion to the Reader.

ceived not their temporal, nor expected eternal blessings at his hands. For otherwise with what face could they appeare before the Lord in his sanctuarie, and there, as chiefe members of his Church, take vp the chiefeft roomes; and yet contribute nothing toward his service and worship, in whome they liue, and moue, and haue their being?

If an other branch of the same act, to confirme the ancient both *right* and *manner* of tithing, shall say that *every of the Kings subjects shall pay their tithes truly and iustly in their proper kinde, in such manner and forme as hath bene of right paid within 40 yeeres next before the making of this act*; this law shall be wrested to maintaine the deteining of the greatest part of some tithes, that is, the withholding of tithes of great value for the payment of trifles in lieu thereof. (Whereas, if they would redeeme their tith, in equitie they should giue the full value; & by the law of God Lev. 27. 31. they should adde somewhat more.) And yet this Law, which is pretended to iustifie this iniurie, in the hardest construction that it may beare, can not imply any such matter; but doth indeed plainly command the contrary. For it doth not say they shall pay the twentieth, or the fortieth, or the hundredth part (as in some cases, by pretence of this law, some vse to do) but they shall pay *the tith*, i. the tenth part. And lest the tenth part should bee made worse then the rest,

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rest, either in matter, or quantity; it is added  
*truckle and iustlie*, for which an other act hath  
 according to the ecclesiasticall lawes and ordinances  
 of the church of Englande: which lawes are so farre  
 from permitting the diminution of tithes by  
 any iniurious custome, that they doe precisely  
 forbid it.

*Caus. 16. q.  
 7. c. quicquid*

As namely in the booke of decrees. *Quicquid, recognoverit in se quod fideliter non dederit decimas suas, modo emendet quod minus fecit: Quid est fideliter dare, nisi ut nec plus nec minus aliquando afferat de grano, aut de vino, aut de fructibus arborum, aut de pecoribus, &c.* Which, being the saying of that holy father Saint Ambrose, was afterwarde ordained for a lawe.

*In serm. de  
 quadrage J.*

*Linwood in*

*glos. de de-*

*cim. c. Quo-*

*niam propter*

*verb. consue-*

*tudinet.*

*Innocent.*

*Extra. de de-*

*cim. c. In ali-*

*quibus.*

*Linwood de*

*decim. c.*

*quonia in*

*propter.*

Again, *In decimis realibus non valet consuetudo, ut solvatur minus decimae parte.* And againe, *In eo autem quod non solvantur decimae, vel minus plene solvantur, nulla valet consuetudo.* And therefore the parishioners might not redeme their tithes, vlesse they would giue the worth of them. *Nisi parochiani velint pro talibus decimis competentem facere redemptionem, & hoc ad valorem decimae, & commodum Ecclesiae.* According to the meaning of which lawes (to put the matter out of question, and to remooue all doubt, which any covetous caviller might devise) it is added in the fore-  
saide statute in expresse vvordes in their proper  
*kinds*

## The conclusion to the Reader.

kinde, as they shall rise or happen. Not after a-  
 nie pretended vnequall composition, or cu-  
 stome of having halfe or more for nought, but  
 in their proper kinde. So that they, vvhich  
 vwill inuriousslie detaine their tithe for lesse  
 then the valbe by pretence of custome, haue  
 nowe no shift least them to excuse their evill  
 minde, being commanded as vvel by the com-  
 mon lawe of the lande, as by the Canon law  
 of the Church to pay their tithes *srnely in their  
 proper kinde.*

Novve for the manner of this true and iust  
 paying of tithe *in specie or in their proper kinde*  
 (vvhich in diuerse places is different, as to tith  
 corne in sheafe or in shiocke, to tith hay in gras-  
 cocke or hay-cocke, to tith lambe by choice  
 or by running, to tith vvooll by vveight or  
 by order of the flieces, &c.) it is here comman-  
 ded to bee such, as hath beene of right used forty  
 yeeres before the making of that act. For vvhich  
 an other statute hath after the laudable vsages  
 and customes of the parish or place where hee dwel-  
 leth. Both which clauses are a plaine declarati-  
 on of the ecclesiastical law, which saith, *Non  
 tolluntur consuetudines diuersae, quae consistunt in  
 diuerso modo decimandi. Aliqui namque decimant  
 secundum garbas, proyiciendo eas sparsim in sul-  
 cos; alij decimant secundum acerues, gar-  
 bis inuicem collectis; alij decimant non in  
 campis*

An 27. H. 8.  
 c. 20.  
 Linwood in  
 glos. de de-  
 cim. c. Quo-  
 niam verb.  
 consuetudina-  
 rum.

## The conclusion to the Reader.

*campis, sed in horreo proprio: alij ducunt illam decimam in horreum sacerdotis. Unde in talibus & similibus non potest esse uniformis petitio decimarum, saltem ut seruetur idem modus reddendi; licet sit uniformitas, ut integra solvantur decima sine diminutione.* The diverse customes, which consist in the divers manner of tithing, are not taken awaie. For some do tith by sheafes cast here & there in the furrows: others tith by the hiles & stocks, the sheafes being gathered together. &c. So that in these and the like, there cannot be kept an vniforme manner of paying tithe; although ther be this vniformity, that the whole tithe be paid without diminutiō. So then to vse to pay lesse then the tithe, which by no law is allowed, is a custome not *in modo decimandi*, but *in non decimando*: for hee cannot bee saide to pay the tithe, that payeth but part of the tithe, vnlesse it bee by the helpe of a *Synecdoche*: which trope in the matter of tithing is verie frequent. But, notwithstanding the sense of the wordes & manifest meaning of both lawes, say it were a custome *in modo decimandi*: yet, I hope, they will not say it is a *laudable vsage or custome* to steale a goose and sticke vp a feather; to defraud a poore Vicar of his maintenance, by keeping away his tith for a thing of nothing. When these bargains were begun, the mony, no doubt, was the ful worth of the tith; for otherwise by the law they could not haue stood: but now the pri-

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ces of things are so enhaunſed; that, if al tithes ſhould be ſold accordingly, he that now is able to giue to him that asketh, would bee glad to aſke, if any would giue. If the lawyers ſhould receiue the rents of their purchaſed lands after this rate, they would ſurely haue more pittie of their poore Paſtors.

If any man therefore, by ſome over-reaching match or other pretenſe, haue uſed to keepe back part of his tithe; this cannot warrant him to doe ſo ſtill (for a cuſtome of ſinning, doth not extenuat but aggravate the ſin) but ſhould rather provoke him to make ſatiſfaction at another time, for the former wrong: and ſo ſurely would doe, if men did not preferre the worſhip of their earthly *Mammon*, before the ſervice of the God of heaven.

Thus you ſee how iniuriouſly this good law is rake, and made to ſpeake that which it never meant. But this is not all: there is yet a farther uſe, or rather abuſe made of it. The great ones, ſuppoſe Patrones, Juſtices, and other rich men, wil not only hold that which they haue ſingred; but, by virtue of this law, or rather by the vice of their greedy mindes, doe praſtiſe dayly to make new cuſtomes. Firſt they wil buy their tithes of the poore Miniſter, ſpecially if hee be obnoxious vnto them, at what rate they liſt; or elſe hee ſhal haue their heavy diſpleaſure, the which his weaknes can hardly beare. He that  
ſuccee-

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succedeth is charged with covetousnesse and unkindnes, if he wil not vie them as wel as his predecessor: and so, after a few yeares, if any mā find himself aggrieved, it is a custome forsooth; and shal goe among them that were 40 yeeres old in the daies of King Edward.

Yea some haue their hearts so hardened in this sin, that if their tithes haue beene forborne for a time, for feare, or favour, or inability to endure the charge of suit, or some other respect; they wil be ready to claim an immunity, refusing to pay either tith or any thing for it. If you demaund your due, their answer is, Wee haue not vsed to pay any thing, nor any thing wil pay. If you say There is no custome *in nō de-cimando*, that wil not serue, you must sue them, if you will haue it: which if you doe, and happily bee able to holde out till sentence, yet are you not much the neerer, you shal thē be called into other courts, where you are sure to be held so long (to the losse of your time which should otherwise be employed, and to the exhausting of your little hulyhood which were fitter to be bestowed vpon your family & other poore people,) that it had bin better for you to let thē goe quietly away with it, & thanke thē too, that they would haue no more. And in all likelyhood, when all is done, & you haue wearied your selfe and wasted your state, your right shall iniuriously be iudged from you, by a parti-

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al Iurie, which wil be as ready to gratifie others, as to be gratified themselves; and in this case to do, as they would be done to. For what iustice can *peccatores* expect, where *verbe indices*, or how is the plaintife like to speed, where the defendant need make no other answer, thē, *Aske my fellow if I bee a thiefe.* But imagin that they were indifferent, & that the cause did not concerne them; yet how can they be thought fitte judges in a cause of tithe, seeing neither they nor their informers haue knowledge in that law, whereby the right of tithe doth stand: and therefore must needs speake as skilfully in such questions, as that great disputer would haue done in the common law; Who, as it is reported, comming into England, and making here a general challenge to dispute with al cōmers *in omni scibili*, was vndertakē by *Sr Thomas More*; who proposed vnto him this question. *An aperia captain Wubernamia sine replegibilia.* With the very recital whereof the challenger was so dasht, as vnderstāding neither the matter nor the words; that he was faine to confesse his ignorance; & to leaue the handling of such abstruse questions, vnto the learned professors of the faculty.

An other grievance there is, wherein Iapeale to their owne consciences, if they doe not vnconscionably and cruelly handle vs; For whereas in many places, against law and e-

○

quiry

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quity, they keepe from vs the tithe of a cow-  
white for 1j<sup>d</sup>, which is better worth then two-  
shillings; there are, that, not content with this,  
by the meanes of this, doe subtilly defraud vs  
of our other tithes. For they turn whole livings  
into Pasture, and into this pasture put nothing  
but kine; and so, all being demised together, if  
it yeeld the owner a rent of 20 pound (the  
due tith whereof is 40 shillings) the poore mi-  
nister shal be bobd with scarce 40<sup>d</sup>. Let me ask  
of these men, not to vrgethem with equity and  
cōscience, whether that, according to the law,  
they *pay their tithes truly and iustly in thir proper  
kind.*

Nether yet, in this great inuadation of op-  
pressions, hath the Church found such friends,  
as would oppose themselues against the rage  
thereof, but that the flood over-floweth where  
it listeth, and the violent streame carrieth a-  
fore it. In ancient times, when wronges were  
not so rife, the Churches had their Patrons to  
defend their rights. The name remaineth vnto  
this day: but the nature is quite changed. For  
of al the enemies, that the Church hath, the Pa-  
trones, for the most part, are now growne the  
greatest. In stead of defending, they spoile the  
Church for the effecting whereof they haue  
many feat devises. Some giue two livings at  
ōce, that, at the least, they may haue one againe:  
some allow only an annuall pension, reseruing  
the



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the maine to themselves by colour of a lease: some yet divide more equally, *share and share like*: and if any reserve only his owne tithe, hee is counted an honest theefe.

In this pitiful taking, or rather loosing, are now the seruants of God: thus are wee rewarded for our paines. Doe wee minister vnto you heavenly thinges, and wil not you giue vs, not yours, but our owne carnall thinges? In former ages, when people were truly religious, they thought they could never doe enough for their bodies, from whom they receiued the food of their soules. They were so farre from taking ought from them, that they studied continually by al meanes to giue more vnto them. It is therefore a shrewd presumptiō, that, howso ever men professe religion, and are contented to be called christians, yet their loue to christian religion is not great, whose loue is so little to the ministers thereof: The which vpon all occasions is ready to shew it selfe, not only in withholding from vs that which is due, but also in requiring of vs that which is not due.

Of which hard dealing the Ministers of Hampshire haue had too good prooffe. For whereas partly in respect of great payments in Tenthes & Firstfruits, besides extraordinarie Subsidies; and partly out of the loue, that anciently both Prince and people did beare to their cleargie, An. 14. E. 3.  
An. 18. E. 3.  
An. 1. R. 2. here was a law made, that none of their goods should

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should be taken for the provision of the Kings house; we are not suffered to have the common freedom of subjects, and to enjoy the benefite of the Kings law: but are enforced by our Gentlemen and Farmers to beare their burthen, and in effect to sel them corne for 10<sup>d</sup>. the bushell, when it is worth in the market halfe so many shillings. For whereas they pretend it is to the King, that is but a cloake to cover the evil: seeing his maiestie is either to have of them the full sum agreed vpon by composition, or else to take it vp by his purveyers; as he doth in other countries; where the Ministers are yet free by vertue of that law. Why then are wee only unlawfully opprelled?

So that, what with the new-found lay-parsonages, what with pretended immunities, what with hard lawes and harder constructions, what with vnwilling and false tithers, what with the subtil practises of Parsons, & what with the vnkind dealing of many neighbours, the Priests portion is least so short, that the land must needs run into the opprobrious & scandalous signe of *Ieroboam*, that made Priests of the lowest of the people. Which evils, with divers other grievāces of the Church, brought in by the corrupt innovations of Popery, and by the godlesse avarice of the people, are laid open in the view of the *Civile and ecclesiasticall law*, written by that learned Doctor of the lawes  
Master

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Master Thomas Redley Chan. of Wint. where  
al men may see the iniquitie and vnlawfulness  
of them.

They which are any causes of these accursed  
evils, let them take heed to themselues in time,  
and with penitent mindes desist from this pro-  
phane and irreligious sacrilege: lest the curse  
of God overtake them, which hath already fal-  
len heavy vpon the chiefe authors and actors  
of that sinner. For as to the principal, which  
was so full of wiuces and children, and did so  
flow in illust summs and masses of gold & silver,  
himselfe saw the end of the one, which did so  
dainely continue and come to nought: & wee  
haue seene the end of the other; for at this day  
God hath not leaft him one to sit in his teate,  
but in the next generation his name is cleane  
put out. And for the rest, some of them did  
pay the price of their impiety in their owne  
persons, as being vntimely & ignominiously  
cut of from the earth: others in their posterity,  
which are either quite rooted out, or liue in ob-  
scuritie and contempt. That a man may say of  
them all, as the Prophet did of the wicked in  
his time, *I haue seene the ungodly in great prospe-  
rity, and flourishing like a greene bay-tree. And I  
went by, & loe he was gon; I sought him, but his place  
could no where be found.*

Thinke not therefore (Christian Reader) to  
enrich thy selfe with sacrilege, or to advance  
thy

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thy house by the ruin of the Church: for except the Lord build the house, their labour is but lost that build it. But build thou first the house of God, that so God may build thine, & set it vp for ever, accounting thy estate to be the most sure & happy, when thou dost best provide for the service of thy God, & for the necessity & decencie of his spouse the Church. And therefore, if it shall please our heavenly Father, to put into the religious hart of our most righteous King, to make enquire of the wronges done vnto the Church that they may be righted, as formerly others haue made, and yet doe make after the Churches rights, that it might be wronged; in the feare of God and loue of religion, put to thy helping hand, and reioice to haue a part in so good a worke; that God may blesse thee and thine house, with present and future blessings.

In the meane space giue thou vnto God the things that are Gods: withhold not that part which is holy to the Lord: but pay iustly the tithes of his blessings, & namely of the fruits of these comodious creatures. Then shal God destill plentie of hony-dewes vnto thy Bees; and with the plentiful dew of heauen shall enrich the earth, that thou maist be enriched with the fruits thereof. They be the words of that holy Father S. Augustine, *Miores nostri deo copijs omnibus abundabant quia Deo decimas dabant.* Our

Homel. 48.  
So. Homeli-  
cum.

Fa-

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Fathers did therefore abound in all riches, because they gaue their tithes to God: whom if thou wilt no heere, yet heere the truth it selfe. *Bring yee al the tithes into the store-house: that there may be meate in mine house: and proue me now here-with (saith the Lord of hosts) if I wil not open the windows of heauen, and poure you out a blessing without measure.* Mal. 3. 10.

Now if, notwithstanding al this, against the vniforme doctrine and practise of the Church of Christ in the purer times, against the confirmations of godly Kinges and people, against the generall current of Fathers and Councels teaching the law of tithes to be perpetual according to the word of God as wel in the new testament as in the old, there be any so refractarie as yet to say, that the tenth part, howsoever convenient, is not so necessarie but that it may be changed; let them consider that in good reason, if it should be changed, it should be changed into a greater or better part, rather then into a lesse: that as the worke of the Ministers is greater, better, and more glorious, then of the Priests; so they might be more honored, better regarded, and more liberally rewarded. But this kind of change is so vnfitting to these mens purpose; that I think they would chuse rather to change their opinion, & reteine stil the Ancient Catholike doctrine of the Church, *Leges divina sacerdotibus & ministris ecclesiarum*

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eleſiarum conſulentes, pro hereditaria portione om-  
ni populo præceperunt decimas fructuum ſuorum  
ſacris locis præſtare.

FINIS.

