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A theatre of political flying-insects

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Chap. XXI. Of the hony-dew.

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vision, or not well defended from winds and wet, they have an ill digestion, because they have little to eat, and they lose their brood, because they have not wherewith all to feed them; and their natural heat is wasted for want of meat to maintain nature; and they have sometimes a scowring not having meat proper and good for them, they then will sometimes gather of purging flowers, which doth not strengthen them, but make them more faint and weak.

And yet to all these various effects proceeding from one and the same cause, have the Ancients given sundry and divers names, as if the causes had been as diverse. *Varro* therefore giving directions what a man should observe that buyes Bees; mindes him to take notice, if they bee numerous, if they bee shining, and full; whereas if the combs bee not set in an even posture, if the Bees be hairy and thin bodied, they are to be refused, all which are but effects of hunger.

Varro de re rust: l. 9.

In a word, if you desire to have your Bees thrive, and prosper, keep them well from winds and wet, heat and cold, destroy their enemies, and let them enjoy a sufficiency of food gotten by their own industry; and if there be a want in some, timely supply them, and doubt not of, by Gods blessing on your endeavours, the increase and prosperity of your Bees.

CHAP. XXI.

Of the Hony-dew.

THE Hebrew word for Hony-dew is ירקון *jerakon*, which comes from ירק *jarak*, and signifies *sperere, exspuere, humorem evacuare*, as if it were *saliva siderum* (as *Pliny*) an excrementitious moisture, which the stars spit down on the fruits of the earth. By this word also is signified the Kings-evil.

In *Latine* *Rubigo* is a Hony-dew, as well as rust, a name from the effect, shewing how that by a hurtful touch, it stops the growth of some fruits that are obnoxious to it, making them to rust, eating out their state and substance, as a canker or rust

Buxtorf. lex.

*J. Rowlandson
Gods blessing
in blasting.*

A Theatre of Political Flying Insects.

fretted iron; so that what is a disease of metal is figuratively transferred to corn, and such like things, because it destroyes and consumes them; for with too much moisture the stalks wax pale, and the corn is turned to dust; but hee was much mistaken, not distinguishing between smutty and mildewed corn, for corn affected with the mildew is not turned into dust, but shrunk up, and prevented of its radical moisture, so that though it come to maturation (for it will ripen, and is best for seed) yet not to a full bigne's and dimension.

Of the cause of smutty corn, I will speak briefly afterwards.

Some conceive shrinking of corn by the Hony-dew to bee thus occasioned. In fields less pervious to clear and strong winds (as in lower grounds, and narrow places between woods and hills) there falls often sultry and foggy mists, and those covering too close the fruits of the ground under them, as under thick mantles do cast that corn or kinde of grain which is subject to this malady, as it were into an unkindly sweat, at such times as the ears thereof are not yet sufficiently filled from the root, by which faint sweat is vented that sweetness that should feed the ear. Now this sweetness once exhausted or drawn out at the stalk, or straw, sticks close unto it being burnt, or made a dust by the extraordinary heat of the Sun, as it happeneth especially in the Canicular dayes, which (as it may seem) made the *Romans* sacrifice a Whelp or Puppy to Mildew. And this they did to prevent it, or to drive it away, if it had seized on their corn, That this prejudice is chiefly caused in narrow and close grounds wee grant, and seldome comes on hills, or large champion grounds. But yet it brings not damage to the corn this way, but rather thus, The corn in close places when the Hony-dew descends, not being ventilated and shaken with winds, the Hony-dew as it dries, becomes viscuous and clammy, and sticks close to the straw, and by the heat is hardened and congealed, and thereby stops the radical moistures from ascending, and so the ears being no longer fed, shrink and wither. As hard binding or tying of a mans arm, causeth (if continued too long) by stopping the circular motion of the blood, a mortification or gangreen. It comes not from any malignancy as some, nor because that the oily viscuous quality, that is in
it

Ovid de fast.
l. 4. Hier. Romano de la
Repub. gen. l.
2. c. 7.

it stops the pores of the husk, wherein the corn lyes, and deprives it from the aire, and consequently from nourishment; this is not the cause, but what was delivered before. But hee concludes it is, and therefore commends bearded Wheat, because the beard shoots off the dew, that it doth not so easily insinuate it self into the ear, and likewise causeth the ear to shake, by the least breath. *Credat Judens Apella*. Howsoever had hee been acquainted with the inconvenience of bearded Wheat, he would rather have stood to the hazard of a Hony-dew.

First large letter in Mr. Hartlib's Legacy.

For cure Mr *Remnant* prescribes, when you perceive by your Bees that a Hony-dew is fallen, to draw a cord over your Wheat as fast as may bee, before it bee dried on by the wind or Sun. One in one furrow, and another in another, two or three furrows distant as they can well reach. One at one end, and the other at the other end of the cord, for the least motion will shake it off, it is so exceeding thin when it new falls. I dare not say (as some) that this can bee done with good profit, for *materialiam superat opus*, the charge will exceed the benefit. Such as sow sixty or eighty Acres of Wheat must of necessity employ many men, and perhaps many dayes together, for Hony-dews in a dry season fall frequently, and sometimes twice a day, and therefore it must be oft reiterated.

And the losse by it, is seldome great, it is rare to have one Acre in an hundred prejudiced by it, and yet we consist of inclosures, and much wood-land.

Pliny affirmed the Hony-dew to bee either the sweat of the heaven, or the slaver or spittle of the stars, or the moisture of the aire purging it self. *Plin. Nat. hist. l. 11. c. 12.*

Gualter saith, It is caused by the inconstant change of the aire, when immoderate heat cause raines, and cold raines expel heat. *Gualter in Amos Hom. 11.*

Dr. Lake saith, That too much moisture is the cause of it. *Dr Lake in King 8. 37.*

Mr. Butler judgeth the Hony-dew to bee the quintessence of all the sweetness of the earth, meaning as hee explains himself, the quintessence of flowers, because when the year is backward in his fruits, the Hony-dews are alwayes backward, coming only at such times, as the flowers have the most solid and best juice.

Secondly, because in more hot and southerly clymates, where the fruits are more forward, the Hony-dews are more timely; in *Italy* not untill *May* bee entred, but hee saith not usually with us untill a month after, whereas if the season bee warm and dry, often by the beginning of *May*, and sometimes a little before, always in *May*, there are with us many swarms.

Thirdly, because the Countries that have store of the best and sweetest flowers, have ever the best Hony. It is true, that Hony is finer or courser, according to the flowers that the Bees gather of, but this rather concludes (against him) that the Bees gathering is not chiefly, no not very much from the Hony-dews; for it cannot (almost) but be supposed that the exhalation must remain sometimes in the aire, before it bee concocted and fall, in which space either ascending, or descending by the motion of a gentle breath, it will be carried some miles from the place where it was first exhaled, so that grant it extracted from the flowers, yet that which was exhaled from good and fragrant flowers, may fall in woody and heathy places, and that which was exhaled from heathy ground according to the motion of the aire, may fall on good land, his rule then cannot bee constant. And some years, when there are few or no flowers, yet are there many Hony-dews, as 1652. so that the matter of them could not bee extracted chiefly from flowers, and in extraordinary wet years, as himself instanceth in the year, 1613. the Hony-dews fell not untill the end of *August*, when most flowers had done blowing, and those that were, had a very weak and faint juice, and therefore it is not probable, that there should bee a competent matter for their production chiefly out of flowers.

It is agreed by all, as far as I can search, that the Hony-dew consists of vapours raised up into the third region of the aire, exhaled from all lower bodies (not onely flowers) both earth and water, which vapours being purged from the earthier and droffier matter, and throughly digested by the heat of the Sun, and after a sort made fatter by the cold of the following night, are thickned, and so condensed, fall down on the earth, trees, and flowers.

Arist. de hist.
l. 5. c. 22.

Bees make Hony of the Hony-dew, saith *Aristotle*.

Butler

Butler saith, The greatest part of the purest Hony comes from above.

Seneca saith, It is not yet evident whether the moisture that Bees gather out of flowers be presently hony, or whether by a mixture or propriety of their own, they change it into hony. Sen 84. Epist.

Aristotle before the rising of the *Vergilia*, denies that Bees gather any hony, but this is an apparent errour, They gather much hony, when there are Hony-dews, but yet more before any fall, if you respect the shortness of time they gather it in. Bees gather hony more or less all Summer, but least in Autumn, because the great dews and frequent showers, corrupt the native hony which is bred in the flowers; and yet *Aristotle* acknowledgeth where there is plenty of Ivy which flowreth in the end of Autumn, the Bees gather much hony, but wee finde it not.

That great plenty of Hony comes from above, is acknowledged, and that the Oak among trees is principally instrumental to retain and keep the same on his smooth and solid leaves: yet I affirm, that there is a greater proportion collected from flowers, than from the Oak, and all other sorts of trees, I understand from the leaves.

This indeed is altogether gain-said by *Aristotle*: He delivers, that Bees gather not hony of flowers, but chiefly of the Hony-dew; and his argument is, because in a day or two, when the Hony-dews fall, some combs will be full, and in the end of Autumn there be flowers, but no hony, if any Hive bee taken, driven, or gelded, hee saith they would gather hony, if any were to bee found. Arist. de hist. l. 5. c. 19.

Wee are to know, That as great store of hony falls from above, so there is a native sweetness, or hony, in flowers, the Spring and Summer chiefly, which is not to bee found so plentifully towards the end of Autumn, because the flowers at that time of the year are weak and spent, and afford little, and that little, is usually exhald with immoderate heat, or spoyled with frequent raines, or great dews; so that there is little, or no advantage at all from them, in respect of hony. Some *Sandarachba* indeed the Bees gather then, but that will not last long, therefore of necessity when Bees are late taken, for want of food, they cannot live long.

If

A Theatre of Political Flying Insects.

If Bees gathered hony chiefly of the Oak, which almost alone is retentive of the hony-dew (from flowers he denied they gathered any hony) how comes it to pass that hony-dews falling late in the year, as in the years one thousand six hundred and thirteene, and one thousand six hundred forty eight, almost two months after the usual time, namely, in the latter end of *August*, when there fell divers hony-dews, but the Bees were little the better for them, except only in the Heath Country, when the Heath-flower was in his prime, and there those late hony-dews made their fat stalls, but in other places the Bees generally miscarried.

If they did principally gather of the Oak, the leaves thereof were then as retentive of it, as at *Midsummer*, but rather hereby it appears, that the hony-dew is received into the hollow sockets of Flowers, and there long contained, until by the Bees it be extracted.

Hony-dews therefore falling late when most Flowers have done blowing, not having any proper place to contain them, are, either quickly washed away with the raine, or exhaled with the Sun.

Further, that Bees gather hony of flowers is manifest, in many Islands where grow no Oakes, nor yet other Trees, nor yet are near them by some miles (as the Island of *Fowlness*) yet Bees thrive very well, and yeeld ordinarily a greater increase of hony than in other places.

Pliny saith, the Bees gather the hony-dew from the Elme, Teile-tree, and Sallow; but our Elmes are not retentive of the hony-dew, nor yet our Sallows often, sometimes a little; more plentifully is the Hop, and would be very beneficial to the Bees, were it not for the bitterness of the leaf corrupting the hony; Cherry-trees (especially the wild Cherry-tree) are retentive of the hony dew, and thereupon curl up the leaves, and so contain it longer, but to their owne prejudice, for the radical sap or moysture is thereby checked, and ascends no more, and oft-times their tops wither and dye, but the Oak of all others most plentifully affords it; the great Maple also (vulgarly called the Sycamore tree) the leaves of other Trees are more spongie and porous, and drink it in as fast as it falls.

L. Verul.
Silva sil. cent. 5
496.

The *L. Verulam* makes a doubt whether any cause be from
the

the Oaken leaf it self, to concoct; or whether it be only that the leaf is close and smooth (and therefore drinketh not in the dew, but preserveth it)

That which in Scripture is called Manna, by the wisest of the Greeks was called *A'εγομέλι*, a hony-dew; and *Celsus* in his Physick saith, by the Syrian dew is understood that which by a strange or forrein name is called Manna.

Cælius Rhed.
Lect. Antiq.
l. 21. c. 3
Idem. lib. 25.
c. 25

The present Manna, and that wherewith the Children of *Israel* were fed forty years in the Wilderness, differ not much from the hony-dew.

First, That Manna of the *Israelites*, and the manna used by Physitians differ not much, *Fr. Valefius*, and also *Io. Fr. Picus* Earl of *Mirandula* attests the same in certaine learned Verses, and *Lemnius* agrees hereto, saying, the Manna now in use by Physitians is not much unlike the Manna that the *Israelites* fed of.

Fr. Valef. de
sacra. Philo-
soph. c. 87
Levin.
Lemnius Herb.
bib. explicat.

The Hony-dew and Manna doe not substantially differ, the Dew is not Hony except it be gathered by the Bees, concocted in their bodies, and condensated (by their heat) in the combs; for when it is thickned of it self, it is called dry manna; but if it be not coagulated it is called liquid manna, as a congealed dew, viscuous, and very pleasant to the taste, of which sort is that which is called *Cedria*, mentioned by *Hippocrates*, and it is the same which the Hebrews call Manna; it is plentifully gathered of the greater Cedars on *Mount Libanus*, and *Mount Sinai*.

Hippocrat. lib.
de vulneribus,
Pet. Bellonius,
lib. 2. observat.
c. 25

The Characters of the present Manna agree to the Jews Manna; *Exod. 16. 14*

First, it fell on the ground like a hoare Frost, in the night.

Secondly, the taste thereof was like Wafers made with hony, which agrees with the manna now in use.

Thirdly, it was gathered in the morning, before the Sun waxed hot, for the heat thereof did dissolve it, and make it to evaporate and vanish away.

Fourthly, if it were kept, it bred Worms; I was informed from a learned Gentleman, that the Hony-dew hath bred Worms before night, of which he was an eye-witness in our Country.

Some gather the excrements of Bees (of a yellow colour, and hony

Levin. Lcm-
nius. Heb-
bib. explicat.

hony taste) which they finde near the Hives, and some igno-
rantly suppose to be thickned by an aerial concretion; but this
cannot be, for the excrements of Bees are always liquid, and
fluid, and if there be any reality in this report, It must
bee the Bee-bread, whereof much is yellow, and all of
a hony taste; it is gathered in little round parcels as bigge as
small pins heads, but they are brittle, and broken, will not ea-
sily coagulate, for they are not clammy; and the Bees let many
fall at the Hive doors, if the entrance be small: but they must
be very fools that will take this for Manna, much more they that
will be cozened with the excrements.

It hath been questioned, whether Manna was knowne to the
ancient *Grecians*, some deny it, because the name is not found;
others affirme it, as *Guido Pannyröllus*, that Manna was known-
to them, but not under the name of Manna (which word the *A-
rabs* borrowed from the *Iews*).

Galen lib. 3.
de aliment.
facult.

Amiretus de
Asie ponderi-
bus.

J. Langius l. 1.
Epist. Medic. 64

Galen speaking of the same, acknowledgeth that in his time in
Asia, this kind of hony was found so plentifully on the leaves of
Trees, that the inhabitants said, *Jupiter* rained hony; and long
before *Galen's* time, *Amiretus* hath exactly described it under the
name of aery hony, as *Jo. Longius* affirms; and the reason of
this name is evident, because hony like a dew falls from Hea-
ven, or the Air before day-light; for when the exhalations are
elevated from the earth, and the waters by the heat of the Sun,
and then being perfectly attenuated and concocted, are thickned,
and congealed by the cold of the night into hony, granes, or
sand, they stick upon herbs and leaves of Trees (sometimes on
stones, and the ground) The inhabitants therefore spread Hides
on the ground, and beat the Trees, and that which falls (like
hony) they gather, and put into earthen vessels, where in a
short time it hardens, and becomes as it were like sand.

Matthiol. com.
in lib. 1. Dio-
scorid. c. 73
Mefue lib. 1. de
simpl. c. 8

Galen. lib. 3.
de alim. fzc.

It is like a kind of Gum, as *Fuchsius* delivers, and *Matthiolus*
confirms the same; and *Mefue* also saith, the *Arabian* hony is
a dew falling on Plants (and Stones) whose matter is an eleva-
ted vapour, which hath its digestion and maturation in the air,
when it is equal and propitious, with fortunate aspects, but it is
diversified according to the diversity of things on which it falls,
falling on plants it participates of the nature of Plants, so that the
best hony is usually where the most temperate Plants grow.

Now.

Now if *Galen*'s description of his Airy honey be compared with this, it accords in every thing; and *Galen* in the same place saith, that this Honey-dew, or Manna, is so like to that honey that the Bees gather of, that they have one and the same matter, namely dew.

Valerius Cordus endeavours by many (but not invincible) Arguments, to prove that they differ; with whom *Hen. Sal-*
moub, and *Guido Panyrollus* concur, and accord.

First, the Bees honey, saith *Cordus* is found at all times of the Spring, and Summer, but the Honey-dew (and also Manna) but sometimes and seldome.

I answer, that there is a native sweetness in some flowers at most times of the year, and plentifully in a mild and forward Spring, but yet notwithstanding the Bees gather much honey, when the honey-dews fall.

Secondly, the Bees honey is found both night and day in the Flowers, but the honey-dew only in the morning.

I answer, It is true, that the Bees gather honey out of the flowers a great part of the day, but there is (besides the native honey) an addition of honey from the honey-dew in the cells of the flowers, where it is preserved longer than on the Oaken leaves, being there obvious to every drying blast, and exhaling raine.

And so saith the *L. Verulam,* Flowers that have deep sockets, doe gather in the bottome a kind of honey, as Honey-suckles (both the Woodbinds and the Trefoile) Lillies, and the like, and in them certainly the flower beareth part with the dew, and therefore places abounding in Manna, doe also yeeld plenty of honey; Thus *Cephalenea.* Moreover, the honey dew doth not only fall in the morning early, but in hot gloomy seasons, often in the after noon.

Thirdly, the Bees honey most abounds in flowers about noon, but the honey-dew as soon as the Sun waxeth hot, perisheth; I answer, it perisheth where it is open, and exposed to the Sun and Wind, but where it is well defended from either (as in the small sockets of flowers) it endures much longer.

And I affirme further, that Bees gather most honey in the fore-noon, except the honey-dew falls in the after-noon, and neither raine washeth it away, nor the Suns hot rayes exhale it.

Fourthly, the Bees honey while it is contained in the flowers,

Valerius Cor-
dus Annotat.
in Dioscor.
lib. 2. c. 104.
Guido Panny-
rollus, Nova re-
perit, l. 2. tit. 6.

L. Verul. Sis-
va filv. cent. 7.
 669.

Sands relat;
lib. 4

is liquid, but the hony-dew, namely Manna is compacted together, and congealed; Answer, Although the hony be liquid in the combs when it is newly gathered, yet thereupon it follows not that it was so liquid in the flower, being by a transcendent Chymical skill extracted forth of a more grossie substance, and after rarefied, and defecated in the limbeck of their bladder. moreover, as we shewed before, in many parts of *Asia*, the manna falls more liquid, but hardens after it is gathered.

Sandsrelat. li
4

And againe, it is true in some parts of the World there falls, or rather is gathered this concrete, or coagulated hony (the right manna) Manna in *Calabria* is gathered from the leaves of the Mulberry-trees that grow higher in the mountaines, it falls like a dew in the night time, like a dew, and therefore liquid; it is gathered from the leaf of the Mulberry-trees, but not of such as grow in the Vallies, and it falleth upon the leaves by night.

L. Veral. Sil.
va fil. cent. 8.
781

It should seeme that before these dews come upon Trees in the Vallies they dissipate, and cannot hold out; it should seeme also the Mulberry leaf it self hath some coagulating vertue, which conspissateth the dew, for it is not found upon other trees.

And it is more than probable that that Manna that is gathered coagulated, hath its condensation from the vertue of the tree, or plant from whence it is taken.

Pedro, Teixeira
de los
Reyes de Per-
fil 1, c 7

In *Persia* they call Manna *Xirquest*. *Xir* in *Persian* is Milk, and *Quest* is the name of the Tree which produceth it, or rather whereof it is gathered; the best comes from *Hiez*, from whence it is carried in great quantity to *Ormuz*, and from thence throughout all the East; it is white, soft, sweet, and in Graines like Incense or Mastick.

Idem lib. 1.
c. 23.

They have another sort called *Toraniabin*, gathered on certaine plants like wild thistles; there is a Drug or kind of Manna brought from *Utrad*, not farre from the River *Sind* in the *East Indies*; the Naturals call it *Geukar*, of *Karsalt*, and *Geufas*, for of the dew which falls and congeales in the lowen fields (mark, it falls liquid) it is gathered and called by us *Salgeu*, and more corruptly *Salgema*.

I must a little digress to reforme a Geographical errour, the River *Sind* which was mentioned before, is the principal of five, of which the River is compounded, first *Behat*, which ariseth

near *Rabul* towards the coast of *Persia*. The second is called *Cbanab*, which comes from the Province *Quexmir* fifteen dayes journey distant from *Labor*. A third is called *Ruwy* springing near *Labor*. A fourth, *Via*; And a fifth *Sind*, which giveth name to the Land and Kingdome, commonly called by the Portugals *Sinde*. And therefore Mr. *Herbert* was deceived, who supposed the River *Indus* to be called *Sind*. To return again.

Mr. Herberts Travels into Africa and Asia, l. 1.

In the vallies of *Cbile* in their season fall great dews (which collect and harden) like bread tempered with Sugar or March-paue (Mark, they fall liquid dews) which is as wholesome as that which they call *Manna*: By all which instances, it appears that *Manna* is first a liquid dew, and after inspissated by a vertue of the tree, or plant on which it falls, and falling on other plants or trees, it never condensates.

Ant. de Herrera dec. 7. l. 1. c. 7

From the City of *Balsora* situate in the end of the Red-sea on the banks of the Rivers *Tigris* and *Emphrates*, is brought a kinde of *Manna* in bottles like thick hony, so that some *Manna*, is never coagulated.

P. Teixeira relation de los Reyes de Peruvia, l. 1. c. 7.

Fifthly, Hony-dew is contained in flowers, but the Hony-dew falls on leaves of trees. Answer, only on leaves of trees? Nothing less, on flowers also, and a great part, as I shewed before of the hony in flowers, is not natural but adventitious.

Sixthly, The Bees hony doth not onely last longer, but conserves other things, and that many years; but the Hony-dew, or *Manna* will not keep uncorrupted one year, nor yet preserve other things from putrefaction; and in the Northern Regions there is plenty of hony, but rarely any Hony-dews.

So *Magirus* Hony-dews are very rare in our Countries, in regard of our cloudy aire, but frequent in the Eastern Countries. Answer, That the lasting of hony longer than *Manna* may be from a further concoction which it hath in the Bees bodies, as also from the continued great heat of the Bees after it is reposed in the combs, whereby it comes to further maturation and perfection*. And whereas hee saith, Hony-dews are rare in the Northern Regions, wee often by wofull experience finde the contrary, receiving by the frequency of them, great prejudice in our hops and corn.

Jo. Magirus Physiolog. l. 4. c. 6.

*Vide Cap. 32. of the Brazilian Bee called Zelloh.

Seventhly, If the Hony-dew be the matter of hony, how

comes

comes it to pass that it falls onely on flowers, and not on the plants and leaves of trees? Answer, It falls not only on flowers, but on leaves of trees and plants also, though some plants and leaves, are not so tenacious, and retentive of it, as the great Maple, and the Oaken leaf, but being more porous and spungy, suck it up, and consume it.

Lastly, When the Hony-dew falls, the Bees gather it, and flock to it, but onely for their present repast and food. Answer, There is no rustick conversant among Bees, but knows the contrary, and by experience can say, that they then gather more hony in two or three dayes, than in two or three weeks after they cease.

Helmont. tu-
mulus pest. s.

Ribera, as you may remember, attributes smuttiness of Wheat to the Hony-dew; and *Helmont* seems to be of the same opinion, calling it *Triticum roratum sive molitum*, and so do some others also. Now in a word to undeceive them. The cause of smutty Wheat, is not at all from the Hony-dew, nor yet from any of those causes, that the author of the first letter in *Mr. Harlib's* Legacy delivers. Nor yet is it a deficiency onely in the vegetative faculty, for it grows and produceth a blade, and an ear, but then it wants power to quicken and give life, as it were, by blowing to that corn that is put out in the ear; so that not being enlivened, it proves abortive, and turns into a stinking black powder (*Corruptio optimi pessima*) smelling like a red Herring, or Carrion.

Now this falls out for want of a nitrous, and thereby a nutritive quality in the grain, for it is most certain, that salt is the seat of life, and vegetation, and so the subject of nutrition.

This by the way, take notice of, that they are most under ears that are subject to that malady, not therefore subject to it, because they are lower than others, but therefore lower, because of a deficiency and weakness in the vegetative faculty. And usually if one stalk hath the ear smutty, all that arise from the same root are infected, yet it falls out (though rarely) that sometimes one side of the ear is good corn, and the other bags, for one side blows, and the other doth not, and whatsoever blows not, will be smutty.

Many years together I suffered much damage by it, but knew not how to remedy myself, but after the projection of
d. vcrs

divers experiments, at last successfully, I fell upon this course, I caused a Hogf-head of salt water to be fetched, and put into the water near a bushel of Bay-salt not at once, nor yet into the Hogf-head, but pouring half of it at a time into a Tub, I after put in half the salt, wherein when it was melted, I imbibed my Seed-wheat thus: Filling a close well-wrought Ozier-basket (that would admit the water, and hold near a bushel) with Wheat, and then put it into the Tub, holding it by the ears, and when it was all well moistened, took it out, letting the water drain as it stood on the Tub's side, into the Tub again. And when it began to leave dropping, poured it on a floor, and strewed upon it as it was turned over, near a shovel full of slaked lime, not that lime adds any thing to the vegetation (perhaps it accelerates the growth) nor yet secures it from vermine (as some conceive) but onely dries it (being done over-night) that it is more nimble and better to sow the next day. Lime without steeping your corn, doth not prevent smutiness, but corn thus imbibed, and then sown without lime, will not smut.

Thus adventitious Salt supplies the defect of that nitrous quality which some grain are defective of, and are hereby quickned, refreshed, and as it were impowred to perfect vegetation to maturation.

Such as are remote from the sea, must make a brine which will bee every way equivalent, onely more chargeable, I have many years made trial of this course, and without any great curiosity, for my seed have had constantly bright wheat, and so also my neighbours, to whom I readily divu'ged what I found good for the publike; but in my publick Discourse, I forget too much my private Design.

CHAP. XXII.

Of Honey.

Cardan affirms, That neither Honey nor Waxe is made by any creature but a Bee, which is a truth, if wee take it de Cardin lib. 9: de subt.
con-