

**Vinum Britannicum: or, an essay on the properties and effects of malt liquors. Wherein is considered, in what cases, and to what constitutions, they are either beneficial or injurious ... / By a physician in the country [i.e. T. Short].**

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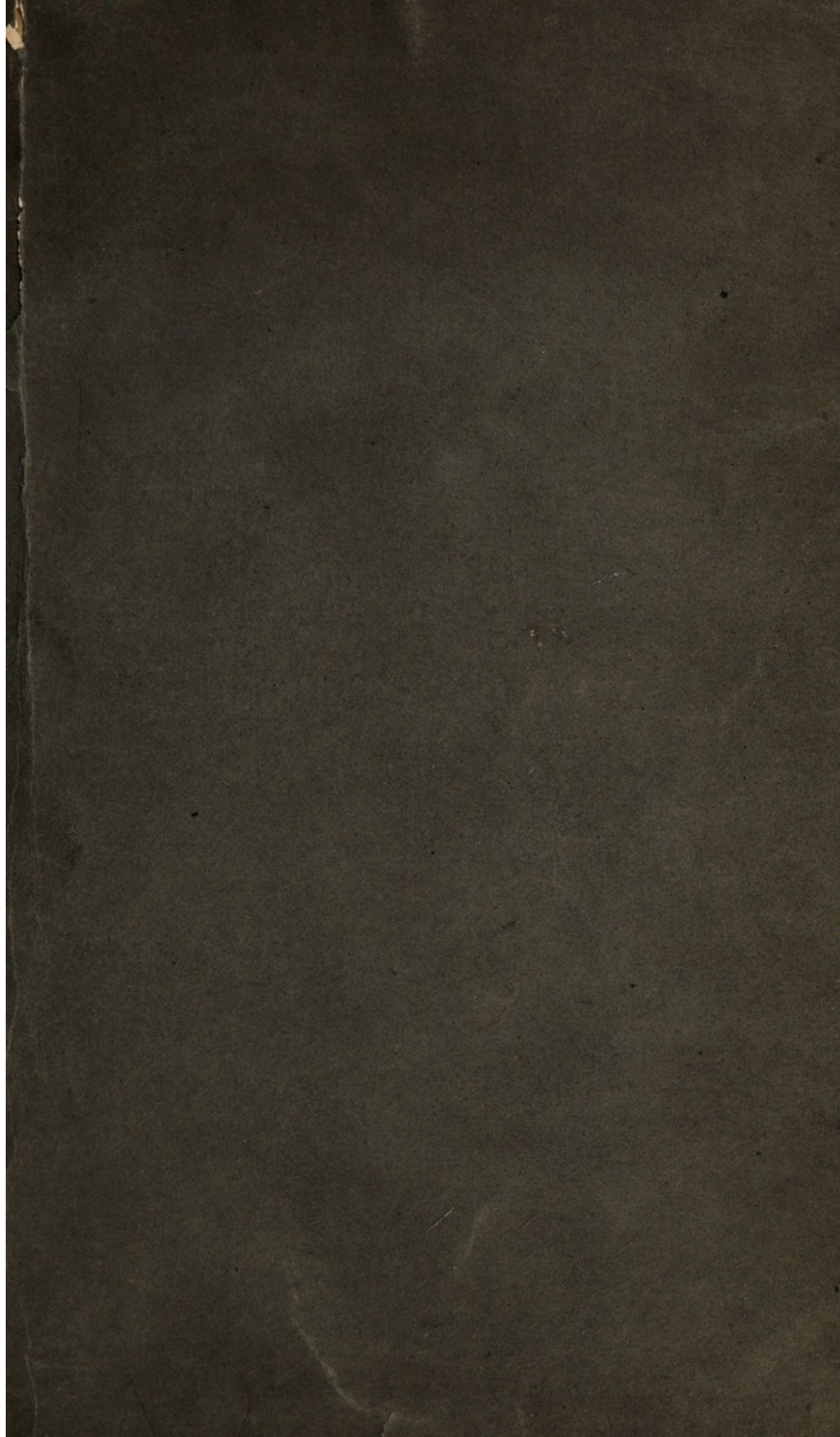
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*Vinum Britannicum :*  
O R, A N  
E S S A Y  
O N T H E  
Properties and Effects  
O F  
M A L T L I Q U O R S.

Wherein is considered,  
In what Cases, and to what Constitutions,  
they are either Beneficial or Injurious.

W I T H  
A Plain Mechanical A C C O U N T, how they are  
serviceable or disserviceable to Human Bodies.

---

*By a Physician in the Country.*

---

*Quorum Usus, nisi nimius, aut intempestivus, non  
nocet, vituperanda non sunt.*

Sennertus.

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NEW BRITAIN  
OR AN  
ESSAYS  
ON THE  
Properties and Effects  
OF  
MALT LIQUORS

SHORT, T.



Printed for D. M. & W. J. G. & Co. by J. G. & Co. in St. Paul's Church-yard, and by J. G. & Co. in London.





TO THE  
READER.



*So much hath been said and written of late, in Praise of Simple Element, so Wine and Malt Liquors have had their respective Patrons, and in some way or other been recommended to the Publick. But it is to be wished these learned Writers had less affected the Panegyrical Way, and written with less Attachment and Prepossession. Every one seems to have a darling Liquor, which he is disposed to commend and celebrate*  
at



*at the Expente of all the rest. This he extols to the Skies; and having thoroughly considered it, finds it highly beneficial in all Cases, and upon all Occasions. That it is suited to all Constitutions, and adapted to the Cure or Prevention of all Diseases. In short, that it is good for every Thing. And when he has demonstrated this Point, he proceeds with great Ease and Satisfaction, to prove all other Liquors good for nothing. That the best of them are insignificant and worthless, and the rest very injurious in General, and in some Cases little less than poisonous. All this while the intelligent and unprejudiced Reader remains dissatisfied, and cannot believe one Word of the Matter, as well knowing that every Liquor is, and must be both Good and Bad; that it is wholesome or prejudicial, according to the Cases and Circumstances wherein it is used: And whoever represents it otherwise, loses his Time, and abuses his Readers Patience. On the other Hand, if the good and bad Properties of each Liquor were fairly set forth, and the forementioned Circumstances pointed out; so that every one might discover what would be safest and best for him, and learn*  
the



*the proper Seasons and Manner of using it; I doubt not but both the Writer and Reader would find their Account in it, and that it would redound to the Credit of the former, as well as the Pleasure and Advantage of the latter.*

*I have singled out Malt Liquor from the rest, merely for the two following Reasons. The one is, that it is the common Drink of the Nation, insomuch that a vast Majority seldom touch any other. And the other Reason is, that notwithstanding this general Use, it has been of late in a particular Manner depreiated and vilified. And indeed if it deserved so ill a Character as hath been given it, whatever Revenue it may bring to the Crown, I am persuaded the Legislature would soon prohibit the Use of it: They would never suffer it any longer to make such Havock among the good People of this Land. But however private Persons may be deluded or led away, in Pursuit of a fanciful Hypothesis, nothing of this kind is to be apprehended from the Wisdom of the Nation. Let our Virtuosi start as many new Speculations as*  
 ( a ) they



*they please, our Senators will be guided by Experience ; which informs them how little Reason Britain has to envy other Nations their Liquors, or grow weary of its own. Let the Delicate, the Indolent, the Sickly, be accommodated as their Physicians or Inclinations shall direct. To the rest, a more agreeable or more useful Liquor will not easily be found, than what is extracted from our own Grain, which for that Reason ought to be doubly valued by us. Do we not find it in Fact of singular Service to our Husbandmen, our Artificers, our Soldiers? Where shall we find Men in these Employments more patient of Toil, more active, more vigorous, more spiritfual than our own? 'Tis owing, in a great Measure, to the Strength of this Liquor, that our stout Countrymen are capable of out-working, and out-fighting any Nation under the Sun. And though the richer Liquors of some neighbouring Countries give great Alacrity and Briskness for a Time, yet how soon is it over? How quickly are the Spirits of the Grape evaporated, in Comparison of those which are produced from our Barley? Let a Military Foreigner enter*  
the



*the Field, his Veins flowing with Burgundy and Champaign, With what Fire and Fury will he charge the Enemy? But in a short Time his fine Spirits are drawn off, and you find the Man almost reduced to a Caput Mortuum. Very different are the Effects of the Englishman's Ale and Beef. His first Attack may perhaps be phlegmatick enough. But as he grows warm, his Vigor increases; after which he holds out an incredible Time, and his Perseverance is as remarkable as his Courage.*

*If the Wine-Drinkers Abroad accuse our Liquor of rendering us obnoxious to Coughs, Consumptions, and Dropsies, it might be sufficient to retort upon them their Gout, and their Stone. But in Truth, where our Stamina are not Faulty, we must either be very unactive, or very intemperate, before these Distempers can take hold of us; as will more particularly appear in the following Papers.*



To the Reader

the Field, his Vains flowing with Bravery  
and Campaign, His noble Line and Line  
will be charge the Enemy? But in a short  
Time his fine Spirit are drawn off, and you  
find the Man almost reduced to a Caput Mortuum.  
Very different are the Effects of the  
Englishman's Life and Death. His high Attack  
may perhaps be phlegmatic enough. But as  
for great courage, his higher interest; often  
which he holds out an incredible Time, and  
his Performance is as remarkable as his  
Courage.

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# THE CONTENTS.

## CHAP. I. OF the Antiquity of Malt Liquors, Page 1

*Ale mentioned by Galen and Dioscorides ; but of a bad Sort, as appeared by its Effects.*

*The Probability of Wines being invented and used before the Flood.*

*Noah's Intoxication no Argument of the contrary.*

*No Absurdity in supposing the Antediluvians acquainted with some Kinds of Malt Liquor.*

*The great Corruption of their Manners more easy to be accounted for, on the Supposition of their using Spirituous Liquors.*

---

## CHAP. II. Of the Effects of fermented Liquors in general, and the Manner how they are produced. P. 4

1. Heating the Body.
2. Briskness and Vivacity.
3. Intoxication.
4. Temporary Frenzy.

*Other Effects ; as causing Thirst, promoting Perspiration and Urine.*

*Having Spirits inflammable, and commiscible with Water.*

CHAP.



## The CONTENTS.

### CHAP. III. *Of the Nature of Malt Liquors in General.* p. 8

*Of Water as an Ingredient.*

*Of Malt.*

*Of Hops.*

*Of Yeast or Barm.*

---

### CHAP. IV. *Of the Choice and Usefulness of Malt Liquors in General.* p. 14

1. *What the Grain communicates to the Liquor.*
  2. *What Liquors best for general Use.*
  3. *The Waste of Men's Bodies particularly recruited  
by Malt Liquors.*
  4. *Those Recruits not equal to the Nourishment af-  
forded by solid Food.*
  5. *What Malt Liquors proper to be drunk with Vi-  
tuals.*
  6. *How an unseasonable or intemperate Use of Malt  
Liquors spoils the Appetite.*
  7. *How Malt Liquors and Wine produce a Chyle of  
a different Colour from that which is made from  
Food.*
  8. *A moderate Use of Malt Liquors, of great Ser-  
vice to hard Labourers, and how.*
  9. *Malt Liquors injurious to the Sedentary and Va-  
letudinary of all Constitutions.*
- 

### CHAP. V. *At what Times of Life, and Seasons of the Year, Malt Liquor is safest and most proper.* p. 21

*Why dangerous for Children.*

*Why improper in the first Stages of Youth.*



## The CONTENTS.

*To be sparingly used for a Year or two after Growth.  
Of Manhood.*

*Of Old Age.*

*Excess doubly dangerous to old Men.*

*Wine and Malt Liquor compared, in respect of old  
Men.*

*Why spirituous Liquors to be cautiously used in hot  
Weather.*

*Middling Beer most proper in the Summer Season.*

*The Danger of Excess much increased at that Time.  
A Caution for Travellers.*

---

### CHAP. VI. Of the Differences of Malt Liquors. P. 27

*They differ in respect of the Grain.*

*The Difference between Ale and Beer.*

*Degrees of Strength.*

*Table Beer recommended.*

*A bad kind of small Beer condemn'd.*

*The Difference of Malt Liquors as to Colour.*

*And in respect of their Age, Preparation, and  
Keeping.*

---

### CHAP. VII. To what Constitutions, and in what Cases, particular Malt Liquors are agreeable or disagreeable; with the Reasons thereof. P. 32

1. *The Necessity of making a prudent Choice.*

2. *Beans, Pease, and other Leguminous Grains,  
very proper to be brewed.*

3. *Also Shell-Fruits, as Hazle-Nuts, Filberts, Ches-  
nuts, and Walnuts.*

4. *Malt*



## The CONTENTS.

4. *Malt Liquors unbopped, or slenderly bopped, prejudicial to what Constitutions.*
5. *Well-bopped Malt-Liquors, why beneficial to the same.*
6. *The Usefulness of Hops.*
7. *Soft Ale serviceable to what Constitutions.*
8. *What Malt Liquors proper for Melancholy Habits.*
9. *Which for sanguine Constitutions.*
10. *Why barrelled Ale preferable to bottled, especially to weak Stomachs.*
11. *The Absurdity of Drinking bottled Ale as a Carminative.*

*How the Observation of these Particulars may enable any one to make a proper Choice of Malt Liquors.*

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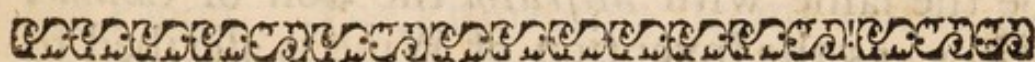
### CHAP. VIII. *Malt Liquors compared to Wine, in respect of English Constitutions.* p. 44

1. *Hotter Climates require Wine.*
  2. *Those Countries where Wine abounds, stand in Need of it, upon the Account of the Poorness and Viscidity of their Food.*
  3. *Such Countries also grow not much Corn.*
  4. *Why Malt Liquors peculiarly proper for English Constitutions.*
  5. *The Industry of the Inhabitants of this Island, enable them to digest a stronger and more nutritious Diet.*
  6. *They have better Assurance that their own Liquors are good in their Kind, than they can have in relation to Wine, which is very much Adulterated.*
  7. *Malt Liquors more familiarized to their Bodies.*
- Several other Reasons for our preferring Wine.*  
*The Conclusion.*





# *Vinum Britannicum, &c.*



## C H A P. I.

### *Of the Antiquity of Malt Liquors.*



THE Art of Brewing, or extracting fermentable Liquors from Grain, is generally thought much more modern than that of pressing and preparing Wine from the Grape: as this latter is commonly reputed less antient than perhaps it really is. *Buchanan* in his *Scotch History* makes mention of the Use of that Liquor very early in that Country, and calls it *Vinum ex Frugibus corruptis*. *Galen*, who liv'd at *Rome*, and flourish'd in the Reigns of *Antoninus Pius*, *Antoninus Philosophus*, and *Commodus*; and *Dioscorides*, who was familiar with *Mark Anthony* and *Cleopatra*, were neither of them Strangers to Ale: but it must have been Ale unhopp'd, and ill ferment-



fermented : For they charge it with injuring Mens Health, prejudicing their Heads, Nerves, and membranous Parts; vitiating the animal Juices, and causing a Drunkenness more obstinate and painful than Wine. *Herodotus*, who wrote five hundred Years before Christ, ascribes the Invention of Brewing to *Isis* the Wife of *Osiris* in *Egypt*, who liv'd many Ages before. This *Osiris* some learned Writers will have to be the same with *Misraim* the Son of *Cham* : Thus, as the Invention of Wine is ascribed to the Grandfather *Noah*, so is that of Ale to the Grandson *Misraim*.

But in truth it seems hard to prove, that either of these Liquors was unknown before the Flood. *Noah's* applying himself so soon after it to the Plantation of Vines, seems a plain Argument of his being acquainted with the Use of them before. Nor in all likelihood would this ever have been question'd, if it had not been for *Noah's* sudden Intoxication. It is suppos'd, that so wise, and so good a Man, if he had known the Nature and Effects of Wine, would not have fallen into such an Abuse of it; especially at a Time when he had seen the Irregularities and Vices of Mankind so severely punish'd. But this Argument will have small Weight, if we consider that *Noah's* Inebriation might easily be owing to a very different Cause. We may justly and naturally conclude, that the Earth must have been prodigiously enriched by the Flood; and by consequence those Vines which the Patriarch



arch made use of at that time, might be much richer and fuller of Spirit than what he had before been accusom'd to. Not aware of this, he might easily intoxicate himself by going only his usual Lengths. Many other Circumstances might concur in producing that unexpected Effect, without supposing the good Man guilty of Excess, or ignorant of his Liquor.

Nor does it appear, that all Kinds of Malt Liquor were unknown and uninvented before the Flood. The Probability seems rather to lie the other way. We are plainly informed, *Gen. iv. 22.* that *Tubal Cain* understood the Metallurgick Part of *Chymistry*. And why might he not equally understand *Fermentation*, which is a Branch of Chymistry much more easy and obvious than the other? To the Invention of this, Men might be led by mere Accident. Ripe Corn, either laid or cut down, swells and sprouts like Malt in the Couch or Cumm-heap. And when it is dried, and ground into Meal, it is difficult to be made into Bread; will scarce bake, or stick together, and has a maltish Taste. Water poured, and standing on this Meal some time, tastes sweetish like Wort; and will ferment of itself, and become a *Galen's Ale*. It may therefore be supposed that Men would early be directed, either by Art or Accident, to so obvious an Invention.

To which may be added, that if we consider the Lives and Manners of the Antediluvians, we shall find just Cause to suspect, that



they were not confined to simple Element. 'Tis probable, their Passions were heated and agitated by more spirituous Liquors; at least, nothing could be more likely to produce that *Violence* with which *the Earth* was then filled. It is confess'd, such Considerations as these do not prove that Malt Liquor was in Use among the Antediluvians; but yet they seem to afford sufficient Grounds for a reasonable Conjecture.

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## C H A P. II.

*Of the Effects of Fermented Liquors in general,  
and the Manner how they are produced.*

**T**HE following Effects upon human Bodies are common to all thoroughly fermented vinous Liquors.

1<sup>st</sup>, When drunk they heat the Body. Tho' the Barley whereof the Ale or Beer was prepared be very cooling, yet the fermented Liquor drawn from it warms the Drinker, *i. e.* it gently stimulates the Solids, and by consequence accelerates the Circulation of the Fluids. For should Malt Liquors or Wine give no Irritation, nor cause any greater Contraction of the animal Fibres; such an Increase of the Blood's Quantity would be an Addition to the Resistance of the Fluids against the Solids,



lids, and so lower the Pulse, instead of raising it. It also increases Circulation and Heat in the Body, from the Attrition and Attenuation of the essential Oyl, and Salt of the Barley, in the double Fermentation; whereby these two Principles, which lay dormant in the Barley, are set at Liberty from the mealy and earthy Parts of the Grain, and become a subtile and volatile Spirit, easily digested by the Body's Heat. They become also animal Juices, and add new Vigor to the Body; some affording fit Matter for Apposition to the Sides of the decaying Vessels; others giving a cementing Matter, to join the fundry constituent Parts of the Solids of our Bodies together.

2. If a Man continues to drink more after he is heated, it raises in him a Briskness and Vivacity greater than usual; *i. e.* the increased Circulation of the Blood over the whole Body, and the Subtilization of the Spirits of the Liquor thereby, make its finest Parts run with greater Velocity over the Glands of the Brain; and cause a fuller Repletion of the Tubes with animal Juices, which flow plentifully into the Fibrils of the Muscles. Hence a stronger Disposition in the Person to Action, Motion, and Pleasure.

3. If the Man has not Power to refrain from Drinking, he will be intoxicated, or become drunk, *i. e.* his Vessels will be fill'd and distend-



distended with Fluids, that the Balance of Nature betwixt Solids and Fluids will be overcome ; the latter overpowering the Resistance of the former, so as his Legs cannot bear him ; but he staggers, stumbles, or falls like one Paralytick. In this Distention of the Vessels, the Solids are relaxed, and the Blood is rarified, from the Spirits of the Liquor entring into it. And if this Rarefaction be exceeding great, the larger Vessels or Arteries are so distended, as to compress the smaller, especially the Nerves ; whereby is hindred from entring into the Heart such a Flux of animal Spirits, as is necessary to cause a vigorous Contraction, that may project the circulating Blood to the Extremes of the Body : Hence the drunken Person looks pale, from the collapsing of the Blood Vessels on the Surface of the Body. But when the smaller Vessels are very much compress'd by the larger, the Brain and Heart abounding with Capillaries, must be so much distended, as to have their Tone weaken'd, and by frequent Debauches be destroy'd ; and the great Drinker be arrested by Loss of Appetite, Indigestion, Tremors, Loss of Memory, Palsy, Apoplexy, Swimming of the Head, Convulsions, &c. Or if the Drinker's Solids be naturally very stiff and elastick, and the Liquor drunk be very spirituous, he becomes furious and frantick. If in this Circumstance he goes to sleep, he will awake either more furious and raving, or grievously afflicted with a violent Head-ach ; and that from the too great  
Disten-



Distension of the Blood Vessels of his Brain, the violent Struggle of the Solids against the Fluids, and their mutual Resistance of each other, whereby the fatigu'd Vessels and Membranes are sensible of Pain. This uneasy Sensation is also from the Remains of the Salts of the Liquor in the Capillary Vessels of the Brain, stimulating the delicate Nerves and Fibres. No Liquor produc'd without a previous Fermentation can inebriate the Drinker: for Wort drunk in Plenty provokes Vomiting and Looseness, but not Drunkenness. The Effects of too much Poppy, Hemlock, or Mandrake, taken into the Body, are Stupefaction, not Drunkenness; that is, their Juices consist of gross, tenacious Parts, which sheath up the fine Parts of the Blood; whose Use is pleasantly and smoothly to promote the Vigor and Vibration of the animal Fibres, and to further Circulation. And these Spirits ceasing their delicate Sensation, the Solids play languidly, Circulation becomes exceeding slow, the Vessels relax, the Person becomes pale, stupid and senseless. Opium makes drunk by fusing and over-rarifying the Blood; so as it takes up more room, and distends the Vessels; whereby the Fibres and Vessels are relax'd, become weaker, and unable to resist the Blood.

4. The Spirit of fermented Liquors is inflammable, and commiscible with Water.

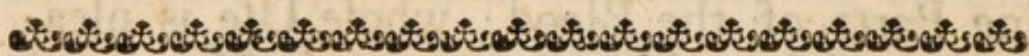
5. They promote Perspiration, if drunk in large Quantities.

6. They



6. They force Urine, not only by increasing and diluting the Blood; but by the Pungency of its Salts, gently stimulating, and causing a greater Secretion; while the Oils of the Liquor at the same time serve to relax the Passages.

7. They cause Thirst, from a speedy exhaling of the more spirituous and fluid Parts, and leaving the grosser behind; and from the Salts of the Liquor irritating and corrugating the Glands, whereby the Secretion is lessened; and also the Rarefaction of the Blood throws the greater Quantity into the larger Vessels, and compresses the lesser.



### C H A P. III.

*Of the Nature of Malt Liquors in general.*

**T**O gain a more satisfying Knowledge of this vinous Liquor drawn from Grain by a double Fermentation, first of the Grain, and then of that Liquor wherein the fermented Grain was infus'd; let us take to pieces the Composition, and examine each Ingredient.

Common *Water*, which is the Foundation, or that which bears the greatest Bulk, not only in this, but in all other potable Liquors, is the sole, innocent, and proper Fluid; not only for extracting the nutritive Parts of the Grain



Grain by Penetration, Dilution, Separation, and Dissolution thereof; but for its Friendliness to our Natures, and Agreeableness to the Parts of our Blood. But this Article having of late been the Subject of so many Enquiries and Discourses, I shall pass it over.

The next chief Ingredient is *Malt*, which communicates to the Water the whole Parts of the Grain, which were prepar'd and fitted for the Nutrition of our Bodies: And these are its Essential Oyl, Salt, and some of its earthy Parts; which have been render'd very fine and minute by the Tumefaction, Fermentation, and Dissolution of the Malt in boiling Water; and after they are boil'd in the Wort, and it is put to ferment with the Yest, their Parts are still more attenuated, broken, and fitted for passing the small Vessels of the animal Body, and being assimilated to the Substance thereof. Nay, into such minute Parts are they divided, that if Ale be warmed in an open Pot, and let stand two or three Hours to cool, the whole Spirit is exhal'd and gone, and yet the Measure not sensibly decreas'd; but the Liquor is a vapid, viscid, heavy Stuff. What hinders the Evaporation of the subtil and spirituous Parts of the Wort while it is boiling, is their not being fully separated and divided, but wrapt up and bound together in a soft, lubricating, tenacious Substance; like a gross Oil, whose Particles are hook'd into one another. This thick Matter is attenuated, and ground down afterwards by the intestine



Motion and Attrition of the Parts one against another in the Action of the Fermentation, and is much of it chang'd into volatile Spirits. What remain'd of the Malt after its Fusion in boiling Water, was only a *Caput mortuum*, or an insipid, earthy, chaffy Husk, out of which all the Spirit was extracted in the Wort in Form of an Oil. And all the Salts, with some of its subtilest earthy Parts, and the Dregs which fall to the Bottom of the Cask after the Ale is tunn'd and ripe, are only the grosser Parts of the crusty Scurf robb'd of the finest Spirits; and consist chiefly of Earth, fixed Salt, Phlegm; in which a brisk Spirit is entangled.

*Hop* is the third thing in the Composition. It is an admirable Bitter, and strengthens the Stomach; helps it to throw off immoderate Doses of Ale. It is a great Provoker of Urine, not only by its subtilizing the Ale, but by causing a gentle Stimulation in the secretory Passages of Urine. Were it not for this, great Drinkers would be drown'd in a Deluge of Serum. Hops prevent the Viscidity and Luscioufness that Ale would otherwise have after Fermentation: they give a grateful Taste: they fine the Liquor, and hinder the Mustiness, Thickness, and Ropiness, which would make it nauseous and unwholsome: they open Obstructions of Liver and Spleen, and other Viscera; preserve the Patency and Clearness of the Vessels; hinder their being fill'd up with the Lensor and Slime of the Drink.



Drink. Their Flowers boil'd in Water are esteem'd an Antidote against Poison, and a Cure for the Itch. Their Syrup was formerly admir'd in pestilential Fevers. The Tops of the young Plant boil'd, and eaten like Asparagus, are cooling, laxative, and diuretick; and free both Intestines, Kidneys, and Viscera of any oppressive Load.

The last thing is *Yest* or Barm; a Substance consisting of a great Quantity of subtile spirituous Particles, wrapp'd up in such as are viscid. When this already fermented Substance, or Yest, is mix'd with the \* Wort, it both excites sooner, and carries on more regularly that intestine Motion caused by the Occurrences and Collisions of Particles of different Gravities; whereby the spirituous Part will still be striving to mount up to the Top, and the viscid ones on the contrary retard such an Ascent, and hinder the Evaporation and Loss of the Spirits. From these two co-operating Causes, the Particles extracted from the Grain will, by frequent Intercourses and Collisions be so broken, as continually to increase the more subtile and spirituous Parts; until all

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\* I consider Wort as a heterogeneous Fluid, whose Parts must necessarily interchange their Positions, till each has obtain'd such an Elevation, as corresponds to its proper Gravity. But this natural Disposition of these heterogeneous Parts to interchange their Places, till each obtains its proper Gravity, being not sufficient to break and separate these Viscidities, which entangle the spirituous Parts, and to prevent their exhaling at the Surface; it is necessary that some already fermented Substance be added to, and mixed with it, that may promote a regular, speedy, intestine Motion.



that is possible to be made so by Attrition, are disentangled from their Viscidities. This intestine Motion of the Liquor is both visible and audible; and this Action and Attrition of its Parts are discoverable from the Heat they raise in it, and the Froth they send up to the Surface. And that this Action is what breaks the Viscidities, and sets at liberty the subtiler and finer Parts, or breaks the coarse Oil into such small Parts, as to become a most subtile Spirit, is manifest:

1. Because neither the Infusion of ground Barley, nor Malt, will produce any Spirit before Fermentation. For take Wort, and put it in a Still, and raise what Degree of Fire under it you please, and as long as you will, you shall not bring over any inflammable Liquor.

2. Because no Infusion of ground Barley, or Malt, is capable of making the Drink brisk, and intoxicating: But after Fermentation, the spirituous Parts of the Wort are separated and set loose, so as to intoxicate by the Smell and Vapour.

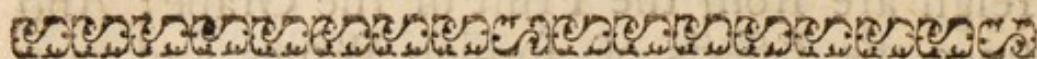
Thus we have seen the Nature, Manner, Design, and Effects of Fermentation in Malt Liquors; with their Composition, Principles, and heterogeneous Parts; and scruple not to call them vinous Liquors, or true *British* Wines: seeing they are produc'd from a domestick Grain,



Grain, or Fruit, by Fermentation, as the Foreign are from the Fruit of the Grape: And since the Effects of foreign Wines and ours are near the same; and ours serve for the same Purposes in the common Affairs of Life, as theirs do.

If, lastly, we put the fundry Ingredients of Malt Liquors together, we may observe, they afford us Meat, Drink, and Medicine. Meat, from the Corn whereof Ale is made; Drink, from the Water wherein Malt was infus'd; Medicine from the Hops boiled in the Wort. The Want of the last procured Malt Liquors the Disgrace of antient Times; as we see from *Dioscorides* and *Galen*: for then its Viscidity, Thickness, and Lubricity occasioned a Weight and Pain at the Stomach of such as drunk much of it; Flatulencies, Belchings, Crudities, Fulness, Heaviness, Sluggishness, Swelling and Hardness of the Belly, Obstructions in the small Vessels, Viscidities in the Blood, Foulness of the Glands, Paleness of Countenance: And in contrary Temperaments, it caused bilious Vomitings, obstinate Drunkenness, and Pain of the Head, Loathings, and Inflammations.





## C H A P. IV.

*Of the Choice and Usefulness of Malt Liquors  
in general.*

**T**HE Account given of Malt Liquors in the last Chapter suggests the following Particulars, which the Reader may call either Corollaries or Observations, as he thinks fit.

1<sup>st</sup>, It may be observed, that the Grain communicates to the Liquor all such Parts as could be of Service to our Bodies. It affords fine earthy Parts to make up the Loss of the Bodies Solids; and an essential, subtiliz'd Oil to cement those Parts to the Sides of our Vessels. It yields its Salt in Form of a Spirit to keep up the Blood's Momentum, preserve the Action of the Vessels, and prevent Corruption and speedy Cohesions forming in the Fluids. So that the Grain itself, prepared in the finest manner, could be of no more Service to us, if eaten: for the Grains are only the Husks, which would be winnow'd or sifted from it; and the gross earthy Parts would go off the Body in Fæces.

2. Hereby we learn what Malt Liquors we should make choice of for general Use: And they



they are such as have been made of white, large, sleek, smooth-skin'd, full-ear'd, ripe Barley; which grew on Clay-ground, and has been carefully malted, and which have been brew'd with insipid, clear, soft Water; the Wort well hopp'd, and boiled till the Hops fall to the Bottom; thoroughly fermented; tunned up in an used sweet Vessel, and let stand till all the gross, viscid Parts are fallen to the Bottom, and the Liquor becomes transparent; sparkles in the Glass with small Bubbles; makes a grateful Pungency upon the Tongue; and is neither stale, nor vapid. These Malt Liquors approach near the Nature and Goodness of Wine; and are much preferable to a great deal of our common Draught.

3. Hence we are sure, that such Malt Liquors make a speedier Recruit of that Waste our Bodies have sustain'd, either by much Exercise, hard Labour, much Fasting, or some great Evacuation, than any solid Food is capable of doing. Because when we eat the most nutritious, solid Food, before it can come to nourish the Body, it must undergo the Actions of Mastication, Digestion in the Stomach, Dilution, and Attenuation there by the glandular Juices, a further Preparation in the Intestines, and Attrition of its Parts, before it can be impell'd the Lacteals, where the Chyle sent off from it has again the Action of the Mesentery, Lacteal Vessels, Mesaraick Glands, Thoracick Duct, Receptacle of the Chyle;



Chyle; and lastly, the Commixture with the Blood, and further Comminution of its Parts in the Lungs and Vessels of the Body, before it be capable of entring the finer Vessels where Nutrition is performed: For the crude Chyle, and Mass of Blood, are too thick to get into the minute Vessels, Nerves, or Lymphaticks. But the nutritive Parts of the Malt Liquor, by their double Fermentation, are broken and dissolved into such minute Particles, as some of them are instantly able to enter, and pass the delicate Tubes; afford animal Spirits and nervous Juices; and so relieve the weak, faint, weary and exhausted, almost that very Moment they are swallowed down.

4. But this shews us, that such speedy Supply must be of shorter Duration than Nourishment afforded the Body from solid Food. For the thorough Digestion, great Attenuation and Attrition of the nutritive Parts of Malt Liquors having reduced them to a Spirit, they presently pass the whole Vessels and Secretions of the Body; and those of them which are not in a few Circulations attached to the Sides of the Vessels, and assimilated to the Nature of our Solids, will quickly fly off from the Body in imperceptible *Effluvia*. But the Nourishment we receive from solid Food requires a gradual and longer Digestion and Attrition by the digestive Powers, to separate it into such minute Parts, as are fit for Apposition to the Sides of the Vessels, instead of those worn



worn off and lost; and to repair and keep up the Body's Strength and Bulk. They are prepared and assimilated more slowly; and still some new Parts remain for several Hours to be reduc'd to a proper Figure and Bulk; and consequently their Expence must be less, and the useless Parts of them chiefly will be expell'd the Body, and little of their spirituous Parts will be lost.

5. Here we have the Reason, why a clear small Malt Liquor drunk to our Victuals agrees better with most Constitutions, than only simple Element: For a thin, fine Table-Beer carries sufficient Fluid into the Stomach for diluting and macerating the Food eaten; which is the only Reason alledged in favour of Water's Preference. And even this Liquor is impregnated with many nourishing Particles of Grain, which immediately pass into the Body, refresh and strengthen it, till the solid Food be digested. And on this Account, he who has such a fine Diluter, tho' he ordinarily eat less solid Food than he that is accustomed to simple Element, yet may be said to have eaten a larger Meal. The small vegetable Salts in this Liquor will also give a gentle *Stimulus* to the digestive Faculties; so as to make them act with more Vigor and Briskness, and promote Digestion, Secretion, and Evacuation. These minute Salts in the Liquor, join'd to those of the Food, will contribute something towards securing the Vessels

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and



and Glands from a very adhesive *Mucus*, as simple Element does it by Dilution. On this Account is such clear, well-hopp'd, ripe Beer very serviceable in cachectick Bodies, who have lived temperately, but have had the Misfortune of looser *Stamina*.

6. From hence also it is easy to account, why a Neglect of solid Food, and depending upon Malt Liquors for Nourishment, must at last take away Appetite, spoil Digestion, and cause Corpulency: for these are chiefly the Effects of mild Beer and Ale; and these abound with many gross oily Particles, which not being reduced to a subtile Spirit, are strain'd off by the lateral Vessels, and sent to the *Sacculi pinguisferi*. For, these going off by the capillary Arteries, where the Circulation is slow, and the Attraction of the different Parts of the Blood great; the small fat Globules approach and cleave to one another, and are repositied in the *Sacculi pinguisferi*. And this Abundance of Fat relaxes and lubricates the Fibres and Vessels, impairs their Vigor; and also the spirituous Parts of the Liquor quickly evaporating, the viscid are continued in the Blood, furr up the Insides of the Vessels with a *Mucus*, or Slime: so that the Increase of the Body's Bulk, as to the whole Habit in corpulent People, depends not upon the Increase of the Solids, but on their Vessels being extended and filled with the congested stagnant Humours of Fat and Slime. Which increased Bulk

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streng-



strengthens not the Body, but is troublesome; weakens and suffocates it. And not only are the Fibres of the Stomach relaxed, like the rest of the Body; but its wrinkled Coats and Folds are lined with a thick slimy Matter, which both absorbs the glandular Juice, and renders it viscid, and unfit to penetrate the Food, and separate and dissolve its Parts; and lying between the Stomach and the ingested Food, the Strength of the Stomach is exerted on this *Mucus*, instead of breaking and digesting the Meat.

7. From hence we may see the Reason why Chyle prepared in the Stomach from Grain and Flesh of Animals that feed on Vegetables is always white; but the Chyle from Ale, Beer and Wine, is not. For all white Chyle is from a just Admixture of the gross Salt, Oyl and Phlegm: therefore all Emulsions are white, and Chyle made from Grain is of the same Colour. But when the Salt, Oyl and Earth of the Vegetable is divided, and the two first subtilized into a Spirit; then is the Chyle of the Colour of the Liquor.

8. Hence learn we the Reason why Malt Liquors, moderately used, are of great Advantage to the hard Labourer; for they inspire him with new Life and Spirit, when he is weak, faint, and almost exhausted by Labour. They are also a Nourishment to him, when either the Warmth of the Weather, or

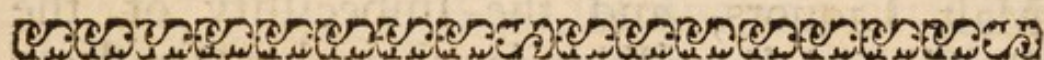


Heat of his Body has impair'd his Appetite and Digestion. They are a Supply to the low Diet, and mean Provision of the Poor. And at Night, when his Solids are relax'd by the great Expence of animal Juices through the preceding Day's hard Labour, and the Evening Cold comes on, and shuts up his Pores, and obstructs the perspirable Matter in the excretory Ducts, and the thinner Part exhales, and leaves the grosser to clog up the Passages; then a moderate Cup drives away the Sense of Pain, raises the drooping Spirits, quickens and strengthens the languid Pulse, promotes Perspiration, and frees the Blood from that Matter which is apt to stick in the excretory Ducts. The hard Labourer may dispense with a reasonable Quantity of the strongest Malt Liquors; for his constant Action breaks the Viscidities of the Drink into good Nourishment, and thereby makes amends for the Meanness of his Diet. And as the fine earthy Parts of the Grain are easily converted by him into good Nourishment, so its oily Parts are of use for lubricating the Fibres, and disposing them the better for daily Action: As likewise they prevent their over-heating, and their too violent Attrition.

9. Lastly, it ought to be observed, that Malt Liquor, especially that which is strong, is injurious to the Sedentary and Valetudinary of all Constitutions; because it abounds with Viscidities, and by consequence requires a  
great



great muscular Force, and much Action, to attenuate it, in order to make it pass the Secretions of the Body, without leaving a Mucus upon the small Vessels to obstruct them; or depositing too great a Store of oily Particles in the Body, to relax and weaken its Solids, before it come to the several Shores of Evacuation. Whoever therefore labour under any Chronical Distemper, or are very unactive and averse from Exercise, must be directed to more proper Liquors. But I must take Notice, that this no more tends to diminish the Value of Malt Liquors, than that of strong Food; which must be forborn by the same Persons for the same Reasons.



## C H A P. V.

*At what Times of Life, and Seasons of the Year, Malt Liquor is the safest and most proper.*

**I**T would be a dangerous Practice in Parents, to indulge their Children in the Use of these Liquors; considering the Laxness of the Solids in Infancy, and the great Quantity of Fluids. All Malt Liquors having so much Viscidity in them, that they would certainly produce the same Effects as a viscous or tenacious Food; viz. Oppression, Weight, Pain, Indi-



Indigestion, Wind, Belchings, Acidities, and Crudities in the Stomach, and in the Body; Sluggishness in the Belly, a furring up of the Insides of the Intestines, and small Vessels; Obstructions in the Glands, and curdling of their Milk; and by consequence, Sicknes, Gripes, and Looseness: And all these, especially if the Drink was Unhopped, or half Fermented, New, or Musty. Or was the Liquor full hopped, well fermented, and clear; then are its Salts stripped of that Coat wherein they were wrap'd up; then do they cause Thirst, Coagulation of the Humours, Pains, Tremblings, Weakness, Obstructions, Inflammations, Convulsions, and fundry Sorts of Fevers. The Viscidity of Malt Liquors, and the Imbecillity of the Child's Solids, will hinder their due Digestion, and necessary and timely Evacuation. Hence a Plethora, with the Diseases which proceed from it. But these bad Effects of Malt Liquors in Children, are chiefly from their Incapacity for such Labour and Exercise, as might digest the otherwise harmless and healthful Liquor.

Neither is its Use in the first Stages of Youth adviseable: For it forces the Increase and Growth of the Body, and turns Youth into Manhood. It also exposes the Body to the Mercy of all those Diseases, which arise from too much Blood, and abundance of Humours. Not to mention that it is apt to encourage and excite the Passions too much. Too early  
used,



used, it likewise often occasions Stone, Gout, Gravel, Coughs, and Consumptions.

I would further advise to a sparing Use of all Spirituous Liquors for a Year or two after Growth is at an End. For the Elongation and Enlargement of the Vessels being then over, such Persons are then peculiarly exposed to Diseases from a Plethora. Accordingly we find in Fact, they are more liable to Inflammations, Fevers, and Consumptions, at that Time, than afterwards. In Manhood these Liquors are unquestionably the safest, the Body being then most Vigorous, and best able to concoct and carry them off in Perspiration, upon the Account of that higher Degree of Labour or Exercise, which generally accompany that Age. At the same time it must be granted, that Old Age, in a particular Manner, requires the Assistance and Benefit of Spirituous Liquors, that Circulation may be kept up, and natural Heat preserved; that the Nerves and Vessels may be supplied with proper Juices, and the several Secretions promoted. But though old Men stand in more Need of a moderate Quantity, yet they are more injur'd by Excess, and are therefore doubly concern'd to guard against it.

If it be here enquired, whether Malt Liquors be so proper for Old People as Wine? I Answer, that this Point must in a great Measure depend on their respective Constitutions and Customs. Besides, each Liquor has its Con-



Conveniencies, and its Inconveniencies. That of Malt is very apt to increase that Phlegm which old Folks are so much subject to; as Wine contributes to lessen and prevent it. On the other Hand, Malt Liquor seems better adapted to keep the Nerves supple, and prevent that too great Dryness and Tenuity of the Fibres, which is the Effect of old Age; as most Wines contribute to increase it. Perhaps it would not be a bad Rule for old People to drink Wine in moist Weather, and Malt Liquors in dry. I shall only add, that those old Men who adhere to Malt Liquor, ought to take special Care to avoid that which is new and viscid; and the Wine Drinkers, to deal chiefly in such Wines as are soft, smooth, and mellow, except where some particular Circumstance indicates the contrary.

Much Malt Liquor, or indeed any other that is strong and spirituous, is very improper in Summer, and hot Weather. For the Pressure of the circumambient Air being abated, the Particles of Air contained in the Blood, unfold their Spring, and force the Blood to possess a larger Space than it filled before: Wherefore it will be rarified into much larger Dimensions. The Solids at the same Time being relaxed by the Heat, the Diameters of the Vessels and Lymphaticks will be enlarged, and render'd passible by the more saline, viscid, or even globular Parts of the Blood. For although the Air be rarified, and the Vessels dilated, yet is not the Blood more fluxile; but



but its Globules being blown larger by the contained Air, upon the diminished Pressure of the Atmosphere, it will become less fluid, and unsuited to pass the capillary Vessels. And therefore the Blood in this rarified and less fluxile Condition, being got into the Tubes of the relaxed Capillaries, and thence into the secretory and excretory Ducts, its fluid Parts will presently fly off; the grosser remaining, and depositing a slimy Lensor on the Sides of the Capillaries, and the Orifices of the Glands, and more complicate Arteries, and producing Fevers intermittent, and remittent. If the Air be very hot and moist, a liberal Use of this Liquor will quickly dispose the Body for malignant and putrid Fevers, from the Dissipation of the Blood's Serum through the Skin, and the Retention of the thicker and more viscid, which is unfit for a regular Circulation. If the Air be hot and dry in Summer, and Spring, ardent Fevers and Inflammations will be likely to overtake the Drinker. Now seeing such are the Effects of hot Weather on human Bodies, how much worse must the Case be, when we take into our Stomachs large Quantities of a Liquor, one Part whereof is very spirituous, and another very viscid: The first of which will soon exhale from the Body, because of the Fineness of its Parts, the Laxness of the Pores, and Patency of the Vessels; and leave the other Part behind, to taint the whole Mass of Blood, dispose it to greater Combinations and

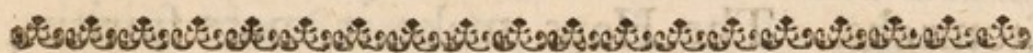


Cohesions; and increase the slimy Lentor in the Vessels, and the Dryness and Irresolvableness of the Mass. Hence intermittent, remittent, nervous, pestilential, malignant, ardent, slow, putrid, and inflammatory Fevers, &c.

Therefore to prevent these Dangers, it is necessary that the Malt Liquor drunk in hot Weather be only a middle Beer, ripe, transparent, and pungent, neither vapid nor sower, nor thick and musty; drunk especially towards the Evening, that it may revive the Spirits, and at the same Time nourish the Body. When the Stomach is not able to digest a necessary Quantity of Meat, this quickly makes up the preceeding Days Loss. But great Care should be taken in the Use of strong Beer; for the stronger, the more viscid it is, and the greater Load it lays upon the Vessels, and disposes to some Illness. And as Excess ought resolutely to be avoided at all Times, so more especially in a hot Season. For besides all ill Consequences of an inflammatory Nature, it throws the Blood into such a State of Viscidity, as renders Dilution almost impracticable. And at the same time the Nerves are doubly relaxed. Hard Labourers may safely drink Ale at any Time of the Day, if they be not immoderate; for its Viscidity is so far from being injurious to them, that it is ground down by the long and great Action of the Muscles, and turned into Nourishment. I shall only observe further,  
that



that Travellers of long Journeys in hot Weather, should use Ale and strong Beer very sparingly, seeing that their Riding promotes Perspiration, and a copious and speedy Discharge of the thinner Parts of the Blood, and by Consequence disposes the rest to Inflammations and Fevers.



## CHAP. VI.

### *Of the Differences of Malt Liquors.*

**H**AVING hitherto considered Malt Liquor in General, I shall now make some Enquiry into the particular Sorts of it.

Malt Liquors differ in respect of the *Grain* whereof they are made. Thus Pease, Beans, *French Beans*, Chick Pease, &c. afford a more tenacious, heavy Liquor, and such as requires a stronger Constitution to digest them. Wheat and Barley produce more nourishing and strengthening Liquors, seeing their Parts are more separable, and sooner reduced to a wholesome Spirit. Oats yield a more detestive kind of Drink, which is less viscid, has more earthy Parts, and a smaller Quantity of Oil in it.

Our Malt Liquors are divided into *Ale* and *Beer*. The former has a less Quantity of Hop, the latter a larger. *Ale* is smooth, softening, balsamick and relaxing. The vegetable



and essential Oil of the Grain is groffer, and not so much separated and divided, as to be brought to so penetrating, subtile, and active a Spirit; therefore must this Liquor abound with a coarse Oil, a viscid Phlegm, wherein its Salts are wrapped up. *Beer*, or well-hopp'd Malt Liquor is of subtiler Parts, and its Bitterness makes it more grateful to most Stomachs. The Hops make it more spirituous, subtile, rigid, and drying. They help much to separate the more coherent and viscid Parts of the Malt. Therefore is the Liquor less disposed to run into such Cohesions as would quickly make it ropy, vapid, and fowre. It is also of easy Digestion; passes the Secretions sooner, and is more quickly evacuated. All strongly hopp'd Malt Liquors have their essential Oils broken smaller, and exist more universally in the Form of a fine, subtile, penetrating Spirit, through all the Parts of the Liquor. But where the Parts of the Grain are less divided for want of Hops, the Liquor after Fermentation still retains a clammy Sweetness, and soon becomes Acid, and unfit for Drinking. For the fine vegetable Oil and Salts being still entangled, and wrapt up in the viscid Cohesions of the Liquor, its Parts will be obtuse, and taste Sweetish.

Malt Liquors differ in their Degrees of *Strength*; and the stronger they are, the greater is their Viscidity, and the more of it they carry into the Blood. Which Inconvenience



nience the spirituous Part cannot prevent: For the Spirits (as I said before) being the smallest, subtilest, and most active Part of the Liquor, they will pass the Strainers of the Body soonest, and get off first. Common *Table Beer*, and middle Ale, being smaller Liquors, have so much Strength in them, as to raise a pleasant gentle Warmth and Titillation in the Stomach; and are so thin as to dilute Food, and quench Thirst readily, and must certainly be the best in General; seeing they carry the least Viscidities into the Blood, and the least Salts into the small Vessels, to prick and pain them; and occasion not a ropy Chyle to pass the Lacteals, nor cause great Cohesions in the Blood. As *Yorkshire* is justly noted for the best Ale, so may it be taken Notice of for the worst small Beer, if that wretched Stuff called *Grout*, deserve the Name. This is nothing but the Washings of the insipid Husks of Grains, (which at that Time have nothing further separable from them, and yield but a coarse, nasty, earthy Matter,) the washings of the Brewing-Vessels, and a third Decoction of the Hops: And into all is cast the Dregs or Ground of the other Worts. Possibly some may likewise throw in the nasty vapid Stuff that is under the working Casks of New-tunn'd Ale, or under the Spiggot of the present Tap. This is such abominable Trash, that it deserves no further Notice. I shall only observe, that it is well for the poor Labourers that drink it, that they  
are



are Labourers, otherwise it could not fail to dispatch them in a short Time.

Malt Liquors differ in their *Colour*, being either *brown*, *pale*, or *amber-coloured*, as was the Malt from which they are brewed. The *brown* Malt is strongly dried, has many fiery Particles in it, affords a less viscid, or thinner Ale; which, unless it be very strong, more easily and quickly passes the Strainers of the Body. But this Sort of Ale, from its containing the forementioned Particles, is more apt to occasion Looseness and Gripes in those that are unaccustom'd to it, and to give Sickness and Headachs next Day. But it is a very great Error to make either this or any other Malt Liquor too strong; for thus the Benefits of the Liquor are lessen'd, and the Inconveniences of it multiplied and increased.

*Pale* Ale is brewed from pale Malt, which is slenderly dried. It retains much more of the Grain in it, than that which was scorched or half burned. Therefore the Liquor made from pale Malt is most nourishing; and should for that Reason either be brewed smaller, or used more sparingly, because of the Viscidities which must abound in this Liquor, if it be strong.

*Amber-coloured* Ale is a Mixture both of the brown and pale; and therefore must partake of both their Virtues and Vices, in a lower Degree.

We may also observe the Difference of Malt Liquors in respect of their *Age*. The eldest,



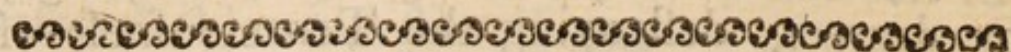
eldest, and well kept, being less viscid ; Age, by degrees, destroying the Tenaciousness of their Parts, making them smaller and of readier Digestion, and quicker Secretion. But they will still come to perfection, and then decay, in proportion to their Strength. For any Malt Liquor, kept till its Particles be broken into as small Parts as they are capable of, is then constantly at its best ; but after that it gradually again goes to Decay, until its whole Spirits be again exhaled, and nothing remains but a vapid sower Mass. But more on this Head in another Chapter.

They differ also in their *Preparation*. That which is blinked, is apt to cause Cholick, Pains and Gripes, in those that have not been used to it.

They differ from their Manner of *keeping* ; some being bottled, others barrell'd. If Malt Liquors be bottled before the Fermentation is over, they cause Wind and Vapours, Convulsions of Stomach and Intestines, Vomitings, Surfeits, Looseness and Cholicks.

## C H A P.





## C H A P. VII.

*To what Constitutions, and in what Cases, particular Malt Liquors are agreeable, or disagreeable ; with the Reasons thereof.*

I. **T**HIS Diversity of Malt Liquors, tho it may be an Argument of their general Use and Service, yet it suggests to us a Necessity of considering how to make a proper Choice. For, we see Malt Liquors are not only different, but the Difference between some and others of them is as great, as between the most opposite Liquors : I mean, in respect of their Effects and Operations. As some are palatable, and others unpalatable to a very high Degree ; so while some are wholesome and good in most Cases, others may be look'd upon as half Poison. There is a great deal used in this Nation of such a Nature, that any body would wonder how it is either drunk or digested. All that can be said, is, that continual Action and strong Labour may account almost for any thing. This it is that gives Men an Appetite for such miserable Stuff, and at the same time enables them to drink it with Impunity. However, it concerns those who are less exercised, not to drink these Liquors promiscuously and indifferently ;  
but



but to be somewhat curious in their Choice, and to consult their Constitutions as well as their Palates. Among Wine-drinkers, Men may, and often do suffer greatly by an ill Choice : But if the Ale-drinkers heedlessly swallow whatever may happen to be set before them, they have Reason to apprehend worse Consequences, and must expect to be greater Sufferers. On this Account, I hope, they will not reject the Endeavours of one, who offers to assist them in distinguishing; and that at least they will excuse the Hand that points out which Sorts are innocent and wholesome, and which are contrary. But to proceed.

2. Seeing *Beans, Pease*, and other leguminous Grains, are of more tenacious Parts, and abound more with an essential Oil, and much vegetable Salt, they must afford more and stronger Ale and Beer; and such as will keep longer than either Barley or Oats, and be of far greater Service to hard Labourers, and such as use much Exercise, and are of a strong Constitution. They will afford more Spirit, Strength and Nourishment, and might supply a great Part of our own Demands at Home, and be better for the hard-working Vulgar. In the mean Time, the Product of our Barley might be made into double Ale, or Beer, which is a rich, friendly, balsamick Liquor, will keep several Years; may be transported into both *Indies*, retaining still its full Strength

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and



and Goodness : Nay, rather become much richer and finer by the Sea, and exceed most Wines ; and would be of as great Esteem and Request with Foreigners, as their Wine is with us ; besides the great Advantage and Addition that would hence arise to the Crown Revenues.

3. Seeing all such Grains as are reducible to a fine Meal, or Flower, are capable of a double Fermentation, and may be brewed or made into Ale or Beer ; then all Shell-fruits such as *Hazlenuts*, *Chestnuts*, *Filberts*, and *Walnuts*, might be made into Malt, and brewed ; which would afford a Liquor far exceeding these made from Barley, Wheat, or Oats. For these Fruits abounding more than Grain, with a fine, ready, separable Oil, they would yield a most rich, soft, smooth, balsamick Liquor ; both Food and Medicine for slender, lean, hectically dispos'd Persons ; and the Use of them would be for the improving of Grounds, the employing of the Poor, and the Provision of dry Constitutions with a Liquor suitable to their Condition.

4. Hence we know the Reason why Ale, or unhopped Malt Liquors, are so very prejudicial to a slow Circulation ; where the Body is cold, weak, tumid, soft, and sluggish ; the Mind weak and fearful ; the Pulse small and slow ; the Colour pale or white ; the Veins small and scarce apparent ; all from a Watry-  
ness



ness and Phlegmatickness of the Humours; and a Laxity and Flaccidity of the Fluids: Where the great Vessels are small and weak, their lateral Vessels large and lax; the projectile Force of the Heart small, the Pulse in the Capillaries of the Brain languid; therefore the arterial Pulsations drive forward the Liquor in the Nerves faintly; the Heart is but poorly supplied with Spirits; its Fibres and Muscles are loose, and act but slowly and weakly: A ferous Bile, and small in Quantity, is secreted in the Liver, from want of a brisk Motion of the Blood in the *Vena porta*. In such Persons, the much and frequent Use of Ale softens, relaxes, and weakens the solid Parts more, obstructs the Mouths of the smallest Vessels, fouls the Glands, furs up the Insides of the Capillaries and Lymphaticks with Slime and Viscidity, renders the inactive Body indisposed and corpulent, prepares it for Cachexies, Lencophlegmacies, Dropsies, Coughs, Asthmias, and loads the Urinary Passages with Mucus and Slime. The Reason is, because this unhopped and half-fermented Liquor has neither its Oil, Salt, nor Earth sufficiently broken, subtilized, and reduced to a Spirit; and when taken into the Body, its spirituous Parts quickly pass the Secretions, and exhale; its unbroken Oil being in gross Particles, attract one another, soften and relax the Parts, fill the *Sacculi pinguisferi* with Fat, and render the Body corpulent. The Salts of the Liquor are not extricated from the mucous Earth;



therefore it gives little Stimulancy to the Fibres. The earthy Parts attract one another, and form a kind of slimy Cement; which being neither fine enough to pass off by Perspiration, nor good enough to become a Part of our Nourishment, and constitute some Part of our Solids; therefore it gets into the small Vessels, where Circulation is slowest, the Strength least, and the Attraction greatest. And these viscid Parts being the lightest of our Fluids, they are still next the Sides of the Vessels in Circulation, where they leave a glewy kind of Cement, which sticks to the Vessels, (especially of the complicated Arteries) and fouls the Glands, causes Poorness of Blood, and great Tenacity; which loads the Vessels, produces Stagnations, Ruptures, or Tumours there. Hence Dropsies, and scrophulous Tumours.

5. From hence we learn, that well hopped, thoroughly fermented, clear, ripe, brown, well-kept Malt Liquors, not too strong, nor too weak, must make a very wholesome and agreeable Drink to such Constitutions, when it is moderately used. For its Oils are broken to a Spirit; its Salts are stripped from their Slime, which sheath'd them up; its earthy Parts are mostly settled to the Bottom; the Liquor has re-absorbed all its Spirits from its Fæces; it is become of the Nature of thin, tartarous Wines, and has an agreeable Pungency, dilutes the Viscidity of the Blood, invigorates



vigorates the Solids, makes them play with greater Vigor and Force, dries the Fibres, makes them shake off redundant Serum, promotes Digestion, Attenuation, Perspiration, and other Secretions. The Solidity of the naked Salts gives a Stimulus to the Vessels, and adds a *Momentum* to the Blood, whose Circulation is raised by a moderate Use of this Liquor. And all these Virtues may be more exalted, by impregnating the Liquor with some specifick Vegetables for that Purpose added to the Hops, as Tops of Broom, lesser Centry, Trefoil, Dandelion and Carduus. Any one of these will be of Service, and help to promote these great and valuable Intentions.

6. We discover how Hops are singularly useful in clearing and keeping of Ale. For they subtilizing, and making it more spirituous, active, and rigid, by separating its cohesive and viscid Parts; they are reduced to a kind of penetrating, volatile Spirit, which exists in smaller Particles, more universally in the Liquor; whereby Attractions are prevented, and their Disposition to render the Beer vapid, acid, or sowre is hinder'd.

7. Hence we may learn the Reason why soft Ale, with little or no Hops, if not brewed too strong, nor drunk too freely, is so advantageous to such Persons as have a lean strong Body, a large quick Pulse, contracted Vessels,



Vessels, brisk Circulation; thick, sharp, and acrid Humours, reddish Complexions; whites of their Eyes, lacrimal Caruncles, Lips and Mouth all Reddish. For the Fibres and Muscles of their Heart are very strong, their Solids firm and vigorous, their Bodies are therefore dry; and their Brain separates from their Blood sufficient Spirits. Hence are they prone to Motion, Action, and Passion. Now this Liquor having its Oil existing in larger Particles and Surfaces, its Attraction will be greater. Hence will it soften, smooth, and relax the Vessels more; diminish their too great Strength; preserve their Tone longer, and their Springs from being too quickly worn out. The Fat-containing Bladders will receive more well-prepared Oil, and have it stored up in them. Hence the Body will look plumper, clearer, and smoother. The Water, wherein swims the Oil of the Grain, will sufficiently dilute the Blood; its Acridness will be corrected from the Softness and Balsamickness of the Liquor; the Salts being wrapt up in the earthy *Mucus*, will give no Pain, Stimulancy or Uneasiness to the Membranes of the Vessels.

8. Hence also appears what kind of Malt Liquors will agree with such as have small, strong, and closely compacted Vessels, and thick, tough, and well-mixed Humours, which are not easily altered or changed; whose Bodies are lean and dry, their Colour every where



where Blackish ; who are active and diligent, are of a revengeful Temper, and have a penetrating Genius. Such being of a cold and dry Constitution, are called Melancholy. The Vessels of their abdominal Viscera, especially of the Liver, Spleen, Mysentery, and Pancreas, are mostly loaded with a thick, stiff, blackish Blood, which requires such Things as attenuate, stimulate, and open, are moistning, cooling, softning and dissolve without Sharpness. Now it is manifest, that strong and much hopped Ale and Beer, heat and dry, and therefore must be very improper. For though they may elevate the Spirits for a Time, and disperse this melancholy Cloud a little while : Yet when the accelerated Circulation is over, and the spirituous Parts of the Liquor exhaled from the Body, the viscid being left behind, the Disease must be exasperated from the Increase of the Blood's Thickness and Viscidity, resisting more vigorously the Action of the Vessels, whereby they will be more distended, and the Melancholy increased. But a very suitable and medicinal Malt Liquor may be contrived for this Case, which must be small, clear, ripe, middlingly hopped, and well impregnated with such Things as have a peculiar Activity and Disposition to Motion, and an agreeable Configuration of the Parts ; fit to abrade, and carry along with them such Particles as they lay hold of in their Passage. Or such Things as consist of subtile Parts, ready to mix with, attenuate and wear away those



those mucous and viscid Collections of Humours, which are apt to adhere to, and obstruct the Vessels. And kind Nature has provided us with a great Variety and Plenty: As Wood-Sorrel, Agrimony, Ground-Ivy, Celandine, Doderwood, Groundpine, Horehound, Firtree, Wormwood, Smallage, Spleenwort, Germander, Scurvygrafs, Fumitory, Broom, Liverwort, Water-creffes, Butchers-broom, Vervain, *Paul's-betony*, Ash-leaves, Juniper Berries.

9. This also teaches us how to adapt a Malt Liquor to sanguine Constitutions, which abound with Blood, have soft Flesh, many large blue Veins, have a red Complexion, are chearful, but prone to Anger. All hot and pungent Things are very prejudicial to such. But such as are temperate, and promote Secretion and Evacuations, are highly advantageous. Their Blood is in a middle Disposition, between hot and moist; that is, in the most desirable Temper, and most agreeable to Health and long Life. For as their Solids are not too powerful, so the Patency of all their Vessels keeps them from speedily shutting up, and degenerating into Solids. Therefore since all strong Ale much hopped, must increase the Bodies Heat, and give a Stimulus to the Vessels, its Use must be hurtful: And as the Solids are inconsiderable, in respect of the Fluids, this Increase in the last, both in Quantity and Viscidity, must put a Stress  
and



and Difficulty upon the Vessels, and at length expose the Body to the Mercy of Heats, Inflammations, and inflammatory Fevers; such as Pleurifies, Squinzies, Peripneumonies, &c. The Pungency also of the Liquor, from its Abundance of naked saline Parts, will stimulate the small Vessels, when the more spirituous and fluid Parts are exhaled. Now all Stimulation promotes Contraction; so that the viscid Parts being got into the small Vessels together with the Fluids, and the last sooner and more easily strain'd off than the first, they will stay behind, and in Time obstruct the Capillaries, and produce long and dangerous Fevers. This Temperament then should be supplied with such Malt Liquors as are small, attenuating, and gently warming, and rather of the *Pale* than the *Brown* Kind, seeing the last abounds with a greater Multitude of naked vegetable Salts, and igneous Particles. Such People should be also careful not to overdose themselves, since their Fluids have so much the Ascendant over their Solids; for thereby they will be in danger of destroying the Balance of Nature, the Consequence of which will soon be fatal.

10. Hence learn we the Reason why barrelled Ale is preferable to bottled, for such People as have slow Digestion, and weak Bowels, and are thence liable to Indigestions, Belchings, Convulsions, Vomitings, and Surfeits. For the Liquor being drunk, the Spi-



rit and Air wrapt up in its viscid Parts, will dilate and expand themselves, and also rarify Viscidities in the Stomach. Hence Belchings ensue, while the Liquor is in the Stomach; and when got down into the Belly, where it has a longer Course before it can be got off; and the Bowels being weak in the Peristaltick Motion, and the Humours viscid and inactive, the Guts are distended, stretched and pained; and if not eased by proper Discharges, Cholicks and Spasms are produced. For all Liquor bottled up, either during its Fermentation, or before it is Ripe, when drunk, begins to ferment anew in the Bowels, from the Heat and Action of the Parts: And except the Vessels have so much Strength as to resist this Rarefaction, it is easy to account for its producing all these Symptoms which happen in the Body.

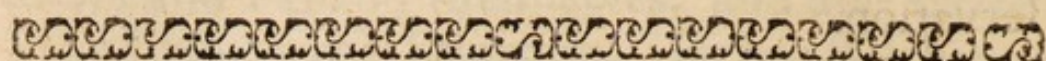
II. This teaches us how great the Mistake of such is, who drink fermenting or bottled Ale for a Carminative. For it produces these Explosions only by the Rarefaction of its Contents, and gentle Attenuation of some of its grosser Parts; but strengthens not the Bowels, nor deterges them from those Viscidities, and that *Mucus* which lies between them and the Food digested. But the gross and unattenuated Parts of the Liquor join with the former Slime, and add to its Bulk and Mischief, and in short Time will produce these Symptoms in



in a worse Degree, mentioned in the last Observation.

By attending to such Particulars as are here laid down, we may without much Difficulty satisfy our selves concerning the Choice and Preference of Malt Liquors, and a suitable Application of them to our selves. For Wheat affording the most Nourishment of any Grain we have, must yield a more nutritious Liquor than either Barley or Oats; as is evident from the Bodies of such as eat only Wheat-bread, which are commonly plumper than those who feed on Barley or Oat-bread : And Drink made of Wheat or pale Malt, causes Nurses to give much more Milk than brown Ale. For all pale Malt Liquors (other Things being alike) nourish much more than the brown; therefore must Ale from Wheat, and all pale Malt, cause greater Obstructions in the Viscera, and Vessels; Straitness of the Breasts, Coughs, Jaundice, and Difficulty of Breathing; and are best adapted to thin, lean, dry, hectic Bodies, whose Perspiration is too large, their Vessels too strong, their Solids over-proportioned to their Fluids. But Ale from brown Malt is more detergent and drying, and therefore well fitted for corpulent Bodies, lax Solids, and weak Vessels. For which Purpose a fermented Liquor might be extracted from Heath-Pease, better, drier, and more restraining, than any of those before-mentioned.





## C H A P. VIII.

*Malt Liquors compared to Wine, in respect of English Constitutions.*

**H**itherto I have considered Malt Liquors first in General, then in Particular. Now I consider them Relatively, or in Comparison of Wine: The Competition lies chiefly between these Two; the better and richer Sort of People being fond of the latter, and the middling and laborious Part pleading strenuously for the former. Concerning this Matter, the following Remarks may possibly deserve to be considered.

I. The Countries which produce Wines, are of a hotter Climate, which more rarefies the Fluids of their Inhabitants, and relaxes their Solids; and therefore their Bodies require, and stand in Need of a thinner, more separable, and easier digested Liquor, than those produced from Malt, which mostly are used before they be full Ripe; are of more viscid, tenacious, adhesive, and attractive Parts. Therefore as they seem so agreeable to such Mens Constitutions, Nature has provided them with Wines; the weaker and lower Sorts whereof are chiefly used by the  
Vulgar;



Vulgar: But the People of Fortune and Figure, drink the strong-bodied Wines, which is the Occasion of their great Liableness to the Gout, Stone, Rheumatism, and inflammatory Fevers. But *Englishmen* enjoying a cooler, and more temperate Climate, their Constitutions are more Robust, and they can digest a stronger-bodied Liquor than Wine.

2. Those Countries which have Plenty of Wine, are chiefly obliged to vegetable Food for their Sustenance: Which Sort of Aliment is not only poorer, but generally of more tenacious Parts; as leguminous Fruits, cooling Roots and Herbs, &c. Therefore it requires a Liquor of more easily separable Parts, and that has in it a Mixture of Tartar, which may help to break the Cohesions of these tenacious Viands, by the Solidity of its Parts, and add a *Momentum* to the Blood; and by its agreeable Austerity, give a gentle Stimulancy to the Solids, that they may put forth a greater Force, and act more vigorously in resisting the viscid Fluids, break them down, and separate their Parts, so as they may be fitted for Secretion and Evacuation. But as their Meat is viscid, and their Drink otherwise, so the Reverse of this is our Case. For our Drink is viscid, and our Food is not so. So that thus far we are pretty much upon a Level. But as both our Meat and Drink are more nourishing than theirs, it must be granted we are more obnoxious to Plethora's, and the Diseases



eases consequent thereupon. It concerns us therefore to assist Nature by diligent Exercise, and to use Moderation both in our Eatables and Drinkables. If we transgress both these Rules, we shall certainly suffer, and in a short Time.

3. Those Countries where Wines abound, are hotter and drier, have less Herbage, and fewer Cattle; for the same Reason have they less Corn, and therefore must depend upon Wine for a Supply of Spirits: Which as it is better adapted to their Constitution and Food, so kind Nature hath stor'd them with it in great Plenty. But our Climate denies us the Production of Wine, and richly supplies us with Corn, for both Meat and Drink. But to proceed,

4. It seems to me an Argument founded in Nature, that Meat and Drink produced by the same Earth where we live, and were born; growing up in the same Air we breathe, warmed by the same Degree of Heat we enjoy, and fed by the same Fluids which nourish our own Bodies; and all which Custom has rendered familiar to our Ancestors and us: I say, it seems to me highly reasonable, that such Meat and Drink should be more agreeable to our Bodies, than any imported Foreign Drink, produced in a more sulphurous Earth, and a more rarefied Air and Water. Though I deny not the Friendliness of thin and tartarous Wines  
to



to the Studious and Valetudinary. But how small a Quantity of these Wines have we, in Proportion to the great Demands for Wine amongst us ?

5. As the *British* Climate produces a more robust and hardy People than hot Countries generally do, so are they more industrious and laborious, and therefore can bear a stronger and more nutritious Diet, which does not so quickly evaporate, but is of longer Duration and Nutrition in hard-wrought Bodies, that can only be supported by a strong Diet. And therefore if the late Water-writers advise the Use of simple Element, with the Indulgence of a little Wine, to the inactive, studious, and valetudinary, so far they are certainly right. But if they recommend and press Water only upon the active, healthy, strong and laborious, exclusively of the Use of Malt Liquors, they are certainly in an Error. For though it be undeniable that the ancient Water-drinkers were healthier and longer-liv'd than their Posterity, that give themselves up to Wine and Malt Liquors only; yet it may justly be supposed, they were less laborious than our Manufacturers and Tradesmen, who continually get their Bread with the Sweat of their Brows. But perhaps the Design of some of these Writers might not be to bring Men to a total Disuse of Vinous and Malt Liquors; but by setting before them the Dangers and Accidents which follow excessive Drinking, and the Injury



jury of them to some Constitutions, they might at last bring Men to a sober and moderate Use of them; and then they would be not only safe, but highly beneficial to them, when suited to sundry Temperaments, Ways and Busineses of Life.

6. Another Reason that may incline *Englishmen* to prefer Malt Liquors to Wine is, that in Relation to the former, they have the Fidelity of their Friends and Servants to depend upon, that what they Drink is what they would have, and expect to receive, without any Fallacy or Cheat. But so general is the Adulteration of Wine become, that it is grown into a Trade, and a Mystery, having a great Variety of Crafts and Secrets. So that it is impossible for the Drinker to know what he swallows, when he drinks common Wine. How nauseous, how improper, how unwholesome must many of their Compositions be? It is a certain Truth, that Wine-brewers should understand the animal Oeconomy, Chymistry, and natural Philosophy very well, that they may know the Analysis of the Ingredients they add to their Wines, and how these agree, or disagree, with the Juices of a human Body; what Alterations and Effects they have on each Part of the Blood, and how they affect the Secretions and Excoctions. For what Nature sends crude, and leaves to the Art of Man to perfect, we know to be good in its Kind; but when sundry kinds of the Species are mixed together,



gether, and blended with Earths, Fossils, Sulphurs, and some animal Productions; if this require not as much Judgment to adapt it safely, and wholesomely, to the Use and Nourishment of Men, as the fitting the fundry Judgments of a compound Medicine, by a Physician, to the Constitution of his Patient, I am much mistaken. And what thinking Man will say, that this Medicine, tho' prescribed with the best Judgment, made up with the greatest Integrity, and its Administration attended with the best Success, shall therefore become a *Panacea*, or universal Remedy?

7. But we can further plead the Preference of Malt Liquors to Wine, in respect of the Generality of this Nation; that Custom has not only made them familiar to them, but the Liquor separated from them, became a constituent Part of their own Bodies, even while in *Embrio*, and Infancy: Their Parents having been in Part nourished by them, they come to have a Part of them in the Composition of their first Principles of Life, and therefore have generally Reason to look upon them as more natural.

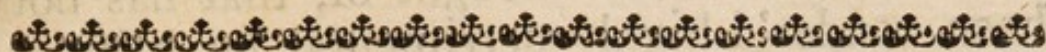
To these Reasons I might add, 1. The Unattainableness of the *French* Wines by ordinary Tradesmen, because of their extravagant Price. And for the *Portugal* and *Spanish* Wines, which are mostly used; such as have indulged the Use of them, would do well to use them



as a Cordial, and take them feldomer, and in small Quantities. For though they be much stronger, yet do they oppress the Stomach, and disorder the Head more than the other. For they are but half fermented; their oily Parts are gross, and not half broken; and this is the Reason of their luscious, sweet Taste in Drinking, and of their affording much less Spirit in Distillation. For a through Fermentation volatilizes the Oil, and essential Salt, and reduces them into so minute Parts, as to rise in the Form of a Spirit; for Spirit is only Oil and Salt subtilized. And for this Reason must our own Ale and Beer, if Good, be absolutely preferable to thick luscious Wines, seeing they are only half fermented, and ours well fermented. 2. A most wholesome and agreeable Drink may be provided from Malt in all Places, at all Seasons; whereas Wines can only be made at one time of the Year, and in a hot Climate. 3. Though Wine chear and revive sooner, yet Malt Liquors, especially those from Wheat, more and longer. For Drinkers of Malt Liquors eat less, and yet are fatter and stronger than Wine-drinkers. 4. As *Hippocrates* justly observes, Nature, as in all other Things, delights most in those Foods we are most accustomed to; and no doubt this Liquor is most grateful, and best accommodated to our Natures, seeing we daily use the Corn of which it is prepared, and other Things made of the same Matter, for our Bread and Food, and because of the Parability of many useful  
and



and excellent Things from Ale, at small Cost, both for Food and Medicine.



### *The* CONCLUSION.

**T**HE Result of the whole Matter is, That Men would first distinguish, and then drink. Distinguish, I mean, whether their Constitutions, Circumstances, and ways of Life, be such as require the Use of Wine, or Malt Liquors; and if, by the foregoing Rules, they find the latter proper and safe, then distinguish what Sort of Malt Liquors may be most suitable to their Case. If they take this Method, nothing but Excess can hurt them. They need not regard those general and groundless Invectives, which have been thrown about of late. If every Thing was to be decried, that had been at any Time hurtful to Mankind, what could possibly escape? Should any Writer take upon him to inveigh against Water, because it once drowned the World, and has ever since, upon certain Occasions, done a great deal of Mischief; should another disparage fresh Air, as occasioning Colds and Catarrhs in the tender and valetudinary; should a third exclaim against Sun-shine, upon Account of the Damage it does to sore Eyes, What should we think of these Mens Understandings? If they meant any Thing more than Raillery, should



should we not pronounce them inexcusably absurd; and conclude, that they ought not to be trusted with Pen and Ink? No kind of Food or Medicine can be thought of, that has not been render'd highly detrimental by Mismanagement and Misapplication. An unseasonable or immoderate Use, may turn the most innocent Things into the most pernicious, and convert the greatest Blessings into Means of Destruction. Must we therefore spend our Time in inventing Arguments to dissuade the sound Man from the Support of his Life, or deprive the Sick of the Hopes of his Recovery? As reasonable is it to prejudice and prepossess Men against a Liquor that is always highly advantageous to the strong and active, and in some Cases beneficial to the Weak and Sickly.

In fine, if any one impute what I have said in Behalf of Malt Liquors, to Partiality, and Prejudice for my own Country; I should not think I had any mighty Reason to be ashamed of the Imputation. But in Truth, I have considered and enquired into this Matter, with all the Indifference of a Foreigner, as believing my self obliged to be more solicitous to promote the Health and long Life of my Countrymen, than the Honour of our Climate, or the Credit of *British* Liquor. But tho' that was, and ought to be uppermost in my Intentions, yet it would be an additional Pleasure to me, if, while I was aiming at the former, I should have contributed any Thing to the latter.

F I N I S.



