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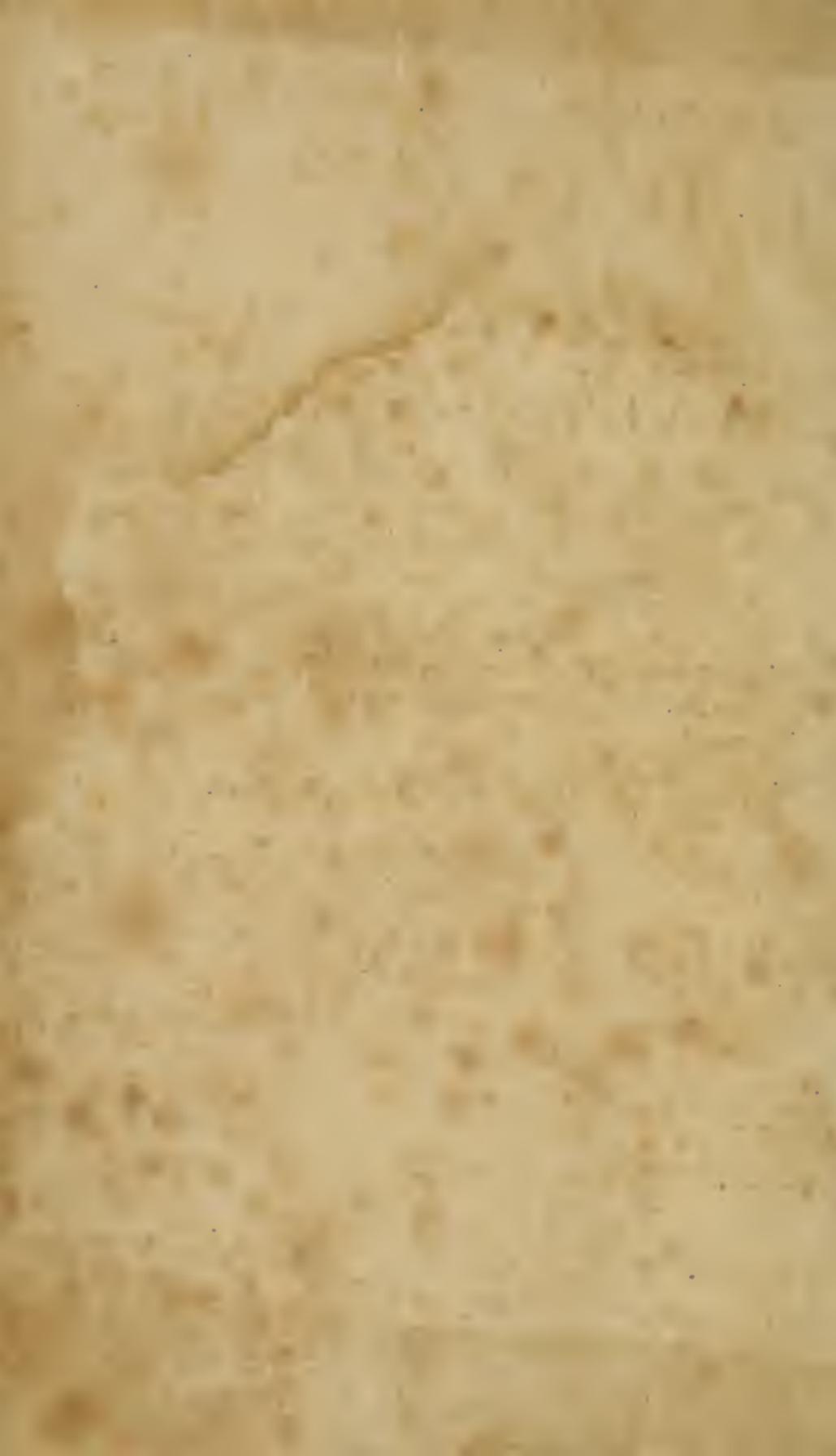
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THE
London *and* Country
BREWERY.

CONTAINING
The WHOLE ART of BREWING all SORTS
OF
MALT-LIQUORS,

As practised both in TOWN and COUNTRY; according to OBSERVATIONS made by the AUTHOR in FOUR YEARS TRAVELS through the several COUNTIES in *England*.

ALSO,

The METHOD of preserving LIQUORS in the CASK, and DIRECTIONS to be observed in BOTTLING them.

IN THREE PARTS.

To which is added,

A

SUPPLEMENT.

By a Person formerly concerned in a PUBLIC BREW-HOUSE in *London*.

The FIFTH EDITION.

LONDON:

Printed for THOMAS ASTLEY, at the *Rose* in *St. Paul's* Church-Yard. MDCCXLIV.

[Price Four Shillings Stitched, Five Shillings Bound.]

T H E
London *and* Country
B R E W E R.

Containing an Account,

- | | |
|---|--|
| I. Of the NATURE of the BARLEY-CORN, and of the proper SOILS and MANURES for the IMPROVEMENT thereof. | XIII. Of FERMENTING and WORKING of BEERS and ALES, and the unwholesome PRACTICE of BEATING in the YEAST, detected. |
| II. Of making GOOD MALTS. | XIV. Of several ARTIFICIAL LEES for FEEDING, FINING, PRESERVING, and RELISHING MALT-LIQUORS. |
| III. To know GOOD from BAD MALTS. | XV. Of several PERNICIOUS INGREDIENTS put into MALT-LIQUORS to increase their STRENGTH. |
| IV. Of the USE of the PALE, AMBER, and BROWN MALTS. | XVI. Of the CELLAR or VAULT for keeping BEERS and ALES. |
| V. Of the NATURE of several WATERS, and their USE in BREWING. | XVII. Of SWEETENING and CLEANING CASKS. |
| VI. Of GRINDING MALTS. | XVIII. Of BUNGING CASKS and CARRYING them to some DISTANCE. |
| VII. Of BREWING in general. | XIX. Of the AGE and STRENGTH of MALT-LIQUORS. |
| VIII. Of the LONDON METHOD of Brewing STOUT, BUTT-BEER, PALE, and BROWN ALES. | XX. Of the PROFIT and PLEASURE of PRIVATE BREWING, and the CHARGE of BUYING MALT-LIQUORS. |
| IX. Of the COUNTRY or PRIVATE WAY of BREWING. | |
| X. Of the NATURE and USE of the HOP. | |
| XI. Of BOILING MALT-LIQUORS, and to Brew a Quantity of Drink in a little Room, and with a few Tubs. | |
| XII. Of FOXING or TAINTING of MALT-LIQUORS; their PREVENTION and CURE. | |

To which is added,

A PHILOSOPHICAL ACCOUNT of Brewing
strong OCTOBER BEER.

By a Person formerly concerned in a Common Brewhouse at LONDON, but for Twenty Years past has resided in the Country.

PART I. The FIFTH EDITION, Corrected.

L O N D O N :

Printed for T. ASTLEY, at the *Rose* in St. Paul's Church-Yard. 1744.
[Price One Shilling.]



T H E

P R E F A C E.



HE many Inhabitants of Cities and Towns, as well as Travellers, that have for a long Time suffered great Prejudices from unwholsome and unpleasant Beers and Ales, by the Badness of Malts, Under-boiling the Worts, Mixing injurious Ingredients, the Unskilfulness of the Brewer, and the great Expence that Families have been at, in buying them clogged with a heavy Excise, has moved me to undertake the Writing of this Treatise on Brewing; wherein I have endeavour'd to set, in a true Light, the many Advantages of Body and Purse that may arise from a due Knowledge and Management in Brewing Malt-Liquors, which are of the greatest Importance, as they are in a considerable Degree our Nourishment, and the common Diluters of our Food; so that on their Goodness depends very much the Health and Longævity of the Body.

This bad Œconomy, in Brewing, has brought our Malt-Liquors into such Disrepute, that many have been constrained, either to be at an Expence for better Drinks than their Pockets could afford, or to take up with Toast and Water, to avoid the too justly apprehended ill Consequences of drinking such Ales and Beers.

Wherefore I have given an Account of brewing Beers and Ales after several Methods; and also several curious Receipts for feeding, fining, and preserving Malt-Liquors, that are most of them wholesomer than the Malt itself, and so cheap, that none can object against the Charge; which I thought was the ready Way to supplant the Use of

The P R E F A C E.

those unwholesome Ingredients, that have been made too free with by some ill principled People, meerly for their own Profit, though at the Expence of the Drinker's Health.

I hope I have adjusted that long wanted Method of giving a due Standard both to the Hop and Wort, which never was (as I know of) rightly ascertained in Print before; tho' the Want of it, I am persuaded, has been partly the Occasion of the Scarcity of good Drinks, as is at this Time very evident in most Places of the Nation. I have here also divulged the Nostrum of the Artist Brewer, that he has so long valued himself upon, in making a right Judgment when the Worts are boiled to a true Crisis; a Matter of considerable Consequence, because all strong Worts may be boiled too much, or too little, to the great Loss of the Owner; and without this Knowledge a Brewer must go on by Guess; which is a Hazard that every one ought to be free from that can; and therefore, I have endeavoured to explode the old Hour-glass Way of Brewing, by Reason of the several Uncertainties that attend such Methods, and the Hazard of spoiling both Malt and Drink; for, in short, where a Brewing is performed by Ladings over of scalding Water, there is no Occasion for the Watch or Hour-glass to boil the Wort by, which is best known by the Eye, as I have, both in this, and my Second Book, made appear.

I have here observed that necessary Caution, which is perfectly requisite, in the Choice of good, and the Management of bad Waters; a Matter of high Importance, as the Use of this Vehicle is unavoidable in Brewing, and therefore requires a strict Inspection into its Nature; and this I have been the more particular in, because I am sensible of the great Quantities of unwholesome Waters, used not only by Necessity, but by a mistaken Choice.

So also, I have confuted the old received Opinion, lately published by an eminent Hand, that long Mashings are the best Methods in Brewing; an Error of dangerous Consequence to all those who brew by Ladings over of the hot Water on the Malt.

The P R E F A C E.

The great Difficulty, and what has hitherto proved an Impediment and Discouragement to many from Brewing their own Drinks, I think, I have in some Measure removed, and made it plainly appear, how a Quantity of Malt-Liquor may be brewed in a little Room, and in the hottest Weather, without the least Damage by Foxing or other Taint.

The Benefit of Brewing intire Guile small Beer from fresh Malt, and the ill Effects of that made from Goods after strong Beer or Ale, I have here exposed; for the Sake of the Health and Pleasure of those that may easily prove their Advantage, by drinking of the former, and refusing the latter.

By the Time the following Treatise is read over, and thoroughly considered, I doubt not, but an ordinary Capacity will be in some Degree a better Judge of good and bad Malt-Liquors as a Drinker, and have such a Knowledge in Brewing, that formerly he was a Stranger to; and therefore I am in great Hopes, these my Efforts will be one principal Cause of the reforming our Malt-Liquors in most Places; and that more Private Families, than ever, will come into the delightful and profitable Practice of Brewing their own Drinks, and, thereby, not only save almost half in half of Expence, but enjoy such as has passed thro' its regular Digestions, and is truly pleasant, fine, strong, and healthful.

I question not, but this Book will meet with some Sceptics, who are either prejudiced against the Introduction of new Improvements. or that their Interest will be hereby eclipsed in Time; to such, I say, I do not write, because I have little Hopes to reform a wrong Practice in them by Reason and Argument. But those, who are above Prejudice, may easily judge of the great Benefits that will accrue by the following Methods, wherein I have amply set forth, how to Brew without boiling Water or Wort, and several other Ways, that will be of considerable Service to the World.

BOOKS of HUSBANDRY, GARDENING, &c.

Sold by T. ASTLEY, at the *Rose* in *St. Paul's Church-Yard*.

THE PRACTICAL FARMER: Or, HERTFORDSHIRE HUSBANDMAN. Containing many new Improvements in Husbandry. 1. Of meliorating the different Soils, and all other Branches of Business relating to a Farm. 2. Of the Nature of the several Sorts of Wheat, and the Soil proper for each. 3. Of the great Improvement of Barley, by brining the Seed, after an intricate new Method, and without Expence. 4. Of increasing Crops of Pease and Beans by Horse-houghing. 5. Of the Trefoil, Clover, Lucern, and other foreign Grasses. 6. A new Method to improve Land at a small Expence, with burnt Clay. 7. Of the Management of Cows, and Sheep, Suckling of Calves, Lambs, &c. with Means to prevent, and Remedies to cure Rotteneſs in Sheep. 8. How to keep Pidgeons and tame Rabbits to Advantage. 9. A new Method of planting and improving Fruit-trees in ploughed Fields. The Fourth Edition, in Two Parts, by WILLIAM ELLIS, of *Little Gaddesden, in Hertfordshire*.

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C H A P. I.

Of the Nature of the Barley-Corn, and of the proper Soils and Manures for the Improvement thereof.

THIS Grain is well known to excel all others for making of Malts that produce those fine *British* Liquors, Beer and Ale, which no other Nation can equal; but as this Excellency cannot be obtained unless the several Ingredients are in a perfect State and Order, and these also attended with a right Judgment; I shall treat on their several Particulars, and first of Soils.

THIS Grain I annually sow in my Fields on different Soils, whereby I have brought to my Knowledge several Differences arising therefrom. On our red Clays, this Grain generally comes off reddish at both Ends, and sometimes all over, with a thick Skin and tough Nature, somewhat like the Soil it grows in, and therefore not so valuable as that of contrary Qualities; nor are the black, bluish, marly Clays of the Vale much better, but Loams are, and Gravels better than them, as all the Chalks are better than Gravels; on these two last Soils the Barley acquires a whitish Body, a thin Skin, a short plump Kernel, and a sweet Flour, which occasions those fine, pale, and amber Malts made at *Dunstable*, *Tring*, and *Dagnal*, from the Barley that comes off the white and gravelly Grounds about those Places; for it is certain, there is as much Difference in Barley as in Wheat or other Grain, from the Soil it comes off, as appears by the excellent Wheats that grow in the marly vale Earths, Pease in Sands, and Barley in Gravels and Chalks, &c. For our Mother Earth, as it is destined to the Service of Man in the Production of

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Vegeta-

Vegetables, is compos'd of various Sorts of Soils for different Seeds to grow therein. And since Providence has been pleas'd to allow Man this great Privilege for the Imployment of his Skill and Labour to improve the same to his Advantage; it certainly behoves us to acquaint ourselves with its several Natures, and how to adapt an agreeable Grain and Manure to their natural Soil, as being the very Foundation of enjoying good and bad Malts. This is obvious by parallel Deductions from Turneps sown on rank, clayey, loamy, Grounds, dress'd with noxious Dungs that render them bitter, tough, and nauseous, while those that grow on Gravels, Sands, and chalky Loams, under the Assistance of the Fold, or Soot, Lime, Ashes, Hornshavings, &c. are sweet, short, and pleasant. 'Tis the same also with Salads, Asparagus, Cabbages, Garden-beans, and all other culinary Ware, that come off those rich Grounds, glutted with the great Quantities of *London*, and other rank Dungs, which are not near so pure, sweet, and wholesome, as those produced from Virgin-mould, and other healthy Earths and Manures.

THERE is likewise another Reason that has brought a Disreputation on some of the *Chiltern* Barley, and that is, the too often sowing of one and the same Piece of Ground, whereby its spirituous, nitrous, and sulphureous Qualities are exhausted and worn out, by the constant Attraction of its best Juices for the Nutriment of the Grain: To supply which, great Quantities of Dungs are often incorporated with such Earths, whereby they become impregnated with sour, adulterated, unwholesome Qualities, that so affect the Barley that grows therein, as to render it incapable of making such pure and sweet Malts, as that which is sown in the open champaign Fields, whose Earths are constantly rested every third Year, called *The Fallow Season*, in order to discharge their crude, phlegmatic, and sour Property, by the several Turnings that the Plough gives them part of a Winter, and one whole Summer, which exposes the rough, clotty, loose Parts of the Ground, and by De-
grees

grees brings them into a Condition of making a Lodgment of those saline Benefits that arise from the Earths, and afterwards fall down, and redound so much to the Benefit of all Vegetables that grow therein, as being the Effence and Spring of Life to all Things that have root; and though they are first exhaled by the Sun, in Vapour from the Earth, as the Spirit and Breath thereof, yet it is returned again in Snows, Hails, Dews, &c. more than in Rains, by which the Surface of the Globe is saturated; from whence it re-ascends in the Juices of Vegetables, and enters into all those Productions as Food and Nourishment, which the Creation supplies.

HERE then may appear the Excellency of steeping Seed-barley in a Liquor lately invented, that impregnates and loads it with Nitre and other Salts that are the nearest of all others to the true and original Spirits or Salt of the Earth, and therefore in a great Measure supplies the Want thereof, both in Inclosures and open Fields; for even in this last it is sometimes very scarce, and in but small Quantities, especially after a hot dry Summer and mild Winter, when little or no Snows have fell to cover the Earth, and keep this Spirit in; by which, and great Frosts, it is often much increased, and then shews itself in the Warmth of Well Waters, that are often seen to wreak in the cold Seasons. Now since all Vegetables, more or less, partake of those Qualities that the Soil and Manures abound with in which they grow, I therefore infer, that all Barley, so imbibed, improves its Productions by the Ascension of those saline spirituous Particles that are thus lodged in the Seed when put into the Ground, and are Part of the Nourishment the After-Crop enjoys; and for this Reason I doubt not, but when Time has got the Ascendant of Prejudice, the whole Nation will come into the Practice of the invaluable Receipt, published in *The Practical Farmer, Or, Hertfordshire Husbandman*, Page 25, not only for Barley, but other Grains.

BUT notwithstanding Barley may grow on a light Soil with a proper Manure, and improve by the Li-

quor of this Receipt, yet this Grain may be damaged or spoiled by being mown too soon, which may afterwards be discovered by its shrivelled and lean Body, that never will make right good Malt; or if it is mown at a proper Time, and if it be housed damp, or wettish, it will be apt to heat and mow-burn, and then it will never make so good Malt, because it will not spire, nor come so regularly on the Floor, as that which was inned dry.

AGAIN, I have known one Part of a Barley-Crop almost green at Harvest, another Part ripe, and another Part between both, tho' it was all sown at once, occasioned by the several Situations of the Seed in the Ground, and the succeeding Droughts. The Deepest came up strong, and was ripe soonest, the next succeeded; but the Uppermost, for want of Rain and Cover, some of it grew not at all, and the rest was green at Harvest. Now these Irregularities are greatly prevented and cured by the Application of the Ingredients mentioned in the Receipt, which infuses such a Moisture into the Body of the Seed, as with the Help of a little Rain, and the many Dews, makes it spire, take Root, and grow, when others are ruined for want of the Assistance of such Steeping.

BARLEY, like other Grain, will also degenerate, and become rank, lean, and small-bodied, if the same Seed is sown too often in the Soil; 'tis therefore that the best Farmers not only change the Seed every time, but take due Care to have it off a contrary Soil that they sow it into; this makes several in my Neighbourhood every Year buy their Barley-Seed in the Vale of *Aylesbury*, that grew there on the black, clayey, marly Loams, to sow in Chalks, Gravels, &c. Others every second Year will go from hence to *Fulham*, and buy the Forward, or Rath-ripe Barley, that grows there on sandy Ground; both which Methods are great Improvements of this Corn; and whether it be for Sowing, or Malting, the plump, weighty, and white Barley-Corn is in all Respects much kinder than the lean flinty Sorts.

C H A P. II.

Of Making Malt.

AS I have described the Ground that returns the best Barley, I now come to treat of making it into Malt; to do which, the Barley is put into a leaden or tiled Cistern, that holds five, ten, or more Quarters, that is covered with Water, four or six Inches above the Barley, to allow for its Swell; here it lies five or six Tides, as the Malster calls it, reckoning twelve Hours to the Tide, according as the Barley is in Body or in Dryness; for that which comes off Clay, or has been washed and damaged by Rains, requires less Time than the dryer Grain that was inned well, and grew on Gravels or Chalks; the smooth plump Corn imbibing the Water more kindly, when the lean and steely Barley will not so naturally; but to know when it is enough, is to take a Corn, end-ways, between the Fingers, and gently crush it, and if it is in all Parts mellow, and the Husk opens, or starts a little from the Body of the Corn, then it is enough: The Nicety of this is a material Point; for if it is infused too much, the Sweetness of the Malt will be greatly taken off, and yield the less Spirit, and so will cause Deadness and Sourness in Ale or Beer in a short Time, for the Goodness of the Malt contributes much to the Preservation of all Ales and Beers. Then the Water must be drained from it very well, and it will come equal and better on the Floor, which may be done in twelve or sixteen Hours in temperate Weather, but in cold near thirty. From the Cistern, it is put into a square Hutch or Couch, where it must lie thirty Hours, for the Officer to take his Gage, who allows four Bushels in the Score for the Swell in this, or the Cistern; then it must be worked Night and Day in one or two Heaps, as the Weather is cold or hot, and turned every four, six, or eight Hours, the outward Part inwards, and the Bottom upwards, always keeping a clear Floor, that the Corn that lies next to it be not chilled; and

as soon as it begins to come or spire, then turn it every three, four, or five Hours, as was done before, according to the Temper of the Air, which greatly governs this Management, and as it comes or works more, so must the Heap be spreaded and thinned larger to cool it. Thus it may lie and be wotked on the Floor in several Parallels, two or three Feet thick, ten or more Feet broad, and fourteen or more in Length, to chip or spire, but not too much nor too fast; and when it is come enough, it is to be turned twelve or sixteen Times in twenty-four Hours, if the Season is warm, as in *March*, *April*, or *May*; and when it is fixed, and the Root begins to be dead, then it must be thickened again, and carefully kept often turned and worked, that the Growing of the Root may not revive, and this is better done with the Shoes off than on; and here the Workman's Art and Diligence in particular is tried, in keeping the Floor clear, and turning the Malt often, that it neither moulds nor aker-spires, that is, that the Blade does not grow out at the opposite End of the Root; for, if it does, the Flower and Strength of the Malt is gone, and nothing left behind but the Aker-spire, Husk, and Tail: Now when it is at this Degree, and fit for the Kiln, it is often practised to put it into a Heap, and let it lie twelve Hours before it is turned, to heat and mellow, which will much improve the Malt if it is done with Moderation, and after that Time it must be turned every six Hours during twenty-four; but if it is overheated, it will become like Grease and be spoiled, or at least cause the Drink to be unwholsome: When this Operation is over, it then must be put on the Kiln, to dry four, six, or twelve Hours, according to the Nature of the Malt, for the pale Sort requires more Leisure, and less Fire than the amber or brown Sorts: Three Inches thick was formerly thought a sufficient Depth for the Malt to lie on the Hair-cloth, but now six is often allowed it to a Fault; fourteen or sixteen Feet square will dry about two Quarters, if the Malt lies four Inches thick, and here it should be turned

ed every two, three, or four Hours, keeping the Hair-cloth clear : The Time of preparing it from the Cistern to the Kiln is uncertain, according to the Season of the Year ; in moderate Weather, three Weeks are often sufficient. If the Exciseman takes his Gage on the Floor, he allows ten in the Score, but he sometimes gages in Cistern, Couch, Floor, and Kiln, and where he can make most, there he fixes his Charge : When the Malt is dried, it must not cool on the Kiln, but be directly thrown off, not into a Heap, but spreaded wide in an airy Place, 'till it is thoroughly cool, then put it into a Heap, or otherwise dispose of it.

THERE are several Methods used in drying of Malts, as the Iron Plate-frame, the Tile-frame, that are both full of little Holes : The Brass-wired and Iron-wired Frame, and the Hair-cloth ; the Iron and Tiled ones were chiefly invented for drying of brown Malts, and saving of Fuel ; for these, when they come to be thorough hot, will make the Corns crack and jump by the Fierceness of their Heat, so that they will be roasted or scorched in a little Time, and after they are off the Kiln, to plump the Body of the Corn, and make it take the Eye, some will sprinkle Water over it, that it may meet with the better Market : But if such Malt is not used quickly, it will slacken and lose its Spirits to a great Degree, and, perhaps, in half a Year or less, may be taken by the Whools and spoiled : Such hasty Dryings, or Scorplings, are also apt to bitter the Malt, by burning its Skin, and therefore these Kilns are not so much used now as formerly : The Wire-frames indeed are something better, yet they are apt to scorch the outward Part of the Corn, that cannot be got off so soon as the Hair-cloth admits of, for these must be swept, when the other is only turned at once ; however, these last three Ways are now in much Request for drying pale and amber Malts, because their Fire may be kept with more Leisure, and the Malt more gradually and truer dried, but by many the Hair-cloth is reckoned the best of all.

MALTS are dried with several Sorts of Fuel; as the Coak, Welch-coal, Straw, Wood, and Fern, &c. But the Coak is reckoned by most to exceed all others for making Drink of the finest Flavour and pale Colour, because it sends no Smoak forth to hurt the Malt with any offensive Tang, that Wood, Fern, and Straw are apt to do in a lesser or greater Degree; but there is a Difference even in what is called Coak, the right Sort being large Pit-coal charred or burnt in some Measure to a Cinder, 'till all the Sulphur is consumed and evaporated away, which is called Coak, and this, when it is truly made, is the best of all other Fuels; but if there is but one Cinder as big as an Egg, that is not thoroughly cured, the Smoak of this one is capable of doing a little Damage, and this happens too often by the Negligence or Avarice of the Coak-maker: There is another Sort, by some wrongly called Coak, and rightly named Culm or Welch-coal, from *Swanzey* in *Pembrokeshire*, being of a hard stony Substance, in small Bits, resembling a shining Coal, and will burn without Smoak, and by its sulphureous Effluvia cast a most excellent Whiteness on all the outward Parts of the grainy Body: In *Devonshire* I have seen their Marble or grey Fire-stone burnt into Lime with the strong Fire that this Culm makes, and both this and the chark'd Pit-coal afford a most sweet, moderate, and certain Fire to all Malt that is dried by it.

STRAW is the next sweetest Fuel, but Wood and Fern worst of all.

SOME I have known put a Peck or more of Pease, and malt them with five Quarters of Barley, and they will greatly mellow the Drink, and so will Beans; but they won't come so soon, nor mix so conveniently with the Malt, as the Pea will.

I KNOW a Farmer, when he sends five Quarters of Barley to be malted, puts in half a Peck or more of Oats amongst them, to prove he has Justice done him by the Maker, who is hereby confined not to change his Malt, by reason others won't like such a Mixture.

BUT there is an Abuse sometimes committed by a necessitous Malster, who, to come by Malt sooner than ordinary, makes Use of Barley before it is thoroughly sweated in the Mow, and then it never makes right Malt, but will be steely and not yield a due Quantity of Wort, as I knew it once done by a Person that thrashed the Barley immediately from the Cart as it was brought out of the Field, but they that used its Malt suffered not a little, for it was impossible it should be good, because it did not thoroughly chip or spire on the Floor, which caused this Sort of Malt, when the Water was put to it in the Mash-tub, to swell up and absorb the Liquor, but not return its due Quantity again, as true Malt would; nor was the Drink of this Malt ever good in the Barrel, but remained a raw insipid Beer, past the Art of Man to cure, because this, like Cyder made from Apples directly off the Tree, that never sweated out their phlegmatic crude Juice in the Heap, cannot produce a natural Liquor from such unnatural Management; for Barley certainly is not fit to make Malt of till it is fully mellowed and sweated in the Mow, and the Season of the Year is ready for it, without both which there can be no Assurance of good Malt: Several Instances of this untimely making Malt I have known to happen, that has been the Occasion of great Quantities of bad Ales and Beers; for such Malt retaining some of its Barley Nature, or that the Season of the Year is not cold enough to admit of its natural Working on the Floor, is not capable of producing a true Malt, but will cause its Drink to stink in the Cask instead of growing fit for Use, as not having its genuine Malt Nature to cure and preserve it, which all good Malts contribute to as well as the Hop.

THERE is another Damage I have known to accrue to the Buyer of Malt by Mellilet, a most stinking Weed that grows among some Barley, and is so mischievously predominant, as to taint it to a sad Degree, because its black Seed, like that of an Onion, being lesser than the Barley, cannot be intirely separated, which obliges it to
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be malted with the Barley, and makes the Drink so heady, that it is apt to fuddle the Unwary by drinking a small Quantity: This Weed is so natural to some Ground, that the Farmer despairs of ever extirpating it, and is to be avoided as much as possible, because it very much hurts the Drink that is made from Malt mixed with it, by its nauseous Scent and Taste, as may be perceived by the Ointment made with it that bears its Name: I knew a Victualler that bought a Parcel of Malt that this Weed was amongst, and it spoiled all the Brewings, and Sale of the Drink, for it is apt to cause Fevers, Colics, and other Distempers in the Body.

DARNEL is a rampant Weed and grows much among some Barley, especially in the bad Husbandman's Ground, and most where it is sown with the Seed-barley: It does the least Harm amongst Malt, because it adds a Strength to it, and quickly intoxicates, if there is much in it; but where there is but little the Malster regards it not, for the Sake of its inebriating Quality. There are other Weeds or Seeds that annoy the Barley; but as the Screen, Sieve, and Throwing will take most of them out, there does not require here a Detail of their Particulars. Oats, malted as Barley is, will make a weak, soft, mellow, and pleasant Drink; but Wheat, when done so, will produce a strong, heady, nourishing, well-tasted, and fine Liquor, which is now more practised than ever.

C H A P. III.

To know good from bad Malts.

THIS is a Matter of great Importance to all Brewers, both public and private, for it is common for the Sellers to cry, *All is good*, but the Buyer's Case is different; wherefore it is prudential to endeavour to be Masters of this Knowledge; for I have heard a great Malster that lived towards *Ware* say, he knew a grand Brewer, that wetted near two hundred Quarters a Week,

Week, was not a Judge of good and bad Malts, without which it is impossible to draw a true Length of Ale or Beer. To do this, I know but of few Ways, *First*, By the Bite; is to break the Malt-Corn across between the Teeth, in the Middle of it or at both Ends, and if it tasteth mellow and sweet, has a round Body, breaks soft, is full of Flour all its Length, smells well, and has a thin Skin, then it is good. *Secondly*, By Water; is to take a Glass near full, and put in some Malt, and if it swims, it is right, but if any sinks to the Bottom, then it is not true Malt, but steely, and retains somewhat of its Barley Nature; yet, I must own, this is not an infallible Rule, because if a Corn of Malt is cracked, split, or broke, it will then take the Water and sink, but there may an Allowance be given for such Incidents, and still Room enough to make a Judgment. *Thirdly*, Malt, that is truly made, will not be hard and steely, but of so mellow a Nature, that, if forced against a dry Board, will mark, and cast a white Colour almost like Chalk. *Fourthly*, Malt that is not rightly made will be Part of it of a hard Barley Nature, and weigh heavier than that which is true Malt.

C H A P. IV.

Of the Nature and Use of Pale, Amber, and Brown Malts.

THE pale Malt is the slowest and slackest dried of any, and where it has had a leisure Fire, a sufficient Time allowed it on the Kiln, and a due Care taken of it, the Flour of the Grain will remain in its full Quantity, and thereby produce a greater Length of Wort, than the brown high dried Malt, for which Reason it is sold for one or two Shillings *per Quarter* more than that: This pale Malt is also the most nutritious Sort to the Body of all others, as being in this State the most simple and nearest to its original Barley-corn, that will retain an alcalous and balsamic Quality much longer than

than the brown Sort ; the tender Drying of this Malt bringing its Body into so soft a Texture of Parts, that most of the great Brewers brew it with Spring and Well-waters, whose hard and binding Properties they think agree best with this loose-bodied Malt, either in Ales or Beers, and which will also dispense with hotter Waters in brewing of it, than the brown Malt can.

THE amber-coloured Malt is that which is dried in a medium Degree, between the Pale and the Brown, and is very much in Use, as being free of either Extream. Its Colour is pleasant, its Taste agreeable, and its Nature wholesome, which makes it be preferred by many as the best of Malts ; this by some is brewed either with hard or soft Waters, or a Mixture of both.

THE brown Malt is the soonest and highest dried of any, even till it is so hard, that it is difficult to bite some of its Corns asunder, and is often so crusted or burnt, that the farinous Part loses a great deal of its essential Salts and vital Property, which frequently deceives its ignorant Brewer, that hopes to draw as much Drink from a Quarter of this, as he does from Pale or Amber Sorts : This Malt, by some, is thought to occasion the Gravel and Stone, besides what is commonly called the Heart-burn ; and is by its steely Nature less nourishing than the Pale or Amber-malts, being very much impregnated with the fiery fumiferous Particles of the Kiln, and therefore its Drink sooner becomes sharp and acid than that made from the Pale or Amber Sorts, if they are all fairly brewed : For this Reason the *London* Brewers mostly use the *Thames* or *New River* Waters to brew this Malt with, for the Sake of its soft Nature, whereby it agrees with the harsh Qualities of it better than any of the Well or other hard Sorts, and makes a luscious Ale for a little While, and a But-beer that will keep very well five or six Months, but after that Time it generally grows stale, notwithstanding there be ten or twelve Bushels allowed to the Hogshead, and it be hopped accordingly.

PALE and Amber Malts dried with Coak or Culm, obtain a more clean, bright, pale Colour, than if dried with any other Fuel, because there is not Smoak to darken and sully their Skins or Husks, and give them an ill Relish, that those Malts little or more have, which are dried with Straw, Wood, or Fern, &c. The Coak or *Welch* Coal also makes more true and compleat Malt, as I have before hinted, than any other Fuel, because its Fire gives both a gentle and certain Heat, whereby the Corns are in all their Parts gradually dried, and therefore of late these Malts have gained such a Reputation that great Quantities have been consumed in most Parts of the Nation for their wholesome Natures and sweet fine Taste: These make such fine Ales and Butt-beers, as has tempted several of our Malsters in my Neighbourhood to burn Coak or Culm at a great Expence of Carriage thirty Miles from *London*.

NEXT to the Coak-dried Malt, the Straw-dried is the sweetest and best tasted: This, I must own, is sometimes well malted, where the Barley, Wheat, Straw, Conveniences, and the Maker's Skill are good; but as the Fire of the Straw is not so regular as the Coak, the Malt is attended with more Uncertainty in its Making, because it is difficult to keep it to a moderate and equal Heat, and also exposes the Malt in some Degree to the Taste of the Smoak.

BROWN Malts are dried with Straw, Wood, and Fern, &c. the Straw-dried is far the best, but the Wood-sort has a most unnatural Taste, that few can bear with, but the Necessitous, and those that are accustomed to its strong smoaky Tang; yet it is much used in some of the Western Parts of *England*, and many thousand Quarters of this Malt have been formerly used in *London* for brewing the Butt-keeping Beers with, and that because it sold for two Shillings *per* Quarter cheaper than the Straw-dried Malt; nor was this Quality of the Wood-dried Malt much regarded by some of its Brewers, for that its ill Taste is lost in nine or twelve Months, by the Age of the Beer, and the Strength of
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the great Quantity of Hops that were used in its Preservation.

THE Fern-dried Malt is also attended with a rank disagreeable Taste from the Smoak of this Vegetable, with which many Quarters of Malt are dried, as appears by the great Quantities annually cut by Malsters on our Commons, for the two prevalent Reasons, Cheapness and Plenty.

AT *Bridport* in *Dorsetshire*, I knew an Inn-keeper use half Pale and half Brown Malt for brewing his Butts-beers, that proved to my Palate the best I ever drank on the Road, which I think may be accounted for, in that the Pale being the slackest, and the Brown the hardest dried, must produce a mellow good Drink, by the Help of a requisite Age, that will reduce those Extreams to a proper Quality.

C H A P. V.

Of the Nature of several Waters, and their Use in Brewing. And first of Well-waters.

WATER, next to Malt, is what by Course comes here under Consideration, as a Matter of great Importance in brewing of wholesome fine Malt-liquors, and is of such Consequence, that it concerns every one to know the Nature of the Water he brews with, because it is the Vehicle by which the nutritious and pleasant Particles of the Malt and Hop are conveyed into our Bodies, and there become a Diluter of our Food: Now the more simple and freer every Water is from foreign Particles, the better it will answer those Ends and Purposes; for, as *Dr. Mead* observes, some Waters are so loaded with stony Corpuscles, that even the Pipes thro' which they are carried, in Time, are incrusted and stopped up by them, and are of that petrifying Nature as to breed the Stone in the Bladder, which many of the *Parisians* have been Instances of, by using this Sort of Water out of the River *Seine*. And of this Nature is another

other at *Rowel* in *Northamptonshire*, which in no great Distance of Time so clogs the Wheel of an overshot Mill there, that they are forced with convenient Instruments to cut Way for its Motion; and what makes it still more evident, is the Sight of those incrufted Sides of the Tea-kettles, that the hard Well-waters are the Occasion of, by being often boiled in them: And it is farther related by the same Doctor, that a Gentlewoman afflicted with frequent Returns of violent Colic-pains was cured by the Advice of *Van Helmont*, only by leaving off drinking Beer brewed with Well-water: It is true, such a Fluid has a greater Force and Aptness to extract the Tincture out of Malt, than is to be had in the more innocent and soft Liquors of Rivers: But for this very Reason it ought not, unless upon mere Necessity, to be made Use of; this Quality being owing to the mineral Particles and alluminous Salts with which it is impregnated. For these Waters, thus saturated, will, by their various Gravities in Circulation, deposit themselves in one Part of the animal Body or other, which has made some prove the Goodness of Water by the Lightness of its Body in the Water-scales, now sold in several of the *London* Shops, in order to avoid the scorbutic, colic, hypocondriac, and other ill Effects of the clayey and other gross Particles of stagnating Well-waters, and the calculous Concretions of others; and therefore such Waters ought to be mistrusted more than any, where they are not pure, clear, and soft, or that do not arise from good Chalks or stony Rocks, that are generally allowed to afford the best of all the Well-forts.

SPRING-WATERS are in general liable to partake of those Minerals thro' which they pass, and are salubrious or mischievous accordingly. At *Uppingham* in *Rutland*, their Water is said to come off an Allum-rock, and so tinges their Beer with its saline Quality, that it is easily tasted at the first Draught. And at *Dean* in *Northamptonshire*, I have seen the very Stones colour the rusty Iron by the constant Running of a Spring-water; but that which will lather with Soap, or such soft Water
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that percolates thro' Chalk, or a grey Fire-stone, is generally accounted best; for Chalk in this Respect excels all other Earths, in that it administers nothing unwholesome to the perfluent Waters, but undoubtedly absorbs, by its drying spongy Quality, any ill Minerals, that may accompany the Water that runs thro' them. For which Reason they throw in great Quantities of Chalk into their Wells at *Ailesbury* to soften their Water, which coming off a black Sand-stone, is so hard and sharp, that it will often turn their Beer sour in a Week's Time, so that in its original State it is neither fit to wash nor brew with, but so long as the alcalous soft Particles of the Chalk hold good, they put it to both Uses.

RIVER-WATERS are less liable to be loaded with metallic, petrifying, saline, and other insanous Particles of the Earth, than the Well or Spring-sorts are, especially at some Distance from the Spring-head, because the Rain-water mixes with and softens it; and are also much cured by the Sun's Heat and the Air's Power, for which Reason I have known several so strict, that they will not let their Horses drink near the first Rise of some of them; this I have seen the sad Effects of, and which has obliged me to avoid two that run cross a Road in *Bucks* and *Hertfordshire*: But in their Runnings they often collect gross Particles, from ouzy muddy Mixtures, particularly near Town, that make the Beer subject to new Fermentations, and grow foul upon Alteration of Weather, as the *Thames*-water generally does; yet is this for its Softness much better than the hard Sort; however, both these Waters are used by some Brewers, as I shall hereafter observe: But where a River-water can be had clear in a dry Time, when no great Rain has lately fell out of Rivulets, or Rivers that have a gravelly, chalky, sandy, or stony Bottom, free from the Disturbance of Cattle, &c. and in good Air, as that of *Barkhamstead St. Peter's* in *Hertfordshire* is; it may then justly claim the Name of a most excellent Water for Brewing, and will make a stronger Drink

with the same Quantity of Malt than any of the Well-waters; infomuch that that of the *Thames* has been proved to make as strong Beer with seven Bushels of Malt, as Well-water with eight; and so are all River-waters in a proportionable Degree, and, where they can be obtained clean and pure, Drink may be drawn fine in a few Days after Tunning.

RAIN-WATER is very soft, of a most simple and pure Nature, and the best Diluter of any, especially if received free from Dirt, and the Salt of Mortar that often mixes with it as it runs off tiled Roofs; this is very agreeable for brewing of Ales that are not to be kept a great While, but for Beers that are to remain some Time in the Casks, it is not so well, as being apt to putrify the soonest of any.

POND-WATERS; this includes all standing Waters chiefly from Rain, and are good or bad as they happen; for where there is a clean Bottom, and the Water lies undisturbed from the Tread of Cattle, or too many Fish, in an open sound Air, in a large Quantity, and where the Sun has free Access, it then comes near, if not quite as good as Rain or River-waters; as is that of *Blue-pot* Pond on the high Green at *Gaddefden* in *Hertfordshire*, and many others, which are often preferred for Brewing, even beyond many of the soft Well-waters about them. But where it is in a small Quantity, or full of Fish (especially the Sling-tench) or is so disturbed by Cattle, as to force up Mud and Filth, it is then the most foul and disagreeable of all others: So is it likewise in long dry Seasons when our Pond-waters are so low as obliges us to strain it thro' Sieves before we can use it, to take out the small red Worms and other Corruptions, that our stagnant Waters are generally then too full of. The latest and best Doctors have so far scrutinised into the prime Cause of our *British* Malady the Scurvy, as to affirm its first Rise is from our unwholesome stagnating Waters, and especially those that come off a clayey Surface, as there are about *Londonderry* and *Amsterdam*; for that, where the Waters are worst,

there this Distemper is most common ; so that in their Writings they have put it out of all Doubt, that most of our complicated Symptons that are ranked under this general Name, if they do not take their Beginning from such Water, do own it to be their chief Cause.

C H A P. VI.

Of Grinding Malts.

AS trifling as this Article in Brewing may seem at first, it very worthily deserves the Notice of all concerned therein ; for on this depends much the Good of our Drink, because, if it is ground too small, the Flour of the Malt will be the easier and more freely mixed with the Water, and then will cause the Wort to run thick ; and therefore the Malt must be only just broke in the Mill, to make it emit its Spirit gradually, and incorporate its Flour with the Water in such a Manner, that first a stout Beer, then an Ale, and afterwards a small Beer may be had at one and the same Brewing, and the Wort run off fine and clear to the last. Many are likewise so sagacious as to grind their brown Malt a Fortnight before they use it, and keep it in a dry Place from the Influence of too moist an Air, that it may become mellow by losing in a great Measure the Fury of its harsh fiery Particles, and its steely Nature, which this Sort of Malt acquires on the Kiln ; however, this, as well as many other hard Bodies, may be reduced by Time and Air into a more soluble, mellow, and soft Condition, and then it will imbibe the Water and give a natural kind Tincture more freely, by which a greater Quantity, and stronger Drink, may be made, than if it was used directly from the Mill, and be much smoother and better tasted. But pale Malts will be fit for Use at a Week's End, because the Leisureness of their Drying endows them with a Softness from the Time they are taken off the Kiln to the Time they are brewed, and supplies in them what Time and Air must

do in the brown Sorts. This Method of grinding Malt so long beforehand cannot be so conveniently practised by some of the great Brewers, because several of them brew two or three Times a Week; but now most of them, out of good Husbandry, grind their Malts into the Tun by the Help of a long, descending, wooden Spout; and here they save the Charge of emptying or uncasing it out of the Bin, and also the Waste of a great deal of the Malt-flour, that was lost when carried in Baskets, whereas now the Cover of the Tun prevents all that Damage. In my common Brew-house at *London*, I ground my Malt between two large Stones by the Horse-mill, but in the Country I use a steel Hand-mill; that cost at first forty Shillings, which will, by the Help of only one Man, grind six or eight Bushels in an Hour, and will last a Family many Years without Hardening or Cutting. There are some old-fashioned stone Hand-mills in Being, that some prefer to the iron ones, because they alledge that these break the Corn's Body, when the iron ones only cut it in two, which occasions the Malt, so broke by the Stones, to give the Water a more easy, free, and regular Power to extract its Vertue, than the Cut-malt can that is more confined within its Hull. Notwithstanding, the iron ones are now mostly in Use, for their great Dispatch in and long Duration. In the Country they frequently throw a Sack of Malt on a Stone or Brick-floor as soon as it is ground, and let it lie, giving it one Turn, for a Day or two, that the Stones or Bricks may draw out the fiery Quality it received from the Kiln, and give the Drink a soft mild Taste.

C H A P. VII.

Of Brewing in general.

BREWING, like several other Arts, is prostituted to the opinionated Ignorance of many conceited Pretenders, who, if they have but seen, or been concerned in but one Brewing, and that only one Bushel of Malt,

assume the Name of a Brewer, and dare venture on several afterwards, as believing it no other Task, than more Labour, to brew a great deal as well as a little; from hence it partly is, that we meet with such hodge-podge Ales and Beers, as are not only disagreeable in Taste and foul, but unwholesome to the Body of Man; for, as it is often drank thick and voided thin, the *Fæces* or gross Part must, in my Opinion, remain behind in some Degree. Now what the Effects of that may be, I must own, I am not Physician enough to explain, but shrewdly suspect it may be the Cause of Stones, Colics, Obstructions, and several other chronical Distempers; for if we consider that the Sediments of Malt-liquors are the Refuse of corrupted Grain, loaded with the igneous acid Particles of the Malt, and then again with the corrosive Particles of the Yeast, it must consequently be very pernicious to the human Body, which certainly suffers much from the animal Salts of the great Quantities of Flesh that we eat, more than People of any other Nation whatsoever; and therefore should be more than ordinarily cautious not to add the scorbutic mucilaginous Qualities of such gross unwholesome Particles, that every one makes a Lodgment of in their Bodies, as the Liquors they drink are more or less thick; for, in plain Truth, no Malt-liquor can be good unless it is fine. The late curious *Simon Harcourt*, Esq; of *Penly*, thought the true Art of Brewing of such Importance, that it is said to have cost him near twenty Pounds to have an old Days-man taught it by a *Welch* Brewer; and sure it was, this very Man exceeded all others in these Parts afterwards in the Brewing of that which he called his *October* Beer. So likewise in *London* they lay such Stress on this Art, that many have thought it worth their While to give several hundred Guineas with an Apprentice: This Consideration also made an Ambassador give an extraordinary Encouragement to one of my Acquaintance to go over with him, that was a great Master of this Science. But notwithstanding all that can be said, that relates to this Subject, there are so many Incidents attending

ing Malt-liquors, that it has puzzled several expert Men to account for their Difference, tho' brewed by the same Brewer, with the same Malt, Hops, and Water, and in the same Month and Town, and tapped at the same Time: The Beer of one being fine, strong, and well tasted, while the others have not had any worth drinking; now this may be owing to the different Weather in the same Month, that might cause an Alteration in the Working of the Liquors, or that the Cellar may not be so convenient, or that the Water was more disturbed by Winds or Rains, &c. But it has been observed, that, where a Gentleman has employ'd one Brewer constantly, and uses the same Sort of Ingredients, and the Beer is kept in dry Vaults and Cellars that have two or three Doors, the Drink has been generally good. And where such Malt-liquors are kept in Butts, more Time is required to ripen, meliorate, and fine them, than those kept in Hogsheads, because the greater Quantity must have the longer Time; so also a greater Quantity will preserve itself better than a lesser one, and on this Account the Butt and Hogshead are the two best sized Casks of all others; but all under a Hogshead hold rather too small a Quantity to keep their Bodies. The Butt is certainly a most noble Cask for this Use, as being generally set upright, whereby it maintains a large Cover of Yeast, that greatly contributes to the keeping in the Spirit of the Beer, admits of a most convenient Broaching in the Middle and its lower Part, and, by its broad level Bottom, gives a better Lodgment to the fining and preserving Ingredients, than any other Cask whatsoever that lies in the long Cross-form. Hence it partly is, that the common Butt-beer is at this Time in greater Reputation than ever in *London*, and the Home-brewed Drinks out of Credit; because the first is better cured in its Brewing, in its Quantity, in its Cask, and in its Age; when the latter has been loaded with the pernicious Particles of great Quantities of Yeast, of a short Age, and kept in small Casks, that confines its Owner, only to Winter Brewing and Sale, as not being capable of sustaining the Heat of

the Weather, for that the Acidity of the Yeast brings on a sudden Hardness and Staleness of the Ale, which to preserve in its mild aley Taste, will not admit of any great Quantity of Hops; and this is partly the Reason, that the Handful of Salt, which the *Plymouth* Brewers put into their Hoghead, hinders their Ale from keeping, as I shall hereafter take Notice of.

C H A P. VIII.

The London Way of Brewing.

IN a great Brew-house that I was concerned in, they wetted or used a considerable Quantity of Malt in one Week in brewing Stout-beer, common Butt-beer, Ale, and Small-beer; for which Purpose they have River and Well-waters, which they take in several Degrees of Heat, as the Malt, Goods, and Grain are in a Condition to receive them; and, according to the Practice there, I shall relate the following Particulars, *viz.*

For Stout Butt-beer.

THIS is the strongest Butt-beer that is brewed from brown Malt, and often sold for forty Shillings the Barrel, or six Pounds the Butt out of the wholesale Cellars: The Liquor (for it is Six-pence Forfeit in the *London* Brew-house if the Word *Water* is named) in the Copper designed for the first Mash, has a two-bushel Basket, or more, of the most hully Malt thrown over it, to cover its Top, and forwards its Boiling; this must be made very hot, almost ready to boil, yet not so as to blister, for then it will be in too high a Heat; but, as an Indication of this, the foul Part of the Liquor will ascend, and the Malt swell up, and then it must be parted, looked into, and felt with the Finger or Back of the Hand, and if the Liquor is clear and can but be just endured, it is then enough, and the Stoker must damp his Fire as soon as possible, by throwing in a good Parcel of fresh Coals, and shutting his iron Vent-doors, if there are any; immediately on this, they let as much cold Liquor or Wa-
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ter run into the Copper as will make it all of a Heat, somewhat more than Blood-warm; this they pump over, or let it pass by a Cock into an upright wooden square Spout or Trunk, and it directly rises thro' the Holes of a false Bottom into the Malt, which is worked by several Men with Oars for about half an Hour, and is called the first and stiff Mash: While this is doing, there is more Liquor heating in the Copper, that must not be let into the Mash-tun till it is very sharp, almost ready to boil; with this they mash again, then cover it with several Baskets of Malt, and let it stand an Hour before it runs into the Under-back, which, when boiled an Hour and a half with a good Quantity of Hops, makes this Stout. The next is mashed with a cooler Liquor, then a sharper, and the next Blood-warm or quite cold; by which alternate Degrees of Heat, a Quantity of small Beer is made after the Stout.

For brewing strong brown Ale called Stitch.

THIS is most of it the first Running of the Malt, but yet of a longer Length than is drawn for the Stout; it has but few Hops boiled in it, and is sold for eight Pence per Gallon at the Brew-house out of the Tun, and is generally made to amend the common brown Ale with, on particular Occasions. This Ale, I remember, was made Use of by Mr. *Medlicot*, in the Beginning of a Consumption, and I heard him say, it did him very great Service, for he lived many Years afterwards.

For brewing common brown Ale and Starting-beer.

THEY take the Liquors from the brown Ale as for the Stout, but draw a greater Quantity from the Malt, than for Stout or Stitch, and after the stiff and second Mash they cap the Goods with fresh Malt, to keep in the Spirit and boil it an Hour; after this small Beer is made of the same Goods. Thus also, the common brown starting Butt-beer is brewed, only boiled with more Hops an Hour and a half, and worked cooler and longer than the brown Ale, and a shorter Length drawn from the Malt. But it is often practised after the brown

Ale, and where a Quantity of small Beer is wanted, or it is to be brewed better than ordinary, to put so much fresh Malt on the Goods as will answer that Purpose.

For Brewing Pale and Amber Ales and Beers.

As the brown Malts are brewed with River, these are brewed with Well or Spring-liquors. The Liquors are by some taken sharper for pale than brown Malts, and, after the first scalding Liquor is put over, some lower the rest by Degrees, to the last, which is quite cold, for their small Beer; so also for Butt-beers, there is no other Difference than the Addition of more Hops, and Boiling, and the Method of Working. But the Reasons for brewing pale Malts with Spring, or hard Well-waters, I have mentioned in my *Second Book of Brewing*.

For brewing intire Guile small Beer.

ON the first Liquor they throw some hully Malt, to shew the Break of it, and when it is very sharp, they let in some cold Liquor, and run it into the Tun milk-warm; this is mashed with thirty or forty Pulls of the Oar, and let stand till the second Liquor is ready, which must be almost scalding hot to the Back of the Hand; then run it by the Cock into the Tun, mash it up, and let it stand an Hour before it is spent off into the Under-back: These two Pieces of Liquor will make one Copper of the first Wort, without putting any fresh Malt on the Goods; the next Liquor to be Blood-warm, the next sharp, and the next cool or cold; for the general Way in great Brew-houses is, to let a cool Liquor precede a sharp one; because it gradually opens the Pores of the Malt and Goods, and prepares the Way for the hotter Liquor that is to follow.

The several Lengths or Quantities of Drinks that have been made from Malt, and their several Prices, as they have been sold at a common Brew-house.

FOR Stout-beer, is commonly drawn one Barrel off a Quarter of Malt, and sold for thirty Shillings per Barrel

rel from the Tun. For Stitch or strong brown Ale, one Barrel and a Firkin, at one and twenty Shillings and four Pence *per* Barrel from the Tun. For common brown Ale, one Barrel and a half, or more, at sixteen Shillings *per* Barrel, that holds thirty-two Gallons from the Tun. For intire small Beer, five or six Barrels off a Quarter, at seven or eight Shillings *per* Barrel from the Tun. For pale and amber Ale, one Barrel and a Firkin, at one Shilling *per* Gallon from the Tun.

C H A P. IX.

The Country or Private Way of Brewing.

SEVERAL Countries have their several Methods of Brewing, as it is practised in *Wales*, *Dorchester*, *Nottingham*, *Oundle*, and many other Places; but avoiding Particulars, I shall here recommend that which I think is most serviceable both in Country, and *London* private Families. And first, I shall observe, that the great Brewer has some Advantages in Brewing more than the small one, and yet the Latter has some Conveniencies which the Former can't enjoy; for 'tis certain, that the great Brewer can make more Drink, and draw a greater Length in Proportion to his Malt, than a Person can from a lesser Quantity, because, the greater the Body, the more is its united Power in Receiving and Discharging, and he can brew with less Charge and Trouble, by means of his more convenient Utensils. But then the private Brewer is not without his Benefits; for he can have his Malt ground at Pleasure, his Tubs and moveable Coolers sweeter and better cleaned than the great fixed Tuns and Backs; he can skim off his top Yeast, and leave his bottom Lees behind, which is what the great Brewer can't so well do; he can at Discretion make Additions of cold Wort to his too forward Ales and Beers, which the great Brewer can't so easily do; he can brew how and when he pleases, which the great
Ones

Ones are in some Measure hindered from. But to come nearer the Matter, I will suppose a private Family to brew five Bushels of Malt, whose Copper holds brimfull thirty-six Gallons or a Barrel : On this Water we put half a Peck of Bran or Malt, when it is something hot, which will much forward it, by keeping in the Steam or Spirit of the Water ; and when it begins to boil, if the Water is foul, skim off the Bran or Malt, and give it to the Hogs, or else lade both the Water and that into the Mash-vat, where it is to remain 'till the Steam is near spent, and you can see your Face in it, which will be in about a Quarter of an Hour in cold Weather ; then let all but half a Bushel of the Malt run very leisurely into it, stirring it all the while with an Oar or Paddle, that it may not ball, and when the Malt is all but just mixed with Water, it is enough, which I am sensible is different from the old Way, and the general present Practice ; but I shall here clear that Point. For, by not stirring or mashing the Malt into a pudding Consistence or thin Mash, the Body of it lies in a more loose Condition, that will easier and sooner admit of a quicker and more true Passage of the After-ladings of the several Bowls or Jets of hot Water, which must run through it before the Brewing is ended ; by which free Percolation, the Water has ready Access to all the Parts of the broken Malt, so that the Brewer is capacitated to brew quicker or slower, and to make more Ale or small Beer : If more Ale, then hot boiling Water must be laded over so slow, that one Bowl must run almost off before another is put over, which will occasion the whole Brewing to last about sixteen Hours, especially if the *Oundle* Way is followed, of spending it out of the Tap as small as a Straw, and as fine as Sack, and then it will be quickly so in the Barrel : Or if less or weaker Ale is to be made, and good small Beer, then the second Copper of boiling Water may be put over expeditiously, and drawn out with a large and fast Stream. After the first Stirring of the Malt is done, then put over the Reserve of half a Bushel of fresh Malt to the

four

four Bushels and half that are already in the Tub, which must be spread all over it, and also cover the Tub with some Sacks or other Cloths to keep in the Steam or Spirit of the Malt; then let it stand for two or three Hours, at the End of which, put over now and then a Bowl of the boiling Water in the Copper, as is before directed, and so continue to do till as much is run off as will almost fill the Copper: then in a Canvas or other loose woven Cloth, put in half a Pound of Hops, and boil them half an Hour, when they must be taken out, and as many fresh ones put in their Room as are judged proper to boil half an Hour more, if for Ale: But if for keeping Beer, half a Pound of fresh ones should be put in, every half Hour, and boil an Hour and a half briskly: Now, while the first Copper of Wort is boiling, there should be scalding Water leisurely put over the Goods, Bowl by Bowl, and run off, that the Copper may be filled again immediately after the First is out, and boiled an Hour, with near the same Quantity of fresh Hops, and in the same Manner as those in the first Copper of Ale-wort were. The rest for small Beer may be all cold Water put over the Grains at once, or at twice, and boiled an Hour each Copper, with the Hops that have been boiled before. But here I must observe, that sometimes I have not an Opportunity to get hot Water for making all my second Copper of Wort, which obliges me then to make use of cold to supply what was wanting. Out of five Bushels of Malt, I generally make a Hogshead of Ale, with the two first Coppers of Wort, and a Hogshead of small Beer with the other two; but this more or less, as it pleases me, always taking care to let each Copper of Wort be strained off thro' a Sieve, and cool in four or five Tubs to prevent its Foxing. Thus I have brewed many Hogsheads of middling Ale, that, when the Malt is good, has proved strong enough for myself, and satisfactory to my Friends: But for strong keeping Beer, the first Copper of Wort may be wholly put to that Use, and all the rest small Beer: Or, when the first Copper of
Wort

Wort is intirely made use of for strong Beer, the Goods may be helped with more fresh Malt, according to the *London Fashion*, and Water lukewarm put over at first with the Bowl, but soon after sharp or boiling Water, which may make a Copper of good Ale, and small Beer after that. In some Parts of the North, they take one or more Cinders red hot, and throw some Salt on them to overcome the Sulphur of the Coal, and then directly thrust it into the fresh Malt or Goods, where it lies till all the Water is laded over, and the Brewing done, for there are only one or two Mashings or Stirrings at most necessary in a Brewing: Others, that brew with Wood, will quench one or more Brands Ends of Ash in a Copper of Wort, to mellow the Drink, as a burnt Toast of Bread does a Pot of Beer; but it is to be observed, that this must not be done with Oak, Fir, or any other strong scented Wood, lest it does more harm than good.

Another Way.

WHEN small Beer is not wanted, and another Brewing is soon to succeed the Former, then may the last small Beer Wort, that has no Hops boiled in it, remain in the Copper all Night, which will prevent its Foxing, and be ready to boil instead of so much Water to put over the next fresh Malt: This will greatly contribute to the strengthening, bettering, and colouring of the next Wort, and is commonly used in this Manner, when Stout or *October Beer* is to be made, not that it is less serviceable if it was for Ale, or intire Guile small Beer; but lest it should taste of the Copper, by remaining all Night in it, it may be dispersed into Tubs, and kept a Week or more together, if some fresh cold Water is daily added to it; and may be brewed as I have mentioned, taking particular Care in this, as well as the former Ways, to return two, three, or more Hand-bowls of Wort into the Mash-tub, that first of all runs off, till it comes absolutely fine and clear, and then it may spend away, or run off for good: Others will reserve this small Beer Wort unboiled in Tubs,
and

and keep it there a Week in Winter, or two or three Days in Summer, according to Conveniency, by putting fresh Water every Day to it, and use it instead of Water for the first Mash, alledging it is better so than boiled, because by that it is thickned, and the Wort is made to run foul ; this may be a Benefit to a Victualler that brews to sell again, and cannot vent his small Beer ; because, for such small raw Wort that is mix'd with any Water, there is no Excise to be paid.

For Brewing intire Guile small Beer.

THERE can be no Way better for making good small Beer, than by brewing it from fresh Malt, because in Malt as well in Hops, and so in all other Vegetables, there is a spirituous and earthy Part, as I shall further enlarge on in writing of the Hop ; therefore all Drink brewed from Goods or Grains, after the first or second Wort is run off, is not so good and wholesome, as that intirely brewed from fresh Malt, nor could any Thing but Necessity cause me to make use of such Liquor ; yet how many Thousands are there in this Nation, that know nothing of the Matter, tho' it is of no small Importance, and ought to be regarded by all those that value their Health and Taste. And here I advertise every one who reads or hears this, and is capable of being his own Friend, so far to mind this *Item*, and prefer that small Beer which is made intirely from fresh Malt, before any other that is brewed after strong Beer or Ale. Now to brew such Guile small Beer, after the boiling Water has stood in the Tub till it is clear, put in the Malt leisurely, and mash it, that it does not ball or clot ; then throw over some fresh Malt on the Top, and Cloths over that, and let it stand two Hours before it is drawn off ; the next Water may be between hot and cold, the next boiling hot, and the next cold ; or, if Conveniency allows not, there may be once scalding Water, and all the rest cold instead of the last three. Thus I brew my intire Guile small Beer, by putting the first and last Wort together, allowing

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half, or a Pound of Hops to a Hoghead, and boiling it one Hour; but, if the Hops were shifted twice in that Time, the Drink would plainly discover the Benefit. Sometimes, when I have been in haste for small Beer, I have put half a Bushel of Malt, and a few Hops into my Barrel-Copper, and boiled a Kettle Gallop, as some call it, an Hour, and made me a present Drink, till I had more Leisure to brew better.

A particular Way of Brewing strong October Beer.

THERE was a Man in this Country that brewed for a Gentleman constantly, after a very precise Method; and that was, as soon as he had put over all his first Copper of Water, and mashed it some Time, he would directly let the Cock run a small Stream, and presently put some fresh Malt on the Former, and mash on, while the Cock was spending, which he would put again over the Malt, as often as his Pail or Hand-bowl was full, and this for an Hour or two together, then he would let it run off intirely, and put it over at once, to run off again as small as a Straw. This was for his *October Beer*: Then he would put scalding Water over the Goods at once, but not mash, and cap them with more fresh Malt, that stood an Hour undisturbed before he would draw it off for Ale; the rest was hot Water put over the Goods, and mash'd at twice for small Beer: And it was observed, that his *October Beer* was the most famous in the Country, but his Grains good for little, for that he had by this Method washed out all or most of their Goodness; this Man was a long While in Brewing, and once his Beer did not work in the Barrel for a Month in a very hard Frost, yet, when the Weather broke, it recovered and fermented well, and afterwards proved very good Drink, but he seldom worked his Beer less than a Week in the Vat, and never tapped it under three Years.

THIS Way, indeed, is attended with extraordinary Labour and Time, by the Brewer's running off the Wort almost continually, and often returning the same again into the Mash-vat; but then it continually gives

him an Opportunity of extracting and washing out the Goodness of the Malt, more than any of the common Methods, by which he is capacitated to make his *October* or *March* Beer as strong as he pleases. The Fame of *Penly October* Beer is at this Time well known, not only throughout *Hertfordshire*, but several other remote Places, and truly not without Desert; for in all my Travels I never met with any that excelled it, for a clear amber Colour, a fine Relish, and a light warm Digestion. But what excelled all, was the Generosity of its Donor, who for Hospitality in his Viands, and this *October* Beer, has left but few of his Fellows. I remember his usual Expression to be, You are welcome to a good Batch of my *October*; and true it was, that he prov'd his Words by his Deeds, for not only the Rich but even the poor Man's Heart was generally made glad, even in Advance, whenever they had any Business at *Penly*; as expecting a Refreshment of this Cordial Liquor, that often was accompanied with a good Breakfast or Dinner besides: Which reminds me of a poor Man I met on the Road, who asked me the Way to such a great House? On telling him, he replied: Ah! Sir, I am almost undone, by losing this Horse that cost me above seven Pounds; and now I am carrying him to the Hounds, they tell me I shall not have a Cup of small Beer given me when I come there.

Of Brewing Molasses Beer.

MOLASSES or Treacle has certainly been formerly made too much Use of in the brewing of Stout-beer, common Butt-beers, brown Ales, and small Beer, when Malts have been dear: But it is now prohibited under the Penalty of fifty Pounds for every ten Pounds Weight found in any common Brewhouse; and as Malts are now about twenty Shillings *per* Quarter, and like to be so by the Blessing of God, and the Assistance of that invaluable excellent Liquor for steeping Seed-barley in, published in a late Book intituled *The Practical Farmer*, Page 25. there is no great Danger of that Imposition being
rise

rise again, which in my Opinion was very unwholesome ; because the Brewer was obliged to put such a large Quantity of Treacle into his Water or small Wort to make it strong Beer or Ale, as, very probable, raised a Sweating in some Degree in the Body of the Drinker : Tho' in small Beer a lesser Quantity will serve ; and therefore I have known some to brew it in that for their Health's Sake, because this does not breed the Scurvy like Malt-liquors, and at the same time will keep open the Pipes and Passages of the Lungs and Stomach, for which Purpose they put in nine Pounds Weight into a Barrel-copper of cold Water, first mixing it well, and boiling it briskly, with a Quarter of a Pound of Hops or more, one Hour, so that it may come off twenty-seven Gallons.

A Method practised by a Victualler, for Brewing of Ale or October Beer, from Nottingham.

HIS Copper holds twenty-four Gallons, and the Mash-Tub has Room enough for four and more Bushels of Malt. The first full Copper of boiling Water he puts into the Mash-tub, there to lie a Quarter of an Hour, till the Steam is so far spent, that he can see his Face in it ; or, as soon as the hot Water is put in, throws a Pail or two of cold Water into it, which will bring it at once into a Temper ; then he lets three Bushels of Malt be run leisurely into it, and stirred or mashed all the While, but as little as can be, or no more than just to keep the Malt from clotting or balling ; when that is done, he puts one Bushel of dry Malt at the Top, to keep in the Vapour or Spirit, and so lets it stand covered two Hours, or till the next Copper full of Water is boiled hot, which he lades over the Malt or Goods three Hand-bowls full at a Time, that are to run off at the Cock or Tap by a very small Stream before more is put on, which again must be returned into the Mash-tub till it comes off exceeding fine ; for, unless the Wort is clear when it goes into the Copper, there are little Hopes it will be so in the Barrel ; which leisure Way obliges him to be sixteen Hours in brewing these four Bushels of Malt.

Now

Now between the Ladings over he puts cold Water into the Copper to be boiling hot, while the other is running off; by this Means his Copper is kept up near full, and the Cock spending to the End of brewing his Ale or small Beer, of which only twenty-one Gallons must be saved of the first Wort that is reserved in a Tub, wherein four Ounces of Hops are put, and then it is to be set by. For the second Wort I will suppose there are twenty Gallons of Water in the Copper boiling hot, that must be all laded over in the same Manner as the former was, but no cold Water need here be mixed; when half of this is run out into a Tub, it must be directly put into the Copper with half of the first Wort, strained thro' the Brewing-sieve as it lies on a small loose wooden Frame over the Copper, to keep back those Hops that were first put in to preserve it, which is to make the first Copper twenty-one Gallons; then upon its beginning to boil he puts in a Pound of Hops in one or two Canvas or other coarse Linnen Bags, somewhat larger than will just contain the Hops, that an Allowance may be given for their Swell; this he boils away very briskly for half an Hour, when he takes the Hops out and continues boiling the Wort by itself till it breaks into Particles a little ragged, and then it is enough, and must be dispersed into the Cooling-tubs very thin: Then put the Remainder of the first and second Wort together and boil that, the same Time, in the same Manner, and with the same Quantity of fresh Hops, as the first was. The rest of the Third or small Beer Wort will be about fifteen or twenty Gallons more or less, which he mixes directly with some cold Water to keep it free of Excise, and puts it into the Copper as the first Liquor to begin a second Brewing of Ale with another four Bushels of Malt as he did before, and so on for several Days together if necessary; but at last there may be some small Beer made, tho' some will make none, because the Goods or Grains will go the farther in feeding of Hogs.

Observations on the foregoing Method.

THE first Copper of twenty-four Gallons of Water is but sufficient to wet three Bushels of Malt, and by the Additions of cold Water, as the Hot is expended, it matters not how much the Malt drinks up: Tho' a third Part of Water is generally allowed for that Purpose that is never returned.

By the leisure Putting over the Bowls of Water, the Goodness of the Malt is the more extracted and washed out, so that more Ale may be this Way made, and less small Beer, than if the Wort was drawn out hastily; besides, the Wort has a greater Opportunity of coming off finer by a slow Stream than by a quicker one, which makes this Method excel all others that discharge the Wort out of the Mash-tub more hastily. Also, by the continual Running of the Cock or Tap, the Goods or Grains are out of Danger of souring, which often happens in Summer Brewings, especially when the Cock is stopt between the several Boilings of the Wort, and what has been the very Cause of damaging or spoiling many Guiles of Drink.

THIS Brewer reposes such a Confidence in the Hops to preserve the Wort from fixing, even in the very hottest Time in Summer, that he puts all his first Running into one Tub, till he has an Opportunity of boiling it; and when Tubs and Room are so scarce that the Wort is obliged to be laid thick to cool, then the Security of some fresh Hops (and not them already boiled or soaked) may be put into it, which may be got out again by letting the Drink run thro' the Cullender, and after that a Hair-sieve, to keep the Seeds of the Hop back as the Drink goes into the Barrel: But this Way of putting Hops into the Cooling-tubs is only meant where there is a perfect Necessity, and Tubs and Room enough cannot be had to lay the Wort thin.

By this Method of Brewing, Ale may be made as strong or as small as is thought fit, and so may the small Beer that comes after, and is so agreeable, that this
Brewer

Brewer makes his Ale and strong keeping *October Beer*, all one and the same Way, only with this Difference, that the latter is stronger and more hopped than the former. Where little or no small Beer is wanted, there may little or none be brewed, according to this Manner of Working; which is no small Conveniency to a little Family that uses more strong than small, nor is there any Loss by leaving the Grains in some Heart, where Horses, Cows, Hogs, or Rabbits are kept.

I AM very sensible that the vulgar Error, for many Years, has been a Standard Sign to the Ignorant, of boiling strong Worts only till they break or curdle in the Copper, which sometimes will be in three Quarters of an Hour, or in an Hour or more, according to the Nature of the Malt and Water; but from these, in some Measure, I dissent, and also from those that boil it two or three Hours, for it is certain the longer Worts boil, the thicker they are made, because the watry or thin Parts evaporate first away; and the thicker any Drink is boiled, the longer it requires to lie in the Barrel to have its Particles broke, which Age must be then the sole Cause of; and therefore I have fixed the Time and Sign to know when the Wort is truly enough, and that in such a Manner, that an ordinary Capacity may be a true Judge of, which hereafter will prevent prodigious Losses in the Waste of strong Worts that have often been boiled away to greater Loss than Profit.

I HAVE here also made known, I think, the true Method of managing the Hop in the Copper, which has long wanted Adjusting, to prevent the great Damage that longer Boilings of them have been the sole Occasion of, to the Spoiling of most of our Malt-drinks brewed in this Nation.

C H A P. X.

The Nature and Use of the Hop.

THIS Vegetable has suffered its Degradation, and raised its Reputation the most of any other. It formerly being thought an unwholesome Ingredient, and

till of late a great Breeder of the Stone in the Bladder; but now that fallacious Notion is obviated by Dr. Quincy and others, who have proved that Malt-drink, much tinctured by the Hop, is less prone to do that Mischief, than Ale that has fewer boiled in it. Indeed, when the Hop, in a dear Time, is adulterated with Water, in which Aloes, &c. have been infused, as was practised, it is said, about eight Years ago, to make the old ones recover their Bitterness and seem new, then they are to be looked on as unwholsome; but the pure new Hop is surely of a healthful Nature, composed of a spirituous starchy Part, and a phlegmatic terrene Part; and with the best of the Hops I can either make or mar the Brewing; for, if the Hops are boiled in strong or small Worts beyond their fine and pure Nature, the Liquor suffers, and will be tanged with a noxious Taste both ungrateful and unwholsome to the Stomach; and, if boiled to a very great Excess, they will be apt to cause Reachings, and disturb a weak Constitution. It is for these Reasons that I advise the boiling two Parcels of fresh Hops in each Copper of Ale-wort; and, if there were three for keeping Beer, it would be so much the better for the Taste, Health of Body, and longer Preservation of the Beer in a sound smooth Condition. And, according to this, one of my Neighbours made a Bag, like a Pillow-bear, of the ordinary six-penny yard Cloth, and boiled his Hops in it half an Hour; then he took them out, and put in another Bag of the like Quantity of fresh Hops, and boiled them half an Hour more, by which Means he had an Opportunity of boiling both Wort and Hops their due Time, saved himself the Trouble of straining them thro' a Sieve, and secured the Seeds of the Hops at the same Time from mixing with the Drink; afterwards he boiled the same Bags in his small Beer, till he got the Goodness of it out; but observe that the Bags be made bigger than what would just contain the Hops, otherwise it will be difficult to boil out their Goodness. It is true, that here is a Charge increased by the Consumption of a greater

Quantity of Hops than usual, but then how greatly will they answer the desired End of enjoying fine-palated wholesome Drink, that in a cheap Time will not amount to much, if bought at the best Hand; and, if we consider their After-Use and Benefit in small Beer, there is not any Loss at all in their Quantity: But, where it can be afforded, the very small Beer would be much improved if fresh Hops were also shifted in the boiling of this as well as the stronger Worts, and then it would be neighbourly Charity to give them away to the poorer Sort. Hence may appear the Hardship that many are under of being necessitated to drink of those Brewers Malt-liquors, who, out of Avarice, boil their Hops to the last, that they may not lose any of their Quintessence: Nay, I have known some of the little Victualling Brewers so stupenduously ignorant, that they have thought they acted the good Husband, when they have squeezed the Hops after they have been boiled to the last in small Beer, to get out all their Goodness as they vainly imagined; which is so reverse to good Management, that, in my opinion, they had much better put some Sort of Earth into the Drink, and it would prove more pleasant and wholesome. And why the small Beer should be in this Manner (as I may justly call it) spoiled, for Want of the trifling Charge of a few fresh Hops, I am a little surpris'd at, since it is the most general Liquor of Families, and therefore as great Care is due to it as any in its Brewing, to enjoy it in a pure and wholesome Order.

AFTER the Wort is cooled and put into the Working-Vat or Tub, some have thrown fresh Hops into it, and worked them with the Yeast, at the same Time reserving a few Gallons of raw Wort to wash the Yeast thro' a Sieve to keep back the Hop. This is a good Way where Hops enough have not been sufficiently boiled in the Wort, or to preserve it in the Coolers where it is laid thick, otherwise I think it needless.

WHEN Hops have been dear, many have used the Seeds of Wormwood, that they buy in the *London*

Seed-hops, instead of them: Others *Daucus* or wild Carrot-seed, that grows in our common Fields, which many of the poor People in this Country gather and dry in their Houses against their wanting of them: Others that wholesome Herb *Horehound*, which, indeed, is a fine Bitter, and grows on several of our Commons.

BUT, before I conclude this Article, I shall take Notice of a Country Bite, as I have already done of a *London* one; and that is, of an arch Fellow that went about to brew for People, and took his Opportunity to save all the used Hops that were to be thrown away; these he washed clean, then would dry them in the Sun, or by the Fire, and sprinkle the Juice of *Horehound* on them, which would give them such a greenish Colour and bitterish Taste, that with the Help of a Screw-press he would sell them for new Hops.

Hops in themselves are known to be a subtile grateful Bitter, whose Particles are active and rigid, by which the viscid ramous Parts of the Malt are much divided, that makes the Drink easy of Digestion in the Body; they also keep it from running into such Cohesions as would make it ropy, valid, and sour, and therefore are not only of great Use in boiled, but in raw Worts to preserve them sound till they can be put into the Copper, and afterwards in the Tun while the Drink is working, as I have before hinted.

HERE then I must observe, that the worse earthy Part of the Hop is greatly the Cause of that rough, harsh, unpleasant Taste, which accompany both Ales and Beers that have the Hops so long boiled in them, as to tincture their Worts with their mischievous Effects; for, notwithstanding the Malt be ever so good, the Hops, if boiled too long in them, will be so predominant as to cause a nasty bad Taste; and therefore I am in Hopes our Malt-liquors in general will be in great Perfection, when Hops are made Use of according to my Directions, and also that more Grounds will be planted with this most serviceable Vegetable than ever, that their Dearness may not be a Discouragement to this excellent Practice.

FOR I know an Alehouse-keeper and Brewer, who, to save the Expence of Hops that were then two Shillings *per* Pound, used but a Quarter instead of a Pound, the rest he supplied with *Daucus* Seeds; but to be more particular, in a Mug of this Person's Ale I discovered three several Impositions. *First*, He underboiled his Wort to save his Consumption. *Secondly*, He boiled this Seed instead of the Hop, and, *Thirdly*, He beat the Yeast in for some Time, to increase the Strength of the Drink; and all these in such a *Legerdemain* Manner, as gulled and infatuated the ignorant Drinker to such a Degree as not to suspect the Fraud, and that for these three Reasons: *First*, the underboiled Wort, being of a more sweet Taste than ordinary, was esteemed the Produce of a great Allowance of Malt. *Secondly*, The *Daucus* Seed increased their Approbation by the fine Peach Flavour or Relish that it gives the Drink; and, *Thirdly*, The Yeast was not so much as thought of, since they enjoyed a strong heady Liquor. These artificial Qualities, and, I think, I may say, unnatural, have been so prevalent with the Vulgar, who were his chief Customers, that I have known this-Victualler have more Trade for such Drink than his Neighbours, who had much more wholesome at the same Time; for the *Daucus* Seed, tho' it is a Carminative, and has some other good Properties, yet in the unboiled Wort it is not capable of doing the Office of the Hop, in breaking thro' the clammy Parts of it; the Hop being full of subtle penetrating Qualities, a Strengtheners of the Stomach, and makes the Drink agreeable, by opposing Obstructions of the *Viscera*, and particularly of the Liver and Kidnies, as the Learned maintain, which confutes the old Notion, that Hops are a Breeder of the Stone in the Bladder.

C H A P. XI.

Of Boiling Malt-Liquors.

ALTHO' I have said an Hour and a half is requisite for boiling of *October* Beer, and an Hour for Ales and small Beer; yet it is to be observed, that an exact

Time is not altogether a certain Rule in this Case with some Brewers; for, when loose Hops are boiled in the Wort so long till they all sink, their Seeds will arise and fall down again; the Wort also will be curdled, and broke into small Particles if examined in a Hand-bowl, but afterwards into larger, as big as great Pins Heads, and will appear clean and fine at the Top. This is so much a Rule with some, that they regard not Time, but this Sign, to shew when the Wort is boiled enough; and this will happen sooner or later, according to the Nature of the Barley, and its being well malted; for, if it comes off Chalks or Gravels, it generally has the good Property of breaking or curdling soon; but, if off tough Clays, then it is longer, which by some Persons is not a little valued, because it saves Time in Boiling, and consequently the Consumption of the Wort.

It is also to be observed, that pale Malt Worts will not break so soon in the Copper, as the brown Sorts; but, when either of their Worts boil, it should be to the Purpose, for then they will break sooner, and waste less than if they are kept simmering, and will likewise work more kindly in the Tun, drink smoother, and keep longer.

Now all Malt Worts may be spoiled by too little or too much Boiling; if too little, then the Drink will always taste raw, mawkish, and be unwholesome in the Stomach, where, instead of helping to dilute and digest our Food, it will cause Obstructions, Cholics, Head-achs, and other Misfortunes: Besides, all such under-boiled Drinks are certainly exposed to Staleness and Sourness, much sooner than those that have had their full Time in the Copper. And, if they are boiled too long, they will then thicken (for one may boil a Wort to a Salve) and not come out of the Copper fine and in a right Condition, which will cause it never to be right clear in the Barrel; an *Item* sufficient to shew the Mistake of all those that think to excel in Malt-Liquors, by boiling them two or three Hours, to the great Confusion of the Wort, and doing more Harm than Good to the Drink.

BUT

BUT to be more particular in those two Extrems, it is my Opinion, as I have said before, that no Ale Worts, boiled less than an Hour, can be good, because in an Hour's Time they cannot acquire a Thickness of Body any Ways detrimental to them, and, in less than an Hour, the ramous viscid Parts of the Ale cannot be sufficiently broke and divided, so as to prevent its running into Cohesions, Ropiness, and Sourness, because in Ales there are not Hops enough allowed to do this, which good Boiling must in a great Measure supply, or else such Drink, I am sure, can never be agreeable to the Body of Man; for then its cohesive Parts, being not thoroughly broke and comminuted by Time and Boiling, remain in a hard Texture of Parts, which consequently obliges the Stomach to work more than ordinary to digest and secrete such parboiled Liquor, that Time and Fire should have cured before: Is not this apparent in half-boiled Meats, or under-baked Bread, that often causes the Stomach a great Fatigue to digest, especially in those of a sedentary Life? And, if that suffers, it is certain the whole Body must share in it: How ignorant then are those People, who, in tipping of such Liquor, can praise it for excellent good Ale, as I have been an Eye-witness of, and only because its Taste is sweetish (which is the Nature of such raw Drinks) as believing it to be the pure Effect of the genuine Malt, not perceiving the Landlord's Avarice and Cunning to save the Consumption of his Wort by Shortness of Boiling, though to the great Prejudice of the Drinker's Health; and because a Liquid does not afford such a plain ocular Demonstration, as Meat and Bread does, these deluded People are taken into an Approbation of, indeed, an *Ignis fatuus*, or what is not.

To come then to the *Crisis* of the Matter, both Time and the Curdling or Breaking of the Wort should be consulted; for if a Person was to boil the Wort an Hour, and then take it out of the Copper, before it was rightly broke, it would be wrong Management, and the Drink would not be fine and wholesome; and
if

if it should boil an Hour and a half, or two Hours, without regarding when its Particles are in a right Order, then it may be too thick, so that due Care must be had to the two Extrems, to obtain it in its due Order; therefore, in *October* and keeping Beers, an Hour and a Quarter's good Boiling is commonly sufficient to have a thorough cured Drink, for generally in that Time it will break and boil enough, because in this there is a double Security by Length of Boiling, and a Quantity of Hops shifted; but in the new Way there is only a single one, and that is by a double or treble Allowance of fresh Hops boiled only half an Hour in the Wort; and for this Practice a Reason is assigned, that the Hops, being endowed with discutient aperitive Qualities, will, by them and their great Quantity, supply the Defect of underboiling the Wort; and that a farther Conveniency is here enjoyed by having only the fine, wholesome, strong, starchy, spirituous Parts of the Hop in the Drink, exclusive of the phlegmatic, nasty, earthy Parts which would be extracted, if the Hops were to be boiled above half an Hour; and therefore there are many now that are so attached to this new Method, thrt they won't brew Ale or *October* Beer any other Way, vouching it to be a true Tenet, that, if Hops are boiled above thirty Minutes, the Wort will have some or more of their worse Quality.

THE Allowance of Hops, for Ale or Beer, cannot be exactly adjusted without coming to Particulars, because the Proportion should be according to the Nature and Quality of the Malt, the Season of the Year it is brewed in, and the Length of Time it is to be kept.

FOR strong brown Ale brewed in any of the Winter Months, and boiled an Hour, one Pound is but barely sufficient for a Hoghead, if it be tapped in three Weeks or a Month.

IF for pale Ale brewed at that Time, and for that Age, one Pound and a Quarter of Hops; but, if these Ales are brewed in any of the Summer Months, there should be more Hops allowed.

FOR *October* or *March* brown Beer, a Hoghead made from eleven Bushels of Malt, boiled an Hour and a Quarter to be kept nine Months, three Pounds and a half ought to be boiled in such Drink at the least.

FOR *October* or *March* pale Beer, made from fourteen Bushels, boiled an Hour and a Quarter, and kept twelve Months, six Pounds ought to be allowed to a Hoghead of such Drink, and more if the Hops are shifted in two Bags, and less Time given the Wort to boil.

Now those that are of Opinion, that their Beers and Ales are greatly improved by boiling the Hops only half an Hour in the Wort, I join in Sentiment with them, as being very sure, by repeated Experience, it is so; but I must here take Leave to dissent from those that think that half an Hour's boiling the Wort is full enough for making right sound and well relished Malt Drinks: However, of this I have amply and more particularly wrote in my *Second Book of Brewing*, in Chapter IV. where I have plainly published the true Sign or Criterion to know when the Wort is boiled just enough.

C H A P. XII.

Of Foxing or Tainting Malt-Liquors.

FOXING is a Misfortune, or rather a Disease in Malt Drinks, occasioned by divers Means, as the Nastiness of the Utensils, putting the Worts too thick together in the Backs or Coolers, Brewing too often and soon one after another, and sometimes by bad Malts and Waters, and the Liquors taken in wrong Heats, being of such pernicious Consequence to the great Brewer in particular; that he sometimes cannot recover and bring his Matters into a right Order again under a Week or two, and is so hateful to him in its very Name, that it is a general Law among them to make all Servants that name the Word *Fox* or *Foxing* in the Brew-

Brew-house to pay Six-pence, which obliges them to call it *Reynard*; for, when once the Drink is tainted, it may be smelt at some Distance somewhat like a *Fox*: It chiefly happens in hot Weather, and causes the Beer and Ale so tainted to acquire a fulsome sickish Taste, that will, if it is received in a great Degree, become ropy like Treacle, and in some short Time turn sour. This I have known so to surprize my small Beer Customers, that they have asked the Drayman what was the Matter: He, to act in his Master's Interest, tells them a Lye, and says, it is the Goodness of the Malt that causes that sweetish mawkish Taste, and then would brag at Home how cleverly he came off. I have had it also in the Country more than once, and that by the Idleness and Ignorance of my Servant, who, when a Tub has been rinsed out only with fair Water, has set it by for a clean one; but this will not do with a careful Master, for I oblige him to clean the Tub with a Hand-brush, Ashes, or Sand, every Brewing, and so that I cannot scrape any Dirt up under my Nail. However, as the Cure of this Disease has baffled the Efforts of many, I have been tempted to endeavour the finding out a Remedy for the great Malignity, and shall deliver the best I know on this Score.

AND here I shall mention the great Value of the Hop in preventing and curing the Fox in Malt-Liquors. When the Wort is run into the Tub out of the Mashing-vat, it is a very good Way to throw some Hops directly into it before it is put into the Copper, and they will secure it against Sourness and Ropiness, that are the two Effects of foxed Wortes or Drinks, and are of such Power in this Respect, that raw Wortes may be kept some Time, even in hot Weather, before they are boiled, and which is necessary where there is a large Quantity of Malt used to a little Copper; but it is certain that the stronger Wortes will keep longer with Hops than the smaller Sorts: So likewise if a Person has fewer Tubs than are wanting, and he is apprehensive his Wortes will be foxed by too thick lying in the Coolers

Coolers or working Tubs, then it will be a safe Way to put some fresh Hops into such Tubs, and work them with the Yeast, as I have before hinted; or, in case the Drink is already foxed in the Fat or Tun, new Hops should be put in and work'd with it, and they will greatly fetch it again into a right Order; but then such Drink should be carefully taken clear off from its gross nasty Lee, which, being mostly tainted, would otherwise lie in the Barrel, corrupt, and make it worse.

SOME will sift quick Lime into foxed Drinks while they are working in the Tun or Vat, that its Fire and Salt may break the Cohesions of the Beer or Ale, and burn away the Stench that the Corruption would always cause; but then such Drink should by a Peg at the Bottom of the Vat be drawn off as fine as possible, and the Dregs left behind.

THERE are many that do not conceive how their Drinks become foxed and tainted for several Brewings together; but I have, in Chap. VI. in my Second Book, made it appear, that the Taint is chiefly retained and lodged in the upright wooden Pins that fasten the Planks to the Joists, and that scalding Lee is a very efficacious Liquor to extirpate it out of the Utensils in a little Time, if rightly applied; and another most powerful Ingredient that is now used by the greatest Artists for curing of the same.

C H A P. XIII.

Of Fermenting and Working of Beers and Ales, and the pernicious Practice of beating in the Yeast detected.

THIS Subject, in my Opinion, has long wanted a satyrical Pen, to shew the ill Effects of this unwholesome Method, which I suppose has been much discourag'd and hinder'd hitherto, from the general Use it has been under many Years, especially by the Northern Brewers, who, tho' much fam'd for their Knowledge

ledge in this Art, and have induced many others by their Example, in the Southern, and other Parts, to pursue their Method; yet I shall endeavour to prove them culpable of Male-practice, that beat in the Yeast, as some of them have done a Week together; and that Custom ought not to authorise an ill Practice. *First*, I shall observe, that Yeast is a very strong Acid, that abounds with subtile spirituous Qualities, whose Particles, being wrapped up in those that are viscid, are, by a Mixture with them in the Wort, brought into an intestine Motion, occasioned by Particles of different Gravities; for, as the spirituous Parts of the Wort will be continually striving to get up to the Surface, the glutinous adhesive ones of the Yeast will be as constant in retarding their Ascent, and so prevent their Escape; by which the spirituous Particles are set loose and free from their viscid Confinements, as may appear by the Froth on the Top; and to this End a moderate Warmth hastens the Operation, as it assists in opening the Viscidities in which some spirituous Parts may be entangled, and unbends the Spring of the included Air: The viscid Parts which are raised to the Top, not only on Account of their own Lightness, but by the continual Efforts and Occursions of the Spirits to get uppermost, shew when the Ferment is at the highest, and prevent the finer Spirits making their Escape; but, if this intestine Operation is permitted to continue too long, a great deal will get away, and the remaining grow flat and vapid, as Dr. *Quincy* well observes.

Now tho' a small Quantity of Yeast is necessary to break the Band of Corruption in the Wort, yet it is in itself of a poisonous Nature, as many other Acids are; for if a Plaister of thick Yeast be applied to the Wrist, as some have done for an Ague, it will there raise little Pustles or Blisters, in some Degree, like that venomous Ingredient *Cantharides*, which is one of the Shop Poisons. Here then, I shall observe, that I have known several beat the Yeast into the Wort for a Week, or more, together, to improve it; or, in plainer Terms,

to load the Wort with its weighty and strong spirituous Particles; and that for two Reasons; *First*, Because it will make the Liquor so heady, that five Bushels of Malt may be equal in Strength to six, and that by the stupifying narcotic Qualities of the Yeast; which mercenary Subtlety and Imposition has so prevailed, to my Knowledge, with the Vulgar and Ignorant, that it has caused many of them to return the next Day to the same Ale-house, as believing they had stronger and better Drink than others: But, alas, how are such deceived, that know no other than that it is the pure Product of the Malt, when at the same Time they are driving Nails into their Coffins, by impregnating their Blood with the corrupt Qualities of this poisonous Acid, as many of its Drinkers have proved, by suffering violent Head-achs, Loss of Appetite, and other Inconveniencies the Day following, and sometimes longer, after a Debauch of such Liquor; who would not, perhaps, for a great Reward, swallow a Spoonful of thick Yeast by itself, and yet, without any Concern, may receive, for aught they know, several dissolved in the Vehicle of Ale, and then the corrosive Corpuscles of the Yeast, being mixed with the Ale, cannot fail (when forsaken in the Canals of the Body of their Vehicle) to do the same Mischief as they would if taken by themselves undiluted, only with this Difference, that they may in this Form be carried sometimes further in the animal Frame, and so discover their Malignity in some of the inmost Recesses thereof, which also is the very Case of malignant Waters, as a most learned Doctor observes.

2dly, THEY alledge for beating the Yeast into Wort, that it gives it a fine Tang or Relish, or, as they call it at *London*, it makes the Ale bite of the Yeast; but this Flourish, indeed, is for no other Reason than to further its Sale; and tho' it may be agreeable to some Bigots, to me it proves a Discovery of the Infection, by its nauseous Taste; however, my Surprize is lessened, when I remember the *Plymouth* People, who are quite

the Reverse of them at *Dover* and *Chatham*; for the first are so attached to their white thick Ale, that many have undone themselves by drinking it; nor is their Humour much different as to the common Brewers brown Ale, who, when the Customer wants a Hoghead, they put in immediately a Handful of Salt, and another of Flour, and so bring it up; this is no sooner on the Stilling but often tapped, that it may carry a Froth on the Top of the Pot, otherwise they despise it: The Salt commonly answered its End of causing the Tiplers to become drier by the great Quantities they drank, that it farther excited by the biting, pleasant, stimulating Quality the Salt strikes the Palate with. The Flour also has its seducing Share, by pleasing the Eye and Mouth with its mantling Froth, so that the Sailors, that are often here in great Numbers, used to consume many Hogheads of this common Ale with much Delight, as thinking it was intirely the pure Product of the Malt.

THEIR white Ale is a clear Wort made from pale Malt, and fermented with what they call *Ripening*, which is a Composition, they say, of the Flour of Malt, Yeast, and Whites of Eggs, a *Nostrum* made and sold only by two or three in those Parts, but the Wort is brewed and the Ale vended by many of the Publicans, which is drank while it is fermenting in earthen Steens, in such a thick Manner as resembles buttered Ale, and sold for Two-pence Half-penny the full Quart. It is often prescribed by Physicians to be drank by Wet-nurses for the Increase of their Milk, and also as a prevalent Medicine for the Cholic and Gravel. But the *Dover* and *Chatham* People will not drink their Butter-beer, unless it is aged, fine, and strong.

Of working and fermenting London Stout Beer and Ale.

IN my Brewhouse at *London*, the Yeast at once was put into the Tun to work the Stout-beer and Ale with, as not having the Conveniency of doing otherwise, by Reason the After-worts of small Beer come into the same Backs or Coolers where the strong Worts had just been;

been; by this Means, and the Shortness of Time we have to ferment our strong Drinks, we cannot make Reserves of cold Worts to mix with and check the too forward Working of those Liquors, for there we brewed three Times a Week throughout the Year, as most of the great ones do in *London*, and some others five Times. The strong Beer brewed for Keeping is suffered to be Blood-warm in the Winter, when the Yeast is put into it, that it may gradually work two Nights and a Day at least, for this will not admit of such a hasty Operation as the common brown Ale will, because, if it is worked too warm and hasty, such Beer will not keep near so long as that fermented cooler. The brown Ale has, indeed, its Yeast put into it in the Evening very warm, because they carry it away the very next Morning early to their Customers, who commonly draw it out in less than a Week's Time. The Pale or Amber Ales are often kept near it, not quite a Week under Fermentation, for the better incorporating the Yeast with the Wort, by beating it in several Times for the foregoing Reasons.

Of Working and Fermenting Drinks brewed by private Families.

I MEAN such who brew only for their own Use, whether it be a private Family or a Victualler. In this Case be it for Stout Beers, or for any of the Ales, the Way that is used in *Northamptonshire*, and by good Brewers elsewhere, is, to put some Yeast into a small Quantity of warm Wort in a Hand-bowl, which for a little While swims on the Top, where it works out, and leisurely mixes with the Wort, that is first quite cold in Summer, and almost so in Winter; for, the cooler it is worked, the longer it will keep, too much Heat agitating the spirituous Particles into too quick a Motion, whereby they spend themselves too fast, or fly away too soon, and then the Drink will certainly work into a blistered Head that is never natural; but when it ferments, by moderate Degrees, into a fine, white curled Head, its Operation is then truly genuine, and

plainly shews the right Management of the Brewer. To one Hoghead of Beer, that is to be kept nine Months, I put a Quart of thick Yeast, and ferment it as cool as it will admit of, two Days together, in *October* or *March*, and, if I find it works too fast, I check it at Leisure by stirring in some raw Wort with a Hand-bowl: So likewise, in our Country Ales, we take the very same Method, because of having them kept some Time; and this is so nicely observed by several, that I have seen them do the very same by their small Beer Wort; now, by these several Additions of raw Wort, there are as often new Commotions raised in the Beer or Ale, which cannot but contribute to the Rarefaction and Comminution of the Whole; but whether it is by these joining Principles of the Wort and Yeast, that the Drink is rendered smoother, or that the spirituous Parts are more entangled, and kept from making their Escape, I can't determine; yet sure it is, that such small Liquors generally sparkle and knit out of the Barrel, as others out of a Bottle, and is as pleasant Ale as ever I drank. Others again, for Butt or Stout-beer, will, when they find it works up towards a thick Yeast, mix it once, and beat it again with the Hand-bowl or Jett; and, when it has worked up a second Time in such Manner, they put it into the Vessel with the Yeast on the Top, and the Sediments at the Bottom, taking particular Care to have some more in a Tub near the Cask, to fill it up as it works over, and, when it has done Working, leave it with a thick Head of Yeast on to preserve it.

BUT, for Ale that is not to be kept very long, they hop it accordingly, and beat the Yeast in every four or five Hours, for two Days successively, in the warm Weather, and four in the Winter, till the Yeast begins to work heavy, and sticks to the heavy Part of the Bowl, it turned down on the same; then they take all the Yeast off at the Top, and leave all the Dregs behind, putting only up the clear Drink; and, when it is a little worked in the Barrel, it will be fine in a few Days, and ready for drinking. But this last Way of beating in the
Yeast

Yeast too long, I think, I have sufficiently detected, and hope, as it is now declining, it will never revive again; and, for which Reason, I have in my *Second Book* encouraged all light Fermentations as the most natural for the Malt-liquors and the human Body.

Of Forwarding and Retarding the Fermentation of Malt-Liquors.

IN Case Beer or Ale is backward in Working, it is often practised, to cast some Flour out of the Dusting-box, or with the Hand over the Top of the Drink, which will become a Sort of Crust or Cover to help to keep the Cold out: Others will put in one or two Ounces of powdered Ginger, which will so heat the Wort as to bring it forward: Others will take a Gallon Stone Bottle and fill it with boiling Water, which, being well corked, is put into the Working-tub, where it will communicate a gradual Heat for some Time, and forward the Fermentation: Others will reserve some raw Wort, which they heat and mix with the rest; but then due Care must be taken, that the Pot in which it is heated has no Manner of Grease about it, lest it impedes, instead of promoting the Working; and, for this Reason, some nice Brewers will not suffer a Candle too near the Wort, lest it drop into it. But, for retarding and keeping back any Drink that is too much heated in working, the cold raw Wort, as I have said before, is the most proper of any Thing to check it with, tho' I have known some to put one or more Pewter Dishes into it for that Purpose; or, it may be broke into several other Tubs, where, by its shallow Lying, it will be taken off its Fury. Others again, to make Drink work, that is backward, will take the Whites of two Eggs, and beat them up with half a Quarter of good Brandy, and put it either into the Working-vat, or into the Cask, and it will quickly bring it forward, if a warm Cloth is put over the Bung. Others will tie up Bran in a coarse thin Cloth, and put it into the Vat, where, by its spongy and floury Nature, and close Bulk,

it will absorb a Quantity of the Drink, and breed a Heat to forward its Working.

I know an Inn-keeper, of a great Town in *Bucks*, that is so curious, as to take off all the Top-yeast first, and then, by a Peg near the Bottom of his Working-tub, he draws off the Beer or Ale, so that the Dregs are by this Means left behind. This, I must own, is very right, in Ales that are to be drank soon; but in Beers, that are to lie nine or twelve Months in a Butt or other Cask, there certainly will be wanted some *Faces* or Sediments for the Beer to feed on, else it must consequently grow hungry, sharp, and eager; and therefore, if its own Top or Bottom are not put into a Cask with the Beer, some other Artificial Composition, or Lee, should supply its Place, that is wholesomer, and will better feed with such Drink, than its own natural Settlement; and, therefore, I have here inserted several curious Receipts for answering this general End.

C H A P. XIV.

Of an Artificial Lee for Stout or Stale Beer to feed on.

THIS Article, as it is of very great Importance in the curing of our Malt-Liquors, requires a particular Regard to this last Management of them, because, in my Opinion, the general Misfortune of the Butt or Keeping-beers drinking so hard and harsh, is partly owing to the nasty foul *Faces* that lie at the Bottom of the Cask, compounded of the Sediments of Malt, Hops, and Yeast, that are all clogged with gross rigid Salts, which, by their long lying in the Butt or other Vessel, so tinctures the Beer, as to make it partake of all their raw Natures: For, as is the Feed, such is the Body; as may be perceived by Eels taken out of dirty Bottoms, that are sure to have a muddy Taste, when the Silver Sort, that are caught in gravelly or sandy clear Rivers, eat sweet and fine: Nor can
this

this ill Property be a little, in those Starting (as they call it in *London*) new thick Beers, that were carried directly from my Brew-house, and, by a Leather Pipe or Spout, conveyed into the Butts as they stood in the Cellar, which I shall farther demonstrate by the Example of whole Wheat, that is, by many, put into such Beer to feed and preserve it, as being reckoned a substantial Alkali; however, it has been proved, that such Wheat in about three Years Time has eat into the very Wood of the Cask, and there Honey-combed it, by making little hollow Cavities in the Staves. Others there are, that will hang a Bag of Wheat in the Vessel, that it may not touch the Bottom; but, in both Cases, the Wheat is discovered to absorb and collect the saline acid Qualities of the Beer, Yeast, and Hop, by which it is impregnated with their sharp Qualities; as a Toast of Bread is put into Punch or Beer, whose alcalous hollow Nature will attract and make a Lodgment of the acid strong Particles in either, as is proved by eating the inebriating Toast; and therefore the *Frenchman* says, the *English* are right in putting a Toast into the Liquor, but are Fools for eating it: Hence it is, that such whole Wheat is loaded with the Qualities of the unwholesome Settlements or Grounds of the Beer, and becomes of such a corroding Nature, as to do this Mischief; and, for that Reason, some in the *North* will hang a Bag of the Flour of malted Oats, Wheat, Pease, and Beans, in the Vessels of Beer, as being a lighter and mellow Body than the whole Wheat or its Flour, and more natural to the Liquor: But whether it be raw Wheat or malted, it is supposed, after this Receptacle has emitted its alcalous Properties to the Beer, and taken in all it can of the acid Qualities thereof, that such Beer will by Length of Age prey upon that again, and so communicate its pernicious Effects to the Body of Man, as Experience seems to justify, by the many sad Examples that I have seen in the Destruction of several lusty Brewers Servants, who formerly scorned what they then called *Flux Ale*, to

the Preference of such corroding consuming stale Beers; and therefore I have hereafter advised, that such Butt or Keeping-beers be tapped at nine or twelve Months End at farthest, and then an artificial Lee will have a due Time allowed it, to do Good and not Harm.

An excellent Composition for feeding Butt or Keeping-Beers with.

TAKE a Quart of *French Brandy*, or as much of *English*, that is free from any burnt Tang, or other ill Taste, and is full Proof; to this put as much Wheat or Bean-flour as will knead it into Dough, put it in long Pieces into the Bung-hole, as soon as the Beer has done Working, or afterwards, and let it gently fall Piece by Piece to the Bottom of the Butt; this will maintain the Drink in a mellow Freshness, keep Staleness off for some Time, and cause it to be the stronger as it grows aged.

A N O T H E R.

TAKE one Pound of Treacle, or Honey, one Pound of the Powder of dried Oyster-shells, or fat Chalk, mix them well, and put it into a Butt, as soon as it has done Working, or some Time after, and bung it well; this will both fine and preserve the Beer in a soft, smooth Condition for a great While.

A N O T H E R.

TAKE a Peck of Egg-shells, and dry them in an Oven, break and mix them with two Pounds of fat Chalk, and mix them with Water, wherein four Pounds of coarse Sugar have been boiled, and put it into the Butt as aforesaid.

To fine and preserve Beers and Ales, by boiling an Ingredient in the Wort.

THIS most valuable Way I frequently follow, both for Ale, Butt-beer, and small Beer; and that is, in each Barrel Copper of Wort, I put in a Pottle, or two
Quarts

Quarts of whole Wheat as soon as I can, that it may soak before it boils, then I strain it thro' a Sieve; when I put the Wort in Cooling-tubs, and, if it is thought fit, the same Wheat may be boiled in a second Copper: Thus there will be extracted a gluey Consistence, which, being incorporated with the Wort by boiling, gives it a more thick and ponderous Body, and, when in the Cask, soon makes a Sediment or Lee, as the Wort is more or less loaded with the weighty Particles of this sily Body; but if such Wheat was first parched, or baked in an Oven, it would do better, as being rather too raw as it comes from the Ear.

Another Way.

A WOMAN, who lived at *Leighton Buzzard* in *Bedfordshire*, and had the best Ale in the Town, once told a Gentleman, she had Drink just done Working in the Barrel, and before it was bunged would wager it was fine enough to drink out of a Glass, in which it should maintain a little While a high Froth; and it was true, for the Ivory-shavings, that she boiled in the Wort, were the Cause of it, which an Acquaintance of mine accidentally had a View of, as they lay spread over the Wort in the Copper; so will Hartshorn-shavings do the same and better, both of them being great Finers and Preservers of Malt-liquors against Staleness and Sourness, and are certainly of a very alcalous Nature. Or, if they are put into a Cask when you bung it down, it will be of Service for that Purpose; but these are dear in Comparison of the whole Wheat, which will in a great Measure supply their Place, and after it is used may be given to a poor Body, or to the Hog.

To stop the Fret in Malt-Liquors.

TAKE a Quart of black Cherry-brandy, and pour it in at the Bung-hole of the Hoghead, and stop it close.

To recover deadish Beer.

WHEN strong Drink grows flat, by the Loss of its Spirits, take four or five Gallons out of a Hoghead, and

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boil it with five Pounds of Honey, skim it, and, when cold, put it to the rest, and stop it up close: This will make it pleasant, quick, and strong.

To make stale Beer drink new.

TAKE the Herb *Horehound*, stamp it and strain it, then put a Spoonful of the Juice (which is an extreme good Pectoral) to a Pitcher full of Beer, let it stand covered about two Hours and drink it.

To fine Malt-Liquors.

TAKE a Pint of Water, half an Ounce of unslacked Lime, mix them well together; let it stand three Hours, and the Lime will settle to the Bottom, and the Water be as clear as Glass; pour the Water from the Sediment, and put it into your Ale or Beer; mix it with half an Ounce of *Ising-glass*, first cut small and boiled, and in five Hours Time, or less, the Beer in the Barrel will settle and clear.

THERE are several other Compositions that may be used for this Purpose, but none, that I ever heard of, will answer like those most excellent Balls that Mr. *Ellis*, of *Little Gaddesden* in *Hertfordshire*, has found out by his own Experience to be very great Refiners, Preservers, and Relishers of Malt-Liquors and Cyders; and will also recover damaged Drinks, as I have mentioned in my *Second Book*, where I have given a farther Account of some other Things that will fine, colour, and improve Malt-drinks. See the Receipt for the Balls in the *Supplement*, Chap. VI.

C H A P. XV.

Of several pernicious Ingredients put into Malt-Liquors to increase their Strength.

MALT-Liquors, as well as several others, have long lain under the Disreputation of being adulterated and greatly abused by avaricious and ill-principled People, to augment their Profits at the Expence
of

of the precious Health of human Bodies, which, tho' the greatest Jewel in Life, is said to be too often lost by the Deceit of the Brewer, and the Intemperance of the Drinker: This undoubtedly was one, and I believe the greatest, of the Lord *Bacon's* Reasons for saying, he thought not one *Englishman* in a Thousand died a natural Death, Nor is it indeed to be much wondered at, when, according to Report, several of the Publicans make it their Business to study and practise this Art: Witness what I am afraid is too true, that some have made Use of the *Coculus India* Berry for making Drink heady, and saving the Expence of Malt; but as this is a violent Poison by its narcotic stupifying Quality, if taken in too large a Degree, I hope this will be rather a Prevention of its Use than an Invitation, it being so much of the Nature of the deadly Nightshade, that it bears the same Character; and I am sure the latter is bad enough; for one of my Neighbour's Brothers was killed by eating its Berries that grow in some of our Hedges, which so nearly resemble the black Cherry, that the Boy took the Wrong for the Right.

THERE is another sinister Practice said to be frequently used by ill Persons to supply the full Quantity of Malt, and that is *Coriander* Seeds: This also is of a heady Nature boiled in the Wort, one Pound of which will answer to a Bushel of Malt, as was ingenuously confessed to me by a Gardenener, who owned he sold a great deal of it to Alehouse Brewers (for I do not suppose the great Brewer would be concerned in any such Affair) for that Purpose, at Ten-pence *per* Pound; but how wretchedly ignorant are those that make Use of it, not knowing the Way first to cure and prepare it for this and other Mixtures, without which it is a dangerous Thing, and will cause Sicknes in the Drinkers of it. Others are said to make Use of Lime-stones to fine and preserve the Drink: But, to come off the fairest in such foul Artifices, it has been too much a general Practice to beat the Yeast so long into the Ale, that without Doubt it has done great Prejudice to the

Healths

Healts of many others, besides the Person I have writ of in the *Preface* of my *Second Book*. For the Sake then of Seller and Buyer, I have here offered several valuable Receipts for fining, preserving, and mellowing Beers and Ales, in such a true, healthful, and beneficial Manner, that from henceforth, after the Perusal of this Book, and the Knowledge of their Worth is fully known, no Person, I hope, will be so fordidly obstinate as to have any Thing to do with such unwholesome Ingredients; because these are not only of the cheapest Sort, but will answer their End and Purpose; and the rather, since Malts are now only twenty Shillings *per Quarter*, and like to hold a low Price for Reasons that I could here assign.

I own, I formerly thought they were too valuable to expose to the Public, by Reason of their Cheapness and great Vertues, as being most of them wholesomer than the Malt itself, which is but a corrupted Grain: But, as I hope they will do considerable Service in the World towards having clear, salubrious, and pleasant Malt-Liquors in most private Families and Alehouses, I have my Satisfaction.

C H A P. XVI.

Of the Cellar or Repository for Keeping Beers and Ales.

IT is certain by long Experience, that the Weather or Air has not only a Power or Influence in Brewings, but also after the Drink is in the Barrel, Hoghead, or Butt, in Cellars, or other Places, which is often the Cause of forwarding or retarding the Fineness of Malt-Liquors; for if we brew in cold Weather, and the Drink is to stand in a Cellar of Clay, or where Springs rise, or Waters lie or pass through, such a Place, by Consequence, will check the due Working of the Drink, chill, flat, deaden, and hinder it from becoming fine. So likewise, if Beer or Ale is brewed in hot Weather and put into chalky, gravelly, or sandy Cellars,

Cellars, and especially if the Windows open to the South, South-East, or South-West, then it is very likely it will not keep long, but be muddy and stale : Therefore, to keep Beer in such a Cellar, it should be brewed in *October*, that the Drink may have Time to cure itself before the hot Weather comes on ; but, in wet-tish or damp Cellars, it is best to brew in *March*, that the Drink may have Time to fine and settle before the Winter Weather is advanced. Now such Cellar Extremities should, if it could be done, be brought into a temperate State, for which Purpose some have been so curious as to have double or treble Doors to their Cellar to keep the Air out, and then carefully shut the outward, before they enter the inward one, whereby it will be more secure from aerial Alterations ; for in Cellars and Places, that are most exposed to such Seasons, Malt-Liquors are frequently disturbed and made unfit for a nice Drinker ; therefore, if a Cellar is kept dry, and these Doors to it, it is reckoned warm in Winter and cool in Summer ; but the best of Cellars are thought to be chose in Chalks, Gravels, or Sands, and particularly in Chalks, which are of a drying Quality more than any other, and consequently dissipate Damps the most of all Earths, which makes it contribute much to the good Keeping of the Drink, for all damp Cellars are prejudicial to the Preservation of Beers and Ales, and sooner bring on the Rotting of the Casks and Hoops than the dry ones ; insomuch that, in a chalky Cellar near me, their Ashen broad Hoops have lasted above thirty Years : Besides, in such inclosed Cellars and temperate Air, the Beers and Ales ripen more kindly, are better digested and softened, and drink smoother : But, when the Air is in a Disproportion by the Cellars letting in Heats and Colds, the Drink will grow stale and be disturbed, sooner than when the Air is kept out : From hence it is, that in some Places their Malt-Liquors are exceeding good, because they brew with Pale or Amber Malts, chalky Water, and keep their Drinks in close Vaults or proper dry Cellars, which is of such Importance,

rance, that notwithstanding any Malt-Liquor may be truly brewed, yet it may be spoiled in a bad Cellar, that may cause such alternate Fermentations as to make it thick and sour, tho' it sometimes happens that after such Changes it fines itself again; and, to prevent these Commotions of the Beer, some brew their pale Malt in *March*, and their brown in *October*, for that the pale Malt, having not so many fiery Particles in it as the brown, stands more in Need of the Summer's Weather to ripen it, while the brown Sort, being more hard and dry, is better able to defend itself against the Winter-Colds that will help to smooth its harsh Particles; yet, when they happen to be too violent, Horse-dung should be laid to the Windows as a Fortification against them; but, if there were no Lights at all to a Cellar, it would be better.

SOME are of Opinion, that *October* is the best of all other Months to brew any Sort of Malt in, by Reason there are so many cold Months directly following, that will digest the Drink and make it much excel that brewed in *March*, because such Beer will not want that Care and Watching, as that brewed in *March* absolutely requires, by often taking out and putting in the Vent-peg on Change of Weather; and, if it is always left out, then it deadens and palls the Drink; yet, if due Care is not taken in this Respect, a Thunder or stormy Night may marr all, by making the Drink ferment and burst the Cask; for which Reason, as Iron Hoops are most in Fashion at this Time, they are certainly the greatest Security to the Safety of the Drink thus exposed; and next to them is the Chesnut-hoop; both which will endure a shorter or longer Time, as the Cellar is more or less dry, and the Management attending them: The Iron Hoop generally begins to rust first at the Edges, and therefore should be rubbed off when Opportunity offers, and be both kept from Wet as much as possible; for it is Rust that eats the Iron Hoops in two sometimes in ten or twelve Years, when the Ashen and Chesnut in dry Cellars have lasted three Times as long.

C H A P. XVII.

Of Cleaning and Sweetening of Casks.

IN Case your Cask is a Butt, then with cold Water first rinse out the Lees clean, and have ready boiling or very hot Water, which put in, and, with a long Stale and a little Birch fastened to its End, scrub the Bottom as well as you can : At the same Time let there be provided another shorter Broom of about a Foot and a half long, that with one Hand may be so employed in the upper and other Parts as to clean the Cask well : So in a Hoghead, or other smaller Vessel, the one-handed short Broom may be used with Water, or with Water, Sand, or Ashes, and be effectually cleaned ; the Outside of the Cask about the Bung-hole should be well washed, lest the Yeast, as it works over, carries some of its Filth with it.

BUT, to sweeten a Barrel, Kilderkin, Firkin, or Pin in the great Brewhouses, they put them over the Copper-hole for a Night together, that the Steam of the boiling Water or Wort may penetrate into the Wood ; this Way is such a furious Searcher, thar, unless the Cask is new hooped just before, it will be apt to fall to Pieces.

Another Way.

TAKE a Pottle, or more, of Stone Lime, and put it into the Cask ; on this pour some Water, and stop it up directly, shaking it well about.

Another Way.

TAKE a long linnen Rag and dip it in melted Brimstone, light it at the End, and let it hang pendant with the upper Part of the Rag fastened to the Wooden Bung ; this is a most quick and sure Way, and will not only sweeten, but help to fine the Drink.

A N O T H E R.

OR, to make your Cask more pleasant, you may use the Vintners Way thus : Take four Ounces of Stone Brimstone,

Brimstone, one Ounce of burnt Allum, and two Ounces of Brandy; melt all these in an earthen Pan over hot Coals, and dip therein a Piece of new Canvas, and instantly sprinkle thereon the Powders of Nutmegs, Cloves, Coriander, and Anise-seeds: This Canvas set on Fire, and let it burn hanging in the Cask fastened at the End with the wooden Bung, so that no Smoke comes out.

For a musty Cask.

Boil some Pepper in Water, and fill the Cask with it scalding hot.

For a very stinking Vessel.

THE last Remedy is the Cooper's taking out one of the Heads of the Cask to scrape the Inside or new shave the Staves, and is the surest Way of all others, if it is fired afterwards within-side a small Matter, as the Cooper knows how.

THESE several Methods may be made Use of at Discretion, and will be of great Service where they are wanted. The sooner also a Remedy is applied, the better; else the Taint commonly increases, as many have to their Prejudice proved, who have made Use of such Casks, in Hopes the next Beer will overcome it; but, when once a Cask is infected, it will be a long While, if ever, before it becomes sweet, if no Art is used. Many therefore of the careful Sort, in case they have not a Convenience to fill their Vessel as soon as it is empty, will stop it close to prevent the Air and preserve the Lees sound, which will greatly tend to the keeping of the Cask pure and sweet against the next Occasion.

To prepare a new Vessel to keep Malt-Liquors in.

A NEW Vessel is most improperly used by some ignorant People for strong Drink after only once or twice scalding with Water, which is so wrong, that such Beer or Ale will not fail of tasting thereof for half, if not a whole Year afterwards; such is the Tang of the Oak and its Bark, as may be observed from the strong

Scents of Tan-yards, which the Bark is one Cause of. To prevent then this Inconvenience, when your Brewing is over, put up some Water scalding hot, and let it run thro' the Grains; then boil it and fill up the Cask, stop it well and let it stand till it is cold, do this twice; then take the Grounds of strong Drink and boil in it green Walnut-leaves and new Hay or Wheat-straw, and put all into the Cask, that it be full, and stop it close: After this, use it for small Beer half a Year together, and then it will be thoroughly sweet and fit for strong Drinks; or,

Another Way.

TAKE a new Cask and dig a Hole in the Ground, in which it may lie half Depth with the Bung downwards; let it remain a Week, and it will greatly help this or any stinking musty Cask. But, besides these, I have writ of two other excellent Ways to sweeten musty or stinking Casks, in my *Second Book of Brewing*.

Wine Casks.

THESE, in my Opinion are the cheapest of all others to furnish a Person readily with, as being many of them good Casks for Malt-Liquors, because the Sack and White-wine Sorts are already seasoned to Hand, and will greatly improve Beers and Ales that are put in them: But beware of the Rhenish Wine Casks for strong Drinks; for its Wood is so tinctured with this sharp Wine, that it will hardly ever be free of it, and therefore such Cask is best used for small Beer; The Claret Cask will a great deal sooner be brought into a serviceable State for holding strong Drink, if it is two or three Times scalded with Grounds of Barrels, and afterwards used for small Beer for some Time. I have bought a Butt or Pipe for eight Shillings in *London* with some iron Hoops on it, a good Hogshead for the same, and the half Hogshead for five Shillings; the Carriage for a Butt by the Waggon thirty Miles is two Shillings and Six-pence, and the Hogshead eighteen Pence: But, to
cure

cure a Claret-cask of its Colour and Taste, put a Peck of Stone-lime into a Hoghead, and pour upon it three Pails of Water; bung immediately with a wood or cork Bung, and shake it well about a Quarter of an Hour, and let it stand a Day and Night, and it will bring off the red Colour, and alter the Taste of the Cask very much. But, of three several other excellent Methods for curing musty, stinking, new, and other tainted Casks, I have writ, in my Account of Casks in my *Second Book*.

C H A P. XVIII.

Of Bunging Casks and Carrying of Malt-Liquors to some Distance.

I AM sure this is of no small Consequence, however it may be esteemed as a light Matter by some; for, if this is not duly performed, all our Charge, Labour, and Care will be lost; and therefore here I shall dissent from my *London* Fashion, where I bunged up my Ale with Pots of Clay only, or with Clay mixed with Bay-salt, which is the better of the two, because this Salt will keep the Clay moist longer than in its original State; and the Butt-beers and fine Ales were bunged with Cork drove in with a Piece of Hop-sack or Rag, which, I think, are all insipid, and the Occasion of spoiling great Quantities of Drink, especially the small Beers; for, when the Clay is dry, which is soon in Summer, there cannot be a regular Vent thro' it, and then the Drink from that Time flattens and stales to the great Loss in a Year to some Owners, and the Benefit of the Brewer; for then a fresh Cask must be tapped to supply it, and the remaining Part of the other throw'd away. Now, to prevent this great Inconvenience, my Bung-holes are not quite of the largest Size of all, and yet big enough for the common wooden iron hooped Funnel used in some Brew-houses: In this I put in a turned Piece of Ash or Sallow three Inches broad at
Top,

Top, and two Inches and a half long, first putting in a double Piece of dry brown Paper, that is so broad that an Inch or more may be out of it, after the wooden Bung is drove down with a Hammer pretty tight; this Paper must be furled or twisted round the Bung, and another loose Piece upon and around that, with a little Yeast, and a small Peg put into the Bung, which is to be raised at Discretion when the Beer is drawing, or at other Times to give it Vent, if there should be Occasion: Others will put some Coal or Wood-ashes wetted round this Bung, which will bind very hard, and prevent any Air getting into or out of the Cask: but this in Time is apt to rot and wear the Bung-hole by the Salt or Sulphur in the Ashes, and employing a Knife to scrape it afterwards. Yet, for keeping Beers, it is the best Security of all other Ways whatsoever.

THERE is also a late Invention practised by a common Brewer in the Country that I am acquainted with, for the safe Carriage of Drink on Drays to some Distance, without losing any of it; and that is, in the Top-center of one of those Bungs, he puts in a wooden Funnel, whose Spout is about four Inches long, and less than half an Inch Diameter at Bottom; this is turned at Top into a concave Fashion like a hollow round Bowl, that will hold about a Pint, which is a constant Vent to the Cask, and yet hinders the Liquor from ascending no faster than the Bowl can receive, and return it again into the Barrel: I may say farther, he has brought a Barrel two Miles, and it was then full, when it arriv'd at his Customer's, because the Pint that was put into the Funnel, at Setting out, was not at all lost when he took it off the Dray; this may be also made of Tin, and will serve from the Butt to the small Cask.

IN the Butt there is a Cork-hole made about two Inches below the upper Head, and close under that a Piece of Leather is nailed Spout-fashion, that jets three Inches out, from which the Yeast works and falls into a Tub; and, when the Working is over, the Cork is put closely in, for the Bung in the Head of the upright Cask

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is put in as soon as it is filled up with new Drink : Now when such a Cask is to be broached, and a quick Draught is to follow, then it may be tapped at Bottom ; but, if otherwise, the brass Cock ought to be first put in at the Middle, and before the Drink sinks to that it should be tapped at Bottom, to prevent the breaking of the Head of Yeast, and its growing stale, flat, and sour.

In some Places in the Country, when they brew Ale or Beer to send to *London* at a great Distance, they let it be a Year old before they tap it, so that then it is perfectly fine ; this they put into small Casks that have a Bung-hole only fit for a large Cork, and then they immediately put in a Roll of Bean-flour first kneaded with Water or Drink, and baked in an Oven, which is all secured by pitching in the Cork, and so sent in the Waggon ; the Bean-flour feeding and preserving the Body of the Drink all the Way, without fretting or causing it to burst the Cask for Want of Vent, and when tapped will also make the Drink very brisk, because the Flour is in such a hard Consistence, that it won't dissolve in that Time ; but, if a little does mix with the Ale or Beer, its heavy Parts will sooner fine than thicken the Drink, and keep it mellow and lively to the last, if Air is kept out of the Barrel.

C H A P. XIX.

Of the Strength and Age of Malt-Liquors.

WHETHER they be Ales or strong Beers, it is certain that the middling Sort is allowed by Physicians to be the most agreeable of any, especially to those of a sedentary Life, or those that are not occupied in such Business as promotes Perspiration enough to throw out and break the Viscidities of the stronger Sorts ; on which Account the laborious Man has the Advantage, whose Diet being poor, and Body robust, the Strength of such Liquors gives a Supply, and bet-

ter digests into Nourishment: But, for the unactive Man, a Hoghead of Ale which is made from six Bushels of Malt is sufficient for a Diluter of their Food, and will better assist their Constitution than the more strong Sort, that would in such produce Obstructions and ill Humours; and therefore that Quantity for Ale, and ten Bushels for a Hoghead of strong Beer that should not be tapped under nine Months, is the most healthful. And this I have experienced by enjoying such an Amber-Liquor that has been truly brewed from good Malt, as to be of a vinous Nature, that would permit a hearty Dose over Night, and yet the next Morning leave a Person light, brisk, and unconcerned. This then is the true *Nostrum* of Brewing, and ought to be studied and endeavoured for by all those that can afford to follow the foregoing Rules, and then it will supply, in a great Measure; those chargeable (and often adulterated; tartarous, arthritic) Wines. So likewise for small Beer, especially in a Farmer's Family, where it is not of a Body enough, the Drinkers will be feeble in hot Weather, and not be able to perform their Work; and will also bring on Distempers, besides the Loss of Time; and a great Waste of such Beer that is generally much thrown away; because Drink is certainly a Nourisher of the Body; as well as Meats, and; the more substantial they both are, the better will the Labourer go thro' his Work; especially at Harvest; and in large Families the Doctor's Bills have proved the Evil of this bad Economy, and far surmounted the Charge of that Malt that would have kept the Servants in good Health, and preserved the Beer from such Waste as the smaller Sort is liable to:

It is therefore that some prudent Farmers will brew their Ale and small Beer in *March*, by allowing five or six Bushels of Malt, and two Pounds of Hops, to the Hoghead of Ale; and a Quarter of Malt; and three Pounds of Hops; to five Barrels of small Beer. Others there are; that will brew their Ale or strong Beer in *October*, and their small Beer a Month before it is wanted.

Others will brew their Ale and small Beer in *April*, *May*, and *June*; but this according to Humour, and therefore I have hinted of the several Seasons for brewing these Liquors: However, in my Opinion, whether it be strong or small Drinks, they should be clear, smooth, and not too small, if they are designed for Profit and Health; for, if they are otherwise, it will be a sad Evil to Harvest-Men, because then they stand most in Need of the greatest Balsamics: To this End, some of the softening Ingredients, mentioned in the foregoing Receipts, should be made Use of to feed it accordingly, if these Drinks are brewed forward. And that this particular important Article in the brewing Œconomy may be better understood, I shall here recite Dr. *Quincy's* Opinion of Malt-liquors, *viz.* The Age of Malt-drinks makes them more or less wholesome, and seems to do somewhat the same as Hops; for those Liquors, which are longest kept, are certainly the least viscid; Age, by Degrees, breaking the viscid Parts, and rendering them smaller, makes them finer for Secretion; but this is always to be determined by their Strength, because in Proportion to that they will sooner or later come to their full Perfection, and likewise their Decay, until the finer Spirits quite make their Escape, and the Remainder becomes vapid and sour. By what therefore has been already said, it will appear, that, the older Drinks are, the more healthful, so they be kept up to this Standard, but not beyond it. Some therefore are of Opinion, that strong Beer, brewed in *October*, should be tapped at *Midsummer*, and that brewed in *March* at *Christmas*; as being most agreeable to the Seasons of the Year that follow such Brewings: For then they will both have Part of a Summer and Winter to ripen and digest their several Bodies; and it is my humble Opinion, that where the Strength of the Beer, the Quantity of Hops, the Boiling, Fermentation, and the Cask are all rightly managed, there Drink may be most excellent, and better at nine Months Age, than at nine Years; for Health and Pleasure of Body. But, to be

truly certain of the right Time, there should be first an Examination made by pegging the Vessel to prove, if such Drink is fine, the Hop sufficiently rotted, and it be mellow and well-tasted.

C H A P. XX.

*Of the Pleasure and Profit of Private Brewing, and
the Charge of Buying Malt-Liquors.*

HERE I am to treat of the main Article of shewing the Difference between brewing our own Ales and Beers, and buying them, which I doubt not will appear so plain and evident, as to convince any Reader, that many Persons may save well towards half in half, and have their Beer and Ale strong, fine, and aged, at their own Discretion: A Satisfaction that is of no small Weight, and the rather, since I have now made known a Method of brewing a Quantity of Malt with a little Copper and a few Tubs, a Secret that has long wanted Publication; for now a Person may brew in a little Room, and that very safely, by keeping his Wort from Foxing, as I have already explained, which by many has been thought impossible heretofore; and this Direction is the more valuable, as there are many Thousands who live in Cities and Towns, that have no more than a few Yards square of Room to perform a private Brewing in. And as for the Trouble, it is easy to account for by those who have Time enough on their Hands, and would do nothing else if they had not done this: Or, if a Man is paid half a Crown a Day for a Quantity accordingly; or, if a Servant can do this besides his other Work, for the same Wages and Charge, I believe the following Account will make it appear it is over-ballanced considerably, by what such a Person may save in this Undertaking, besides the Pleasure of thoroughly knowing the several Ingredients and Cleanliness of the Brewer and Utensils. In several of the Northern Counties in *England*, where they have good

70 *Of the Profit of Private Brewing, &c.*

Barley, Coak-dried Malt, and the Drink brewed at Home, there are seldom any bad Ales or Beers, because they have the Knowledge in Brewing so well, that there are hardly any common Brewers amongst them: In the West, indeed, there are some few, but in the South and East Parts there are many; and now follows the Account, that I have stated according to my own general Practice, *viz.*

A Calculation of the Charge and Profit of brewing Six Bushels of Malt for a Private Family.

	l.	s.	d.
Six Bushels of Malt, at 2 s. 8 d. per Bushel,	0	16	0
Hops one Pound — — — — —	0	1	6
Yeast a Quart — — — — —	0	0	4
Coals one Bushel, or if Wood or Furze —	0	1	0
A Man's Wages a Day — — — —	0	2	6
	Total 1 : 1 : 4		

Of these six Bushels of Malt I make one Hoghead of Ale and another of small Beer: But, if I was to buy them of some common Brewers, the Charge will be as follows, *viz.*

	l.	s.	d.
One Hoghead of Ale, containing 48 } Gallons, at 6 d. per Gallon, is - - - }	1	4	0
One Hoghead of small Beer, containing } 54 Gallons, at 2 d. per Gallon, is - - }	0	9	0
	1 : 13 : 0		
	Total saved 0 : 11 : 8		

By the above Account it plainly appears, that 11 s. and 8 d. is clearly gained in Brewing of six Bushels of Malt at our own House for a private Family, and yet I make the Charge fuller by 2 s. and 6 d. than it will happen with many, whose Conveniency by Servants, &c. may intirely take it off; besides the six Bushels of Grains that are currently sold for 3 d. the Bushel, which will make the 11 s. and 8 d. more by 4 s. without reckon-

ing any Thing for Yeast, that in the very cheapest Time here sells for 4 *d.* the Quart, and many Times there happens three Quarts from so much Drink; so that there may possibly be gained in all 16 *s.* and 8 *d.* a fine Sum, indeed, in so small a Quantity of Malt. But here, by Course, will arise the Question, whether this Ale is as good as that bought of some of the common Brewers at 6 *d.* a Gallon: I cannot say all is; however, I can aver this, that the Ale I brew in the Country from six Bushels of Malt for my Family, I think, is generally full as good, if not better than any I ever sold at that Price in my *London* Brewhouse: And, if I should say, that where the Malt, Water, and Hops are right good, and the Brewer's Skill answerable to them, there might be a Hoghead of as good Ale, and another of small Beer, made from five Bushels, as I desire to use for my Family, or for Harvest-Men; it is no more than I have many Times experienced, and it is the common Length I made for that Purpose. And whoever makes Use of true Pale and Amber-malts, and pursues the Directions of this Book, I doubt not but will have their Expectation fully answered in this last Quantity, and so save the great Expence of Excise that the common Brewer's Drink is always clogged with, which is no less than 5 *s.* for Ale, and 18 *d.* per Barrel for small Beer.

C H A P. XXI.

A Philosophical Account for Brewing strong October Beer. By an ingenious Hand.

IN Brewing, your Malt ought to be sound and good, and, after its Making, to lie two or three Months in the Heap, to come to such a Temper, that the Kernel may readily melt in the Washing.

THE well Dressing your Malt ought to be one chief Care; for, unless it be freed from the Tails and Dust, your Drink will not be fine and mellow as when it is clean dressed.

THE Grinding also must be considered, according to the high or low Drying of the Malt; for, if high dried, then a gross Grinding is best, otherwise a smaller may be done; for the Care in Grinding consists herein, lest too much of the Husks being ground small should mix with the Liquor, which makes gross *Faces*, and consequently your Drink will have too fierce a Fermentation, and by that Means make it Acid, or what we call Stale.

WHEN your Malt is ground, let it stand in Sacks twenty-four Hours at least, to the End that the Heat in Grinding may be allay'd, and it is conceived by its so standing that the Kernel will dissolve the better.

THE Measure and Quantity we allow of Hops and Malt, is five Quarters of Malt to three Hogsheads of Beer, and eighteen Pounds of Hops at least to that Quantity of Malt; and, if Malt be pale dried, then add three or four Pounds of Hops more.

THE Choice of Liquor for Brewing is of considerable Advantage in making good Drink, the softest and cleanest Water is to be preferred, your harsh Water is not to be made Use of.

You are to boil your first Liquor, adding a Handful or two of Hops to it; then, before you strike it over to your Goods or Malt, cool in as much Liquor as will bring it to a Temper not to scald the Malt, for it is a Fault not to take the Liquor as high as possible, but not to scald.

THE next Liquors do the same.

AND, indeed, all your Liquors ought to be taken as high as may be, that is, not to scald.

WHEN you let your Wort from your Malt into the Under-back, put to it a Handful or two of Hops, it will preserve it from that Accident which Brewers call *Blinking* or *Foxing*.

IN boiling your Worts, the first Wort boil high or quick; for, the quicker the first Wort is boiled, the better it is.

THE Second boil more than the first, and the Third or Last more than the Second.

IN Cooling lay your Worts thin, and let each be well cooled, and Care must be taken in letting them down into the Tun, that you do it leisurely, to the End that as little of the *Fæces* or Sediment which causes the Fermentation to be fierce or mild, for,

Note, THERE are, in all fermented Liquors, Salt and Sulphur, and to keep these two Bodies in a due Proportion, that the Salt does not exalt itself above the Sulphur, consists a great Part of the Art in Brewing.

WHEN your Wort is first let into your Tun, put but a little Yeast to it, and let it work by Degrees quietly; and, if you find it works but moderately, whip in the Yeast two or three Times or more, 'till you find your Drink well fermented, for, without a full Opening of the Body by Fermentation, it will not be perfectly fine, nor will it drink clean and light.

WHEN you cleanse, do it by a Cock from your Tun, placed six Inches from the Bottom, to the End that most of the Sediment may be left behind, which may be thrown on your Malt to mend your small Beer.

WHEN your Drink is tunned, fill your Vessel full, let it work at the Bung-hole, and have a Reserve in a small Cask to fill it up, and do not put any of the Drink which will be under the Yeast after it is worked over into your Vessels, but put it by itself in another Cask, for it will not be so good as your other in the Cask.

THIS done, you must wait for the finishing of the Fermentation, then stop it close, and let it stand 'till the Spring, for Brewing ought to be done in the Month of *October*, that it may have Time to settle and digest all the Winter Season.

IN the Spring you must unstop your Vent-hole, and thereby see whether your Drink doth ferment or not, for, as soon as the warm Weather comes, your Drink will have another Fermentation, which, when it is over, let it be again well stopped and stand 'till *September* or longer, and then peg it; and, if you find it pretty fine, and the Hop well rotted, and of a good pleasant Taste for Drinking,

THEN, and not before, draw out a Gallon of it, put to it two Ounces of Ising-glass cut small and well beaten to melt, stirring it often, and whip it with a Whisk 'till the Ising-glass be melted; then strain it and put it into your Vessel, stirring it well together, stop the Bung slightly, for this will cause a new and small Fermentation; when that is over stop it close, leaving only the Vent-hole a little stopped, let it stand, and in ten Days, or a little more, it will be transparently fine, and you may drink of it out of the Vessel 'till two Parts in three be drawn; then bottle the rest, which will in a little Time come to drink very well.

If your Drink in *September* be well conditioned for Taste, but not fine, and you desire to drink it presently, rack it before you put your Ising-glass to it, and then it will fine the better and drink the cleaner.

To make Drink fine quickly, I have been told that by separating the Liquor from the *Feces*, when the Wort is let out of the Tun into the Under-back, it may be done in this Manner; when you let your Wort into your Under-back out of your Tun, catch the Wort in some Tub so long, and so often as you find it run foul; put that so caught on the Malt again, and do so 'till the Wort run clear into the Under-back. This is to me a very good Way (where it may be done) for it is the *Feces* which cause the fierce and violent Fermentation, and to hinder that in some Measure is the Way to have fine Drink: Note, That the finer you make your Wort, the sooner your Drink will be fine, for I have heard that some, curious in Brewing, have caused Flannels to be so placed, that all the Wort may run thro' one or more of them into the Tun before Working, by which Means the Drink was made very fine and well-tasted.

Observations on the foregoing Account.

THIS Excellent Philosophical Account of brewing *October Beer* has hitherto remained in private Hands as a very great Secret, and was given to a Friend of mine by the Author himself, to whom the World is much

much obliged, altho' it comes by me : In Justice therefore to this ingenious Person, I would here mention his Name, had I Leave for so doing ; but at present this Intimation must suffice. However, I shall here take Notice, that this Caution against using tailed or dusty Malt, which is too commonly sold, is truly worthy of Observation ; for these are so far from producing more Ale or Beer, that they absorb and drink Part of it up.

IN grinding Malts he notifies well to prevent a foul Drink:

THE Quantity he allows is something above thirteen Bushels to the Hogshead, which is very sufficient ; but this as every Body pleases.

THE Choice of Liquors or Waters for Brewing, he says, is of considerable Advantage ; and so must every Body else that knows their Natures, and loves Health and pleasant Drink : For this Purpose, in my Opinion, the Air and Soil are to be regarded where the Brewing is performed ; since the Air affects all Things it can come at, whether Animal, Vegetable, or Mineral, as may be proved from many Instances : In the Marshes of *Kent* and *Essex*, the Air there is generally so infectious, by Means of those low, veasy, boggy Grounds, that seldom a Person escapes an Ague one Time or other, whether Natives or Aliens, and is often fatally known to some of the *Londoners*, and others who merrily and nimbly travel down to the Isles of *Grain* and *Sheppy* for a valuable Harvest, but in a Month's Time they generally return thro' the Village of *Sborne* with another Mien. There is also a little Moor in *Hertfordshire*, thro' which a Water runs that frequently gives the *Passant* Horses that drink of it the Colic or Gripes, by Means of the aluminous sharp Particles of its Earth ; its Air is also so bad, as has obliged several to remove from its Situation for their Healths : The Dominion of the Air is likewise so powerful over Vegetables, that what will grow in one Place will not in another, as is plain from the Beech and black Cherry Tree, that refuse the Vale of *Aylesbury*, tho' on some Hills there, yet will thrive in the

Chiltern or hilly Country: So the Limes and other Trees about *London* are all generally black-barked, while those in the Country are most of them of a Silver White. Water is also so far under the Influence of the Air and Soil, as makes many excellent for Brewing when others are as bad. In Rivers, that run thro' boggy Places, the Sullage or Washings of such Soils are generally unwholesome as the Nature of such Ground is; and so the Water becomes infected by that and the Effluvia or Vapours that accompany such Water: So Ponds are surely good or bad, as they are under too much Cover, or supplied by nasty Drains, or as they stand situated or exposed to good and bad Airs. Thus the Well-waters by Consequence share in the good or bad Effects of such Soils that they run through, and the very Surface of the Earth, by which such Waters are strained, is surely endowed with the Quality of the Air in which it lies; which brings me to my intended Purpose, to prove that Water drawn out of a Chalky or Fire-stone Well, which is situated under a dry, sweet, loamy Soil, in a fine pure Air, and that is perfectly soft, must excel most if not all other Well-waters for the Purpose in Brewing. The Worts also, that are rooted in such an Air, in Course partake of its nitrous Benefits, as being much exposed thereto in the high Backs or Coolers that contain them. In my own Grounds I have Chalks under Clays and Loams; but, as the latter is better than the former, so the Water proves more soft and wholesome under one than the other: Hence then may be observed the contrary Quality of those harsh curdling Well-waters that many drink of in their Malt-Liquors, without considering their ill Effects, which are justly condemned by this able Author as unfit to be made Use of in Brewing *October Beer*.

THE Boiling a few Hops in the first Water is good, but they must be strained through a Sieve before the Water is put into the Malt; and to check its Heat with cold Liquor, or to let it stand to cool some
Time,

Time, is a right Method, lest it scalds and locks up the Pores of the Malt, which would then yield a thick Wort, to the End of the Brewing, and never be good Drink.

HIS putting Hops into the Under-back, is an excellent Contrivance to prevent Foxing, as I have already hinted.

THE quick Boiling of the Wort is of no less Service, and that the smaller Wort should be boiled longer, than the strong, is good Judgment, because, the stronger the Wort, the sooner the Spirits fly away; and the Waste is of more Consequence; besides, if the first Wort was to be boiled too long, it would obtain so thick a Body, as to prevent, in a great Measure, its Fining hereafter so soon in the Barrel, while the smaller Sort will evaporate its more watry Parts, and thereby be brought into a thicker Consistence, which is perfectly necessary in thin Worts; and in this Article lies so much the Skill of a Brewer, that some will make a longer Length than ordinary from the Goods for small Beer, to shorten it afterwards in the Copper by Length of Boiling; and this Way of consuming it is the more natural, because the remaining Part will be better cured.

THE Laying Worts thin is a most necessary Precaution; for this is one Way to prevent their Running into Cohesions and Foxing, the Want of which Knowledge and Care has undoubtedly been the Occasion of great Losses in Brewing; for, when Worts are tainted in any considerable Degree, they will be ropy in Time and unfit for the human Body, as being unwholesome as well as unpleasant. So likewise is his *Item* of great Importance, when he advises to draw the Worts off fine out of the Backs or Coolers, and leave the *Fæces* or Sediments behind, by Reason, as he says, they are the Cause of those two detested Qualities in Malt-Liquors, Staleness and Foulness, two Properties that ought to employ the greatest Care in Brewers to prevent; for it is certain these

Sediments

Sediments are a Composition of the very worst Part of the Malt, Hops, and Yeast, and, while they are in the Barrel, will so tincture and impregnate the Drink with their insidious and unpleasant Nature, that its Drinkers will be sure to participate thereof more or less as they have lain together a longer or a shorter Time. To have then a Malt-Liquor balsamic and mild, the Worts cannot be run off too fine from the Coolers, nor well fermented too slow; that there may be a Medium kept, in both the Salt and Sulphur, that all fermented Malt-Drinks abound with; and herein, as he says, lies a great Part of the Art of Brewing.

He says truly well, that a little Yeast at first should be put to the Wort, that it may quietly work by Degrees, and not be violently forced into a high Fermentation; for then by Course the Salt and Sulphur will be too violently agitated into such an Excess and Disagreement of Parts, that will break their Unity into irregular Commotions; and cause the Drink to be soon stale and harsh. But, if it should be too backward and work too moderately, then Whipping the Yeast two or three Times into it will be of some Service to open the Body of the Beer; for, as he observes, if Drink has not a due Fermentation, it will not be fine, clean, nor light.

His Advice to draw the Drink out of the Tun by a Cock at such a Distance from the Bottom is right; because that Room will best keep the *Feces* from being disturbed as the Drink is drawing off, and leaving them behind; but, for putting them afterwards over the Malt for small Beer, I do not hold it consonant with good Brewing, by Reason in this Sediment there are many Particles of the Yeast, that consequently will cause a small Fermentation in the Liquor and Malt, and be a Means to spoil rather than make good small Beer.

WHAT he says of filling up the Cask with a Reserve of the same Drink, and not with that which has once worked out, is past Dispute just and right.

AND so is what he says of stopping up the Vessel close after the Fermentation is over ; but that it is best to brew all strong Beer in *October*, I must here take Leave to dissent from the Tenet, because there is Room for several Objections in Relation to the Sort of Malt and Cellar, which as I have before explained, I shall say the less here.

As he observes Care should be taken in the Spring, to unstop the Vent, lest the warm Weather cause such a Fermentation as may burst the Cask, and also in *September*, that it be first tried by Pegging if the Drink is fine, well-tasted, and the Hop rotted ; and then, if his Way is liked best, bring the rest into a transparent Fineness ; for Clearness in Malt-Liquors, as I said before, and here repeat it again, is a most agreeable Quality that every Man ought to enjoy for his Health and Pleasure, and therefore he advises for Dispatch in this Affair, and to have the Drink very fine, to rack it off before the Ising-glass is put in ; but I cannot be a Votary to this Practice, as believing the Drink must lose a great Deal of its Spirits by such Shifting ; yet I must chime in with his Notion of putting the Wort so often over the Malt, 'till it comes off fine as I have already taught, which is a Method that has been used many Years in the North of *England*, where they are so curious as to let the Wort lie some Time in the Underback to draw it off from the *Faces* there ; nor are they less careful to run it fine out of the Cooler into the Tun, and from that into the Cask ; in all which three several Places the Wort and Drink may be had clear and fine, and then there will be no more Sediments than are just necessary to assist and feed the Beer, and preserve its Spirits in a due Temper. But if Persons have Time and Conveniency, and their Inclination leads them to obtain their Drink in the utmost Fineness, it is an extraordinary good Way to use *Hippocrates's* Sleeve, or Flannel-bag, which I did in my great Brew-house at *London*, for straining off the *Faces* that were left in the Backs. As to the Quantity of Malt for

Brewing a Hogshead of *October* Beer, I am of Opinion thirteen Bushels are right, and so are ten, fifteen, and twenty, according as People approve of; for, near *Litchfield*, I know some have brewed a Hogshead of *October* Beer from sixteen Bushels of Barley-Malt, one of Wheat, one of Beans, one of Pease, and one of Oat-Meal, besides hanging a Bag of Flour, taken out of the last four Malts, in the Hogshead for the Drink to feed on; nor can a certain Time be limited and adjusted for the Tapping of any Drink (notwithstanding what has been affirmed to the Contrary) because some Hops will not be rotted so soon as others, and some Drinks will not fine so soon as others; as is evident in pale Malt-drinks, that will seldom or never break so soon in the Copper as the brown Sort, nor will they be so soon ripe and fit to tap as the high dried Malt-Drink will. Therefore what this Gentleman says of trying Drink by first pegging it before it is tapped, in my Opinion, is more just and right than relying on a limited Time for broaching such Beer.

The End of the First Part,



THE
London and Country
BREWER.

Containing an ACCOUNT of

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|--|--|
| I. Several ERRORS committed in making MALTS. | DRINK, and a WEST-INDIA LIQUOR. |
| II. Of Brewing WHEAT-MALT. | VIII. Of Brewing MALT-DRINKS without Boiling Water, Wort, or Hops. |
| III. Of the Good and Bad PROPERTIES of the HOP. | IX. Sir <i>Thomas Seabright's</i> Method of Brewing a Pipe of PALE OCTOBER. |
| IV. Of the Nature, Prevention, and Cure of Foxed MALT-LIQUORS, and UTENSILS. | X. The Fraudulent Practice by short-measured CASKS exposed. |
| V. Several WAYS of Recovering stale or pricked MALT-LIQUORS. | XI. A LETTER from one BREWER to another, concerning CONCEALMENTS of MALT-DRINKS. |
| VI. Of FERMENTATION. | |
| VII. Of Brewing DORCHESTER BEER, SHROPSHIRE | |

To which is added,

A DISSERTATION on the BREWERY

Wherein is shewn,

The ill Consequences of CLAY-WELLS, and CLAY-BUNGS how to brew a clear, sound DRINK, with nasty, foul WATER; the prejudicial Nature of FÆCES; with several other serviceable Matters.

By a Person formerly concerned in a public Brewhouse in London, but for Twenty Years past has resided in the Country.

PART II.

The THIRD EDITION, Corrected.

LONDON:

Printed for THOMAS ASTLEY, at the *Rose* in St. Paul's Church-Yard. MDCCLXIV.

[Price One Shilling.]

THE UNIVERSITY OF CHICAGO

B. H. E. W. E. R.

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THE
P R E F A C E.



S it is certain that Malt-Liquors, above any other Sorts, pass through the most Digestions, and are therefore more liable to Mismanagements, which daily Experience confirms; and as the Use of them is general, and thereon so much depends the Health of the Body, I think it calls for our greatest Study and Application, to detect the common Errors, and to lay down such plain, easy, and efficacious Rules and Directions, as may tend to bring about such an Amendment in the Practice of Brewing, and Management of Malt-Liquors, that we may enjoy wholesomer and pleasanter Drink of this Kind, than heretofore, by establishing it upon the Basis of a more just and natural Rationale.

THEREFORE, this being premised, I have, in my former Work, endeavoured to lend my helping Hand, to effect this so much desired and wished for End, as the Quantity of my Sheets would permit: But this being a Science more extensive, and capable of Improvement, than the Generality of Mankind are apprehensive of (who too much content themselves in following the Errors of their Predecessors) I have here, in this Second Part, enlarged on some of my former Heads, as I judged most necessary; and likewise added and discussed such new Matter, as might conduce most to the Improvement of this Art, and the Un-

deceiving of such, who, through Ignorance or Interest, suffer themselves to persist in their Errors.

WHEN a Person is about to brew Malt-Drink, it would not be amiss to put the following, or some such-like natural, Query to himself, What am I going to do, or, What is my Intention in this Procedure? 'Tis certainly to procure a fine, pure, and light Vinous Liquor, as free from any terrene, clammy, or other heterogeneous Particles as may be.

BUT how the present usual Management by long Mashings, long Boiling of the Hop, either under or over Coction of the Wort, violent repeated Beatings in of the Yeast, Mixing injurious Ingredients in the Drink; the prejudicial (though common) Use of Clay, &c. I say, how these do answer the Purpose aforesaid, in affording a pure, light, wholesome, and Vinous Drink, I shall leave to the Determination of all such as will but make Use of their Reason.

AND were People to consider the true Nature of Yeast or Barm (that, notwithstanding it is so necessary and useful an Ingredient, if rightly and judiciously managed, yet is it certain) that it contains very inimical and pernicious Properties, they would never practise those violent, long, and repeated unnatural Beatings in of it into the Drink, which cannot but be attended with many ill and mischievous Effects, notwithstanding the common specious Pretences in its Behalf. Which I have in my former, as well as in the following Sheets (I hope) fully confuted, and made appear.

BUT farther, to illustrate and evince the Truth of my Assertions, I cannot here omit the Case of a Person, whose Father, being a Tobacconist in London, sent his Son among his Customers, at, and about Stamford in Lincolnshire, where he fell into Drinking such Quantities of their yeasty Ale, as made him distracted, and so he remain-
ed,

ed, till his obstinate Distemper yielded to the well adapted Medicines of an ingenious Physician, who, after some Months Keeping him in his House, about thirty Miles from London, at last brought him to his Senses again.

ANOTHER Instance of the ill Properties of Yeast were demonstrated in the following Experiment (which I had from an ingenious and learned Gentleman, who was an Eye-witness of its Veracity) viz. That some Slices of Bread were put into about two Quarts of Yeast, which an hungry Dog licked up for the Sake of the Bread; the Consequence was this, the Dog died in a very little Time after, being very much swelled, as it had been with a Dropsy:

THEREFORE, I must necessarily join with those judicious Gentlemen, who are of Opinion, that the Drinking of yeasty Malt-Liquors, whether new or stale, is the chief Cause of those too frequent fatal Diseases, the Dropsy, Stone, &c, among us; for, if Malt-Drink be hard or stale, in many Constitutions, it is manifestly apt to generate sabulous Concretions, not only in the urinary Passages, but in other Parts of the Body; and it is evident, that it receives this Staleness or Acidity chiefly from the Yeast, which the Drink is impregnated with, as it serves for a Lee for the Liquor to feed on; just as if we were to put any Quantity of an unwholesome bruised Herb or Root into a Cask of Drink, we might reasonably expect the Liquor to be tinctured by it, and to be endued with its ill Qualities: So that it plainly appears how very necessary it is (if we would enjoy wholesome and palatable Malt-Drink) to free it as much as possible from that destructive Acid.

I HAVE likewise, in this second Treatise, farther enlarged on the great Use of artificial Compositions, or Lees, and particularly recommended those most excellent wholesome BALLS (mentioned in Page 56 of my former Part) which have deservedly gained such a Repute, and which are so highly necessary and useful for all Keeping Malt-Drinks especially, whether Pale, Amber, or Brown, to have

always in them, as nothing can contribute more to their Fining, Feeding, and Preservation, in a mild and sound State, and are perfect Antidotes to the ill Qualities of the Yeast, Fæces, &c. Likewise of such a curing and improving Nature that, by their sole Use, I have even recovered damaged or prick'd Drink and Cyder, and will answer in Wines.

ANOTHER too common Misfortune of our having unwholesome and ill-tasted Beers and Ales (especially in warm Weather) is, by what is commonly called Foxing, or more properly from a Putrefaction they are liable to, in passing through their several Managements, the Cause, Prevention, and effectual Cure of which grand Evil, I have here freely explained and communicated; with several other Matters of great Importance, which, duly attended to, will contribute, not only to the Establishing the Brewery upon a better Footing, but manifestly augment the HEALTH, PLEASURE, and PROFIT, of the Subject in general.



C H A P. I.

Of several Errors and Abuses committed in making
BARLEY and WHEAT MALTS.

MALT, like many other Artificials, is most genuine, when it is nearest to its Original Nature; and that is so, when it is of a white or pale Amber Colour, as the Barley receives the same from the Earth; for, if it is otherways, it is occasioned by some Violence done to its Nature; as when it is over-ripe, or washed by Rains to a great Degree after it is mowed, or by its being heated too much in the Mow: So likewise is it in Malt, whose true Tincture and Colour proceeds from its fine Spirits, and essential Vertues; for, when the Colour is changed in making, the Vertues of it are also; that gives the Drink a different Nature, occasioned by some Violences done to the Spirits, and fine Properties of the Malt, by the fierce Spirits, and hot Vapours of the Fire, that change its mild Qualities into their own fiery Nature; which makes it plain, that all Digestion is most natural, that preserves its true Colour most intire; so that the high-coloured Brown Malt is parched, and brought, by the Potency of the Fire, into a State very remote from that Purity, which the true made pale or light Amber-coloured Malt enjoys; from whence is produced the high Blood-coloured Ales and Beers, that many ignorant Persons cry up and admire as a Vertue or good Quality. But to be more particular on this Subject of Malts, I shall recite the Opinion of two Physicians that have appeared in Print: One says, — “ The Contrary is to

“ be understood, and nothing in Malt is a greater

“ Vice or Evil, and the Drink made thereof, to-
 “ ther with its long Boiling with Hops, does fel-
 “ dom fail to wound the Health of the Drinkers
 “ thereof; its natural Operation in the Body, is to
 “ heat the Blood, destroying Appetite, obstructs the
 “ Stomach, sending gross Fumes into the Head, dulls
 “ the fine pure Spirits, hinders the free Circulation of
 “ the Blood, by stagnating the Humours, and, in
 “ the choleric and melancholy Complexion, gene-
 “ rates the Stone, Gravel, Gout, and Consumpti-
 “ on: This Sort of Drink is also very injurious to
 “ Women, especially such as are with Child, or
 “ give Suck.” ——— The other, who is a more late
 Writer, and one of the greatest Reputation, says,
 “ That Brown Malt makes a Drink much less vis-
 “ cid than the Pale, and fitter to pass the several
 “ Strainers of the Body; but what is very strong of
 “ it, may be used in Excess, enough to bring on se-
 “ veral Inconveniencies of Health; though a single
 “ Debauch with it much more easily wears off, than
 “ one occasioned by Drink made from Pale Malt:”
 The same Author further enlarges, and says, ———
 “ That Pale Malt has certainly most of the Grain
 “ in it, as being slenderest dry’d, and is therefore
 “ most nourishing; but also for that very Reason re-
 “ quires a strong Constitution sufficiently to digest
 “ it. Those, who drink much of it, are generally
 “ sleek and fat in the Bloom of their Age; but if
 “ they are not suddenly cut off by Fevers, as they ge-
 “ nerally are, they fall very early into a dis-temper-
 “ ed old Age, and hardly support the Burden of
 “ Life, with the Retinue of Diseases.” ——— Hence
 it appears, that the Pale and Brown Malts are Ex-
 tremes, one being too slack, and the other too high
 dried; which made the former Person write, that all
 Extremes were a Degeneracy from the Nature of true
 Amber Malt, made by a mild and gradual Opera-
 tion; for then it would not be so apt to send dulling,
 gross, thick Fumes and Vapours into the Head, nor

to heat the Blood, or obstruct the Passages, especially if Drink, made from such Malt, was of a middle Strength, and used before it was stale; then it would deserve the first Place of all fermented Malt Liquors, and be the best against the Generation of the Stone, Gravel, and Gout.

THE second Error is, that, though Amber Malts are truly the best of all others, yet, in the making of them, there is often a great Abuse committed by several of its Makers, and that by an unnatural Drying of it on the Kiln, which is done out of a covetous Desire of drying a great deal of Malt at once, in order to save Fire, Time, and Labour: To do this, they put it seven, ten, or twelve Inches thick on the Kiln; which never fails damaging the Malt; for, the thicker it lies, the stronger the Fire must be kept, which will be apt to burn that which is next the Hair-Cloth, whilst that, which is uppermost, is neither hot nor cold, and thereby are the sweet spirituous Parts flattened; for, notwithstanding all the Diligence that can be used, there is no Drying it equally, because the Thickness thereof will force it to send damp excrementitious Vapours, which Effluvia consequently re-enter such Malt, wounding and suffocating the finer Vertues and sweet Qualities, which gives an ill Taste to the Malt, and the Drink made thereof: Besides, it makes but little Drink, and that not good, nor wholesome: And, if strong Drink is made thereof, its evil Juices are more perceptible by heating the Body, and stupifying the Senses by its gross, heavy Fumes, which renders such Malt a great Enemy to Nature; for sure it is, that every Fault, committed in the making of it, affects the Drink more or less; which has begot an Opinion, that there is hardly one Bushel in four rightly made throughout the Nation; and this is chiefly the Reason there are so many bad Sorts of Beers and Ales: Whereas, formerly, they used to be so careful to let the Malt lie only three, four, or five Inches thick on the Kiln at most, with
a con-

a constant Fire, not too fierce, and yet indifferent brisk, which preserves the Spirit and Life of the Malt; for it may as well be too strong, as too weak; when too weak, it flattens and dulls the spirituous sweet Qualities; and, when too strong, it fires and stagnates them.

THE third Error is in drying Malts. They are apt to be tainted by the Smoke, through the Carelessness, Covetousness, or Unskilfulness of the Maker. For Smoke, as a learned Pen defines it, is a stupifying, keen Fume or Vapour, full of dark sulphureous Excrements, cast forth by the Fire, containing a gross Humidity, and fiery sharp Qualities, very pernicious to Health, as it proceeds from the poisonous Juices of the Coal, Wood, &c. For Fire divides and separates the Forms and Properties of Nature; it is an Excrement all People desire to avoid, as being prejudicial to the fine volatile Spirits, and therefore offensive to the Eyes, where the natural Spirits have their Passage; for which Cause Smoke does first offend the Eyes, or any other stupifying Steam, inwardly or outwardly; wherefore, when any smoky Drinks or Meats are separated in the Stomach, the Fume or Vapour thereof naturally ascends to the Head, and is very offensive to Nature, especially the Eyes (as Coal or Wood Smoke does) for it contains two pernicious Qualities, a fulsome Bitter, and a strong Astringent. Therefore all the Care possible must be taken that it is smoaked as little as can be; for that Smoke helps to advance the dull, heavy, reddish Colour in Drink, which shews the Excellency of the late Invention of drying Malt with Coak or Culm: And also the pernicious Practice of drying with Wood, Furz, or Fern, &c. which yield a most disagreeable Smoke; yet must it pass through the several Kernels of the Malt, and thereby impregnate them with its bitter, fulsome, unwholesome Qualities; which does not a little raise my Detestation and Abhorrence of that common

Error and Imposition on the Ignorance of the People; and the more when I consider the great Quantities of such Malt, that are annually consumed in some Parts of the West of *England*, and some other populous Cities and Places, in their Butt-Beers and Ales, notwithstanding the small Difference of Charge that there is between drying with Coak, Culm, and Straw, and with Wood, Furz, Fern, Peat, and Stubble, besides the great Inconveniency of the Wood-fire, that cannot be so soon checked nor extinguished as others are, which exposes the Malt to a Damage accordingly.

THE fourth Error is a very knavish, subtle one, indeed; and that is what tempts some Maltsters to suffer the Barley but to half spire, shoot or sprout, on the Floor, in order to save Time, Labour and Charge; and then such Malt will have a third, fourth, fifth, or sixth Part Barley in it, which consequently must deceive its Brewer; for the Barley Part will never yield its Goodness like that which is malted, and so the Drink becomes in a great Measure spoiled.

THE fifth Error is, what is called in the Cant of a villainous Maltster, *Dressing of Malt*, but, honestly explained, it is no other than a Bite on the Buyer, and is thus managed: Before the Malt is carried out to answer its Sample or Boyce, a Man takes a Garden-Pot, and with it sprinkles Water over the Out-side of a Heap; then with a Shovel he turns it, and does the like, and so on till he thinks it enough. Thus he plumps and swells the Malt Kernels, that to the Buyer seem bigger than the common Sort, and contain more Flour than the smaller ones can: But this Artifice carries three Reasons with it: One is to forward its Sale, the other to enhance the Price, and the other to fill the Bushel with fewer Corns. The Truth of which would plainly appear, if such Malt was afterward to be kept in a Heap a Month, two, or three; for, in
that

that Time, it would grow musty, or matt together, and very likely to breed those devouring Insects called *Wbools*.

THE sixth Error and Abuse, is owing to the Carelessness of the Maltster, who either himself, or by suffering others with their Shoes to tread on many of the Corns of the Malt while they lie working on the Floor, which is often attended with ill Consequences; for, by bruising the Kernels, there immediately commences the Growth of a Canker, that will shew itself in a Bunch, turn green, and perhaps one of them may infect six sound ones, and more, if the Misfortune happens to be in the Month of *March*, *April*, and *May*; by which Means a great deal of Drink has suffered in its Taste, and proved unwholesome to the Drinker. For this Reason a careful Maltster will put on a Pair of Shoes made of an old Hat; and indeed, it is a Pity the Exciseman is not obliged to do so too; and then, in my Opinion, there would be less Damage done by dirty hard Shoes in the Malt-house; for as he walks between the Heaps, sometimes for near twenty Yards together, there commonly lie many loose Corns that are unavoidable to the Tread, and these consequently must be bruised and cankered, to the great Prejudice of the Maltster, and more to the Drinker of Liquor made from such unwholesome Kernels. So likewise have I Reason to write against the careless Turner of the Malt, who often, I may say, is guilty of doing the like Damage to the Malt by his Shovel, when it is employed in the Movements of the several Heaps, where it necessarily breaks and bruises many of the Kernels, by jobbing it in amongst them, and scraping along the Floor. But these are but few in Comparison of the many others that are incident to Barley and Malt.

C H A P. II.

Of WHEAT-MALT.

WHEAT, as it is the most excellent Grain of all others, and as such appointed by the Creator for the Nourishment of the human Body as an Eatable, has tempted my Pen to publish also its fine Quality in producing a good Drink, that no other Grain whatsoever can equalise for its peculiar Vertues; which has surpris'd me to see that Wheat-Malt should be neglected, though this Grain has been sold in our Markets at three Shillings *per* Bushel, a few Years ago, for three Years together, and only Barley and Oat-Malt in Reputation: Whereas this at three I believe, I may venture to aver, is upon a Par with Barley at two Shillings, and Oats at one Shilling and Six-pence *per* Bushel for making of Malt, and far beyond both for making strong Beer; also particularly for that famous and nutritious Liquor Mum, that has for some Years past been made by the *Germans* and others, to the just Reproach of the *English* , who, thinking themselves compleatly furnished by Barley and Oat-Malt Liquors, have supinely neglected the Improvement of the best of all others, and that is Drink that might be made from this delicate Grain, Wheat, for the following Reasons, *viz.*

FIRST then, the Flour of Wheat is much finer than that of Barley; and, the finer the Flour, the finer the Drink; so also is the Bread made of the one and the other, that bears very distant Proportions of Goodness: The Wheat eats smooth, mellow, sweet, light, and nourishing; when the Barley eats rough, coarse, moist, heavy, and is scouring: Wheat-Malt also differs much from Barley-Malt; for the former, if well made, will return a pleasant, brisk, nourishing, wholesome Ale and Beer; while Barley-Malt is apt to make a more
heavy,

heavy, scorbutic, and less nourishing Liquor; because,

Secondly, This Wheat-Malt is more natural to the human Nature, as it is made from the Staff of Life, provided it is not too high dried, and the Goodness burnt away to please the Fancy with a high coloured Drink, and so lose the purest Substance of the Malt according to the Proverb:— I do not care how white my Bread is, nor how brown my Drink is.—But this Proverb was first on Foot, before the Method of making Pale Malt was known: Also if this Sort of Malt is made from impure Wheat, then good Drink must not be expected from it; for, such as the Malt is, such will be the Drink; as for Example: In a cheap Time of Wheat, and in a dear Time of Barley, which sometimes happens, it has been the Practice of a certain Brewer (I have been told) to buy up the smutty Wheat, at a very low Rate for making Malt; because, when Wheat is thus damnified, there are few that care to make Bread with it, unless it be in a dear Time: But, when such Grain is malted, it is less perceived in Keeping Butt-Beers, than in Bread: Besides, in malting, the black or smutty Part of the Kernel is better lost than in the Wheat-Mill; for here the Working of it on the Floor and the Fire of the Kiln cure that in a great Measure which the Stone cannot, because the good and the bad Parts are mixed and ground together; when, in malting, they are better separated and cured, yet not wholly discharged from the Tincture of the Smut, which is the bad Part of such Wheat-Kernel.

Thirdly, It has been experienced that the *Dugdale*, or any other coarse Wheat, will make good Malt and Drink, which may be a valuable Opportunity to many, because this Sort of Wheat grows only on some Ground, and in some Countries where others cannot be conveniently had, as in many Places of the North; and also on four Grounds in the South, this

this Wheat will best grow, and be a surer Crop than any other Sort; nor will it be damaged by Blights and Wets, when others are, by Reason of its great Out-guards, its Beards. This Sort of Wheat also is sold considerably cheaper in the Markets than any other, as being of a coarser Nature than the rest for making of Bread, but little inferior in Goodness for making of Malt, which gives an advantageous Opportunity, to a Person that thinks fit to make Malt of it, to enjoy its Ale or Beer at a low Price.

Fourthly, THIS Wheat-Malt has an admirable Quality in it, that no other has, and that is, the Drink of it will never be windy, which is a pernicious Quality inherent to most other Liquors, and is very unwholesome in Barley and other Malt-Drinks; but this, whether in Barrel, or Bottle, and kept ever so long, will always be free from that mischievous Effect.

Fifthly, THE Goodness of this Malt discovers itself in making more potent Ale and Beer, than any other Sort can; for if eight Bushels are allowed to a Hogshead, and such Liquor be made too free with, at only nine Months Age, it will be very apt to intoxicate, but with less Prejudice to the Health of the Drinker, than any of these unwholesome Barley-Malt-Liquors, whose Bodies are too commonly loaded with large Quantities of that pernicious Acid, Yeast.

Sixthly, THIS Malt is best made when it is managed by the Workman with Carefulness and Labour, soaked in good Water, and to have its due Time in the Cistern, Couch, and Kiln. This is the main Art of making Malt; because, where it is worked too fast, and too hot, such Malt will certainly fail answering our Expectation. And so it will if the Wheat by Wets has first grown in the Field after Reaping, or heated too much in the Mow; for then this, as well as Barley Malt, is very apt to rot in the Couch; and when it is laid on the Kiln to dry, it must be spread thin, and have a leisure Fire; otherways this Malt can never be well made, which
reminds

reminds me of an Inn-keeper's Answer, (who brewed his own Drink) when I asked him the Reason, why his Drink was so bad? He replied, That it was the Fault of the Maltster, who would not allow the Malt a due Time on the Floor nor Kiln. And so it is sure enough with too many of them, who, to save Time, Labour, and Charge, run off the Malt too fast to be well made: But, if you will have Wheat-Malt in a right Condition, it must have a due Time on the Floor, that it may spire gradually, and a slow Fire in the Kiln, that its flowery Part may be soft and in full Body: Then its fine spirituous Balsamic Qualities will be preserved in the Malt, and be communicated to the Drink, whereby it will answer those Ends that I have here proposed. In short, the Ale or strong Beer made with Wheat-Malt is thought by many that have proved it to be the very best of all Liquors.

Of Water for Brewing Wheat-Malt.

THIS Element is particularly to be regarded as it affects Brewing; because there is no making of good Drink without good Water, be the Malt ever so kind in itself; nay, it is of such Consequence with Regard to our Diet, that, as an eminent Physician has lately observed, we cannot be too inquisitive into its Nature and Difference; nor too solicitous and nice in our Choice of it; and therefore charges the Inhabitants of our great City with a gross Neglect in this Respect, for chusing of stagnating impure Clay Well-water for brewing of Beer, and making other Drinks.

Of Brewing Wheat-Malt.

THE Art of Brewing well, next to good Malt, Water, and Hops, is certainly of great Consequence; because, let a Person have all these in their full Perfection, yet he may easily Spoil and marr all, if he
does

does not understand the true Method of making them into Ales and Beers; and for this Reason it too often happens amongst those that casually hit on the right Way at one Time, and miss it another, to lay the Fault on the Malt, Water, or Hops, in Extenuation of their own Ignorance; when, at the same Time, they are the sole Cause of the Misfortune for Want of due Judgment in this useful Science: I shall therefore here make it plain to mean Capacities, how they may obtain good Drink from good Ingredients.

AND, first, I will suppose my Copper to hold thirty-six Gallons, which is a Size sufficient for an ordinary Family, and that I am to brew six Bushels of Wheat-malt, for making a Hogshead of good Family-Ale; for which Purpose I have a good soft Water from a Chalk or Stone-well, or clear Water from a River, Rock, Pond, or from Rain: A Copper, full of this, I heat as fast as I can under the Cover of a Peck of the hully Part of the Malt, or of Bran, which will expedite its Heat, and clear the Water; so that it may be skimmed off for the Hogs, or put into the Mash-tub with the Water when it is ready to boil or just broke: Then either let it lie 'till the Vapour is spent, so that you may see your Face in it, or, as soon as the hot Water is put into the Tub, put a Pail or two of cold into it, which will temper it at once, and keep the Spirit of the Water from evaporating: Then immediately put five of the six Bushels of Malt into the Tub by Degrees, stirring it with a Paddle or Oar just to keep it from balling and no more. When this is done, spread the Reserved Bushel all over the rest, and let it remain so two or three Hours. Thus not only the Spirit of the Water is preserved, but likewise that of the Malt, which will surely greatly improve the Drink, by giving it a fine Haugust, or a true Tincture of the Malt: Then turn the Cock about half Way, and receive three or four Hand-bowls full of the thick Part, and return it over the Malt, and so continue 'till it runs perfectly fine; for on this

depends very much the obtaining of clear Drink in the Barrel; and therefore the nice Brewer will spend it off as small as a Straw, and let it run into the Under-back or Tub on three or four Handfuls of Hops; and, when four or five Gallons are thus run off, lade over three Hand-bowls or Gallons of boiling Water on the Malt, and immediately put as much cold Water into the Copper to supply their Place, which will be at the full Heat again by the Time the last are discharged, and so continue lading over hot, and filling the Copper with as much cold Water, 'till a Copper of the first Wort is run off, which must be set by for some Time in a large clean Tub too, and it will take no Damage; for the Strength of the Malt and a few more Hops will preserve it sound. Then proceed and put over another full Copper of scalding Water by three Hand-bowls at a Time on the Goods, free of any cold Water 'till all is expended; which, when done, put this second Wort into the Copper by itself, and boil it away briskly for Half an Hour; then put in a Pound of loose Hops, and boil it again Half an Hour more; by which Time I will suppose the Wort to be broke enough. But, to be more certain in this material Point, you may, as soon as the Wort begins to boil, put in a Pound of Hops in one or two canvas or other coarse Linnen Bags, and boil them only Half an Hour as fast as can well be done, when they must be taken out; and the Wort kept boiling on, 'till the Particles, which will be very small at first, become larger and some ragged; then it is truly boiled enough, and must directly be put into the Backs or Cooling-tubs to lie thin, not above four or six Inches thick.

As soon as the second Wort is out of the Copper, put in the first, and boil it away in the same Manner, and with the same Quantity of fresh Hops, as you did the last, taking Care to keep back the loose Hops that were first put in to preserve it while in the Tub, and, when the Particles are ragged, dispense it into the Coolers.

THUS

THUS you will give both the Worts and the Hops their thorough Boiling in the Copper, and thereby enjoy their fine floury and spirituous Parts, and avoid their gross, unwholesome, and phlegmatic Ones; for, unless they have their due Cure here, the Drink can never be right clear and good in the Barrèl. But observe, that

THE second Wort will never break so soon as the first; and even that will be sooner or later, according to the Nature of the Malt, Water, &c. which is the Reason that a limited Time of boiling must not be trusted altogether to, for a true Indication of the Wort's being enough; and therefore it is necessary to make a right Judgment of it, by viewing a little of the Wort now and then in a Hand-bowl, 'till it appears as I have before mentioned.

I KNEW a skilful Brewer that never stopped his Cock after it was once set a running, 'till he had all his first and second Worts run off; which has this excellent Conveniency in it, that the Goods or Grains have then no Power to sour or taint the Wort by its standing on them; a Misfortune that has spoiled many Thousands of Barrels of Drink, brewed after the old Fashion: And when he had thus stopped his Cock, and mashed up the Grains with such a Quantity of cold Water, as he thought fit for his small Beer, he let it stand altogether an Hour in cold Water, and something less in hot, before he drew it off; then would boil it Half an Hour with some fresh Hops, and an Hour after that by itself; for small Beer Wort must not be expected to break at all.

BUT by some a Cover is made Use of, while the Water is heating or boiling in the Copper, and by many while the Malt lies liquored in the Mash-vat, that the Steam or Vapour may not evaporate. I also solicit your Care, on Account of the Wort's breaking in Boiling, which you may likely perceive, if you slack your Fire in Half or three Quarters of an Hour; and then, if the Hops are all sunk, the Wort appears

clear like Sack at Top, and the small Particles play about like Knits; then let it boil a little longer, and they will be as big as Lice with Rags or Flews about them; that are sure Signs of the Wort's being boiled to the Height; and this will sooner happen, the more furious you boil it; but, if you boil it much longer it only wastes, and rather hurts it; nor will it work so well in the Vat, nor fine thoroughly in the Cask; because then it will obtain a more viscoüs Body; for as it comes out of the Copper, in such a Degree of Fineness, it will come out of the Barrel. But observe, that pale Malts will not break so soon as Brown, nor the second Wort so soon as the first, and small Wort not at all.

C H A P. III.

Of the good and bad Properties of the Hop.

I HAVE here undertaken to write of one of the most simple and purest of Vegetables, and yet, perhaps, the most abused of any other, both in its Use and Character. The purest, I say, because of the many fine odoriferous, aromatic Spirits that the Hop is indued with, as appears by the Sense of Smelling on their being rubbed and held to the Nose, and which are easily communicated to any Liquid, as these Spirits have their Residence mostly in the outward Parts of the Hop, and are so tender, that they are not to be retained without being rammed and bagged to prevent the Air's Attraction, and the Escape that their fine Spirits are always ready to make: And for this Reason it is, that new Hops are so preferable to Old; because, notwithstanding all the Art that can be used, yet with Time will their subtle Spirits be expended in some Degree, and diminished in their Vertue as they lie in the Bag. But when this floury pure Part of the Hop is
singly

singly and rightly obtained and incorporated with Ale, or Beer, it then administers a most balsamic, opening, and penetrating Quality to the Body of Man, that, the Virtuoso's in Physic declare, will powerfully purge by Urine. And therefore are a special Remedy against breeding the Stone, as well as a great Strengthenener to the Stomach by its aromatic bitter Quality; and, by its discutient and aperitive Nature, good in all Obstructions of the Viscera, and particularly of the Liver and Kidneys. It is this noble Property that gives the Ale and Beer a fine Flavour, and causes that smooth Gust and pleasant Taste to the Palate, which, after a proper Age in the Malt-liquor, every Drinker enjoys both in Mouth and Body, and is the true homogenial Quality created for the Service of Man; and not only in the Hop, but in all other Kinds of Vegetables; to preserve which, the Curious make their Raisin and other Wines, only by infusing their tender Ingredients in hot Water, as knowing that Boiling would extract their worse Part, and evaporate their better: As is also plain in expressed Vegetables, particularly the Apple, whose first strong spirituous Juice, or Running from the Press, exceeds, for Taste and Health, the weak gross Parts of the second; and for this Reason it is that Wormwood, Broom, Century, Tanzy, Sage, Carduus, or any other bitter Herbs, ought to be first dried, and then not suffered to infuse above a Quarter or Half an Hour at most in Wort; for in these there are harsh, earthy, austere Particles that are very ready to be emitted, and the warm Wort will quickly bring forth those worse Parts that will devour, suffocate, and destroy, the fine spirituous Vertues, and cleansing Properties, and then such Drink becomes of a hard, harsh, astringent Nature, apt to obstruct the Stomach, and send Fumes and Vapours to the Head, heating the Body and Blood too violently. And thus it is with the Hop when imprudently used; therefore the common Way of infusing and decocting Herbs, a long Time, is injurious to Health. As, for

Example, formerly they put a Quantity of Wormwood into their Butt-beer, and there let it lie infusing, or rather rotting, four or six Months, till all the Drink is drawn, whereby the opening, penetrating, brisk, fine Spirits of such Vegetables are totally destroyed, and in their Room the Beer is impregnated with their terrene and saline Parts, which contain harsh, bitter, churlish, and inimical Properties. For this Reason, says a Physician, such common Wormwood-beer does not only hurt, but by Degrees weakens the natural Heat of the Stomach, and sends heavy, dull Vapours into the Head, and so prejudiceth the Eyes. The Hop also, besides its fine volatile spirituous Part, which is readily extracted by a gentle warm Infusion, and is a most agreeable wholesome Bitter, has likewise an innate, gross, terrene and saline Part, which is thoroughly communicated to the Liquor by long Coction or Steeping, and is a hot, very acrid, unwholesome, and disagreeable Bitter, yet is deemed, by the undiscerning Vulgar a good Property. Indeed, strong and fierce it is, but so far from being a Vertue to the human Body, that it certainly is injurious and destructive to it, in breeding the Stone and other Diseases. Hence it is, that all Drinks, especially the strong stale Sorts, that have the Hops boiled in them two or more Hours, strike the Palate with a harsh, rough, unpleasant, bitter Taste; and yet it was but very lately that I happened to be in a Brew-house at *London*, where they wetted about thirty Quarters of Malt a Week, that the Master presented me with a Tankard of his strong Beer, applauding it at the same Time for having six Pounds of Hops boiled two Hours in each Hogshead; which is perfectly heterogeneous to the true Management of the Hop, though he ignorantly extolled his Skill in a bad Action; for, both in the Hop and all other Vegetables, it is but lost Labour to boil or infuse them, beyond their first pure Spirit. Therefore boiling the Hop afterwards is not only superfluous, but injurious, and serves

ſerves only to raiſe and induce thoſe acrid, bitter, and noxious Particles that ſo greatly damage the Drink ; yet were never intended for the Uſe of Man, as being hurtful to his Nature, when unduly ſeparated from its better and light Parts. How much then does the ignorant Man abuſe his Health, when his whole Drink has this ſecond and worſe Part of the Hop boiled in it ! Alas ! I cannot help being concerned for my Fellow-creature, and pity his ſupine Negligence in not regarding any Hints of this Nature, when it has been told him, becauſe ill Cuſtoms have greater Power over a Man than Law or Nature, and nothing but a long Practice will convince the unlearned and obſtinate Man. But, to prove my Aſſertion plainer, let any one take a Pot of Beer and Ale, and, while it is warming, ſtir in it two or three Sprigs of Wormwood, then take it out, and let it drip into the Drink, and he will find it preſently bittered with the true fine Flavour and Spirit of the Herb : By all which, I think, I have ſufficiently made appear, that the good Part of the Hop conduces to Health, while the bad Part deprives a Perſon of it. And ſo in moſt other Vegetables there are, ſurely, healthy and unwholeſome Parts, that muſt be managed accordingly, to enjoy the one and to avoid the other.

I COME now to treat of the Uſe of the Hop, as it relates to Brewing. This fine Vegetable, therefore, I can now affirm, has at laſt obtained a juſt Reputation in ſome Parts of the Nation, under the due Notion of its good and bad Properties, by the Gentleman and Tradeſman. As to the firſt, I know ſeveral that have been ſo nice in its Uſe, that they allow but Half an Hours Boiling the Wort and Hop for *Oſtober Beer*, as the common Brewer (I am told) does his *Dorcheſter*, as well as ſeveral Tradeſmen that I am acquainted with : And one Gentleman, more careful than all the reſt, is ſaid to boil both, only a Quarter of an Hour, but, in my humble Opinion, they are none of them right yet ; for, though the Hop by Half an Hour's Boil-

ing in Wheat or Barley-malt Wort, has its full Time allowed it, I think the Wort has not; and therefore the several Beers that I have tasted, of several Persons brewing this Way, all of them, to my Judgment, were rather too sharp, which I impute to the Under-boiling of the Wort, as not having its due Cure in Boiling, that naturally renders it in some Degree so with Age, notwithstanding the Hop's Power; for, if it has not its Cure in the Copper, how should it in the Barrel? Boiling being appointed for the first Digestion of the Wort, and that will certainly be deficient, if the cohesive Parts of the soft Wort are not broke and hardened; then it will answer two great Ends, *viz.* First, when the Wort is so much boiled (which commonly is in about an Hour) that it curdles and breaks into large Particles, it will be capable thoroughly to settle in the Barrel, without which it can never be truly fine, nor healthful, but consequently will be the Cause of Gravel, Stone, and Cholic in some Constitutions; for that the ropy, tenacious Parts of the Wort are not communicated, separated, and discharged, sufficient to make its true *Faces*, till it has its mature Boiling. Secondly, by this Cure of Boiling, the Wort is divided and hardened, consisting of numberless individual Particles, which gives a greater Power to the Yeast by Fermentation, to make an easy Discharge of their excrementitious Parts, and so is more able to resist Eagerness and Putrefaction; witness the Wort that is brewed for making, what is vulgarly called, *Vinegar*, which being neither boiled nor hopped, but only fermented, will in a very few Days Time make this Aleager or Vinegar, if it is set in the Sun, or by a Fire. It is true, indeed, that the Bitterness of the Hop does naturally hold the sweet Body and volatile Spirits, and as it were captivate them, being their mighty Defender against those keen Properties, that otherwise would advance and devour the sweet mild Qualities. But then, as I take it, this Power of the Hop is confined

only

only to the State and Condition the Beer is in, when first put into the Barrel; and therefore if such Drink is turned in any imperfect undigested State, for Want of its right Boiling, it will not be improved by the Hop beyond its original Nature.

Now, that both the Wort and the Hop may have their due Cure, in the Copper as well as the Barrel, boil the Wort by itself Half an Hour, and then rub the Hops well, and put them into the Wort, either loose, or in a Bag or two, and boil all together briskly, till the Wort breaks, as I said before; then strain it into the Coolers very shallow. The Quantity of Hops on this Account for a Kilderkin of *October* Beer should be, at least, three Pounds, to be tapped at nine or twelve Months End, according as the Drink is mellowed and the Hop rotted, and so for Ale in Proportion to the Strength of the Wort, and the Time it is to be kept. To please my own Palate, I boil two Pounds of Hops in a Hoghead of mild Ale, the last Half Hour, and find it answers extremely well, tapped at about six Weeks End, without Regard to the hot Seasons or Blossom-time in brewing it, as being under no Apprehension of Miscarriage, provided my Malt, Water, Hops, Yeast, and Conveniencies are all in due Order. But, to be safe in this Management, you may put a little Wort (somewhat cooled) upon the Hops, before they are put into the Copper, to prevent what we call *scalding* them; and then the Hops will emit their Vertue more free, sooner, and regular, than when their Vertue is locked up in them by the fiery Heat of the boiling Wort, there being also a resinous and clammy Nature in the Hop, which is best opened and divided by a previous gentle Heat; or, when you have boiled one Parcel of Hops in a Bag Half an Hour, as I said before, you may take them out, and boil such another Quantity of fresh Hops till the Wort breaks; and thus a small Bag may be used in a little Copper, which may not so well agree with a large Vessel.

C H A P. IV.

*Of the Nature, Prevention, and Cure of tainted
foxed Utensils and Malt-Liquors.*

THIS is a most necessary Article in Brewing, and one of them that has been the least taken Notice of by Authors, although of the utmost Importance; because, by this Evil, there have been many thousands Barrels of strong and small Drink spoiled, both by common and private Brewers, who generally seem more wanting in this Knowledge, than of any other Branch of Brewing; and therefore, if my Pen can be serviceable to the Public, in remedying this grand Misfortune, I shall account it a valuable Opportunity of making known what I have learned and experienced in this Affair, in order to prevent those great Quantities of distempered Beers, Ales, and other Liquors from coming into the World for the Future, as have been for many Years past, to the great Damage of the human Body; because when these Drinks are thus tainted, they can never be made thoroughly sound and fine in the Barrel, but will remain always in a nauseous, unhealthy, thick Condition, and be offensive to the Taste and Stomach; which undoubtedly will contribute to the Breeding of Diseases, and that by Reason the Misfortune consists first in the tenacious Thickness or Ropiness of the Drink, and the evil stinking Scent that arises therefrom, which has brought it under the Denomination of being *foxed*, and, indeed, is justly deserving of that or a worse Comparison. Now to account for this Disaster, it is generally allowed to proceed from Six Causes: *First*, From the Nastiness of the Utensils. *Secondly*, By the Filth and Corruption of the Water. *Thirdly*, By taking the Liquors in wrong Heats. *Fourthly*, By the Multiness or other Damage in

in Malt. *Fifthly*, By the Wort's lying too thick in the Coolers. *Sixthly*, By letting them too hot into the Tun, or fermenting them while they are so. By all which, or by any one of these Ways, may this abominable Sickness in Beer or Ale be bred, as new Milk is soon turned and spoiled when put into unclean Pans; for this, like Wort, is of a pure Nature, and therefore the least Nastiness is, in some Degree, prejudicial to them, because all Dirt, Sullige, and Fur, that is left in the Crevices, and on the Sides of the Tubs and Utensils, contain in them a certain Acidity, that, like Rennet in Milk, sours and turns the Wort, more or less, from its thin, pure, loose Parts, into a *fatid*, stinking, treacle Consistence, which commonly remains in it to the last, and will rather increase than decrease; so that such Beer or Ale can never be made truly sweet again by the Art of Man; but, as such, will taint and poison the Coolers, Tuns, and Barrels in which it lies, for I have known it so predominant, that it has not been got out for a Week or more together, to the great Prejudice of both Seller and Buyer. And sometimes I have heard of a whole Guile together of strong Drink having been turned down the Kennel, as not fitting (when the Taint is in a great Degree) to be carried to a Customer's House. But, to cure this horrid Misfortune, some are so silly, among the private Brewers, to wash their Tubs or Coolers with only boiling Water, as thinking it the readiest Way to scald it out; but, in Truth, it is scalding it in; for boiling Water does only drive farther back into the Wood a certain sour, fulsome Quality that the former Wort left behind, and which the Wood of the Coolers or Tuns has sucked in, the Humidity or sweet Quality that the Wood receives from the Wort presently turning sour, very sharp, and keen, especially in the hot Season of the Year; so that, when the fresh new Wort comes into such Coolers and Tuns, it does most eagerly and powerfully attract and draw forth that lurking, keen, sour, Quality that the Wood has imbibed and retained; which

which will occasion the Whole to become sometimes only pricked, or just tainted, and hardly perceivable to the Palate; but at other Times, when the Beer or Ale is infected very much, it is insufferable both to Nose and Palate; and then such Drink will soon be sour. And this is one great Reason why such Quantities of Malt-liquors taste so mawkish, raw, and soon decay. And I myself, about twenty Years ago, had no other Knowledge to extirpate and drive out this Enemy, than to scrub the Backs and Tuns with only Coal-ashes and cold Water; whereas, in Truth, the Disease lies farther in the Wood than many imagine, and therefore is not to be got rid of very quickly, by such a palliative Cure. No, the Remedy must be according to the Disease, for, in the Bottom of all Backs, Tuns, and cooling Tubs, there are Joints, down-right Pegs, or Dole-pins, which often receive and harbour the tainted Wort and Drink, and which are mostly imperceptible to the Eyes. It is in these, I say, that the Distemper chiefly lies, and damages the succeeding Worts; for these Pins and Pegs are frequently swelled by Wets, and dried again by the Air, and so are the several Joints, whereby they first receive, and then hold such corrupted Worts. Now as there is the Depth of an Inch or two in many of the great ones, it must be supposed, that a hasty scrubbing their superficial Part, with only Coal-ashes and Water, is not soon capable of routing such a potent Enemy, whose nasty venomous Acidity and poisonous Nature lurk in the most subtle, difficult Places of the Backs, Tuns, and Tubs. Therefore some will put Stone-lime over good Part of their Bottoms, and Water over that, to lie two or three Days and slack, in order to burn the Taint away, which may do some Good. But then, as the Water and Lime acquire a plaistic Body, it becomes too thick to enter into the close Joints, and about the Pegs, as a thinner Body can, and therefore, I shall prescribe, I think, a much better Way, and that is: Take a Parcel of Wood-ashes,
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made from Ash, if they can be got, because they are the whitest, sweetest, and strongest (but any other may do) and boil them in Water to a strong Lye or Lee; the liquid Part of which lay over the Bottom of the Back, Tun, or Tub, scalding hot for some Time, that it may have an Opportunity to soak and penetrate into the Joints and Peg-holes; then with a Broom scrub the Sides and other Parts of them. This will be an effectual Cure each Time it is used, if it is thoroughly done, because of the great Quantities of searching fixed Salts, besides Sulphur, that is contained in the Ashes, which are contrary to the Nature of this Disease, and will prove a true Antidote; and if the Coolers, Tuns, or Tubs, are after each Brewing washed and scrubbed out with cold Water, and then with this scalding Lye, it will prevent and cure this Malignity better than Lime, Wormwood, or most other Methods; for it has been found, that a Lye-tub, though generally neglected as the worst amongst the rest for a Cooler, has really proved the sweetest and safest of any for that Purpose, provided there be no Soap mixed in it; if there is, it will surely fox it.

OF what Consequence then must the Knowledge and Cure of this Evil be to those, that, through mere Ignorance and Obstinacy, have brewed for several Months, nay, I believe I may say Years, in tainted Utensils, without so much as a Jealousy of the Misfortune they have actually laboured under. It is true, their Drink is sometimes better, and sometimes worse, because they are not always under the same Degree of Taint, but are never thoroughly sound; yet, because their Back, Tuns, or Tubs are not rankly damaged, all goes off under the Supposition, that it will be better next Time, which has been the true Reason that many home-brewed Ale-house Liquors have justly bore the Name of bad Drink, and yet the Brewer so ignorant as not able to account for it.

I ONCE knew a Person that had only a Hoghead Copper in *London*, and entered himself at the Excise-Office a common Brewer, that he might have one in the Score allowed him free of Duty, so at a Loss, that he had a constant Fox in his Utensils for two or three Months together, little or more, and which must have terminated in his great Loss, had he not had the good Fortune to be a Partner in a great Brew-house.

I ALSO knew a Country-victualler that brewed two or three Times a Week, constantly foxed in his Tubs, and Barrels; but that was more than he knew himself, or would know; yet, by his putting a great deal of Malt in his Drink, and the Ignorance of the Drinkers, this unskilful Brewer went on, and had his Share amongst others that better deserved.

ANOTHER Way to cure foxed or tainted Utensils is, to take Bay-salt, and put it into your Coolers, Tuns, or Tubs, and strew some on their wet Sides; then upon that scalding Water, with which when they are well soaked, scrub them very well. This Salt is allowed to be stronger and sharper than the common Salt, and as such will penetrate and enter into the minutest Joints and Pores of the Wood, where it will eat in, and eradicate the nasty venomous Particles of the corrupted Taint, and make a greater Cure at one Application, than Ashes and cold Water will at several; so that Brewers, great or small, need have no Apprehensions of being damaged a second Time, by the succeeding Worts or Drinks, if they will make a due Use of the Rules in this and my first Book, and of this famous Receipt that has often been tried and approved of, for answering this Purpose, by several eminent Brewers. This Salt, which is of a hot moist Nature, is that with which they make their Camp-cellars, by mixing it with Clay, to keep their Wine and other Liquors in; this Salt, being only the Sea-salt Water candied or coagulated by the Sun, will preserve the Body of the Clay a long Time
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in a State of Humidity, and so prevent its Hardening and Cracking, whereby the Liquor, contained under its Cover, will be in a fresh cold Condition in the hottest Seasons, as I have hinted in my first Part, for making Pots of Clay with it to stop Vessels. Again, besides the Infection that lies in the Backs or Coolers, Tubs, or Tuns, it often extends itself, by tainting the Insides of the leaden Pipes and brass Cocks, through which the Wort is conveyed into the Working-vat, or Tun, and there will lie and do Damage to the succeeding Worts, if not extirpated here also. To do which put some of the same Bay-salt into the Mouth of the leaden Pipe, and pour scalding Water on the same, and let it lie and soak some Time, and you will find it effectually eradicate all Damage out of the same. Others will wet the Bottom and Sides of Tuns, and strew the Bay-salt all about to it, and let it lie 'till next Brewing and soak.

C H A P. V.

Of Working or Fermenting Malt-Liquors.

IN my first Part, I think, I have sufficiently detected the Male-practice of beating or thwacking the Yeast into Malt-drinks: But as this vile Practice has got too much Footing at this Time in the World, to be soon exploded, I have thought it necessary to resume this Subject, and to say, that all violent Fermentations are unnatural to Malt-liquors; because, by any furious Workings, the sharp earthy Particles are irritated and brought into Agitation, which should by no Means be stirred up, by Reason they spend and destroy the pure, fine, sweet Spirits, and consequently cause the Beer or Ale to become stale or vapid the sooner. But many are so far from thinking this an Extream, that they promote it with all their Power,

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and force and beat the Yeast into the Body of the Drink for a considerable Time together, with repeated Mixtures; which, as I have already observed, is generally done out of a wicked avaricious End, to make six or seven Bushels of Malt go as far as eight or nine; and therefore it is a great Pity there is not a Penalty inflicted by Law on this Practice, as well as there is for using Molosses, in a Brew-house. For, if the Truth was known, I believe the greatest Evil is on the Side of this destructive modish extraordinary Incorporation of the Yeast with the Beer, and all (in my Opinion) for the Sake of thus rapaciously impregnating the Salt and Sulphur (two fiery Qualities) with the Liquor, that it may attack the Brain with its volatile Potency, and so impose a Credulity on the ignorant Man, that it is the pure Vertue and Strength of the Malt; and thereby it has induced many a poor Man, that works hard for his Shilling, or eighteen Pence a Day, to return the following one, for a Hair of the same Dog, to the Impoverishment of his necessitous Family, as I have seen it often done in the Country; and, as my Discourse has had some Effect this Way, I hope my Pen will have a great deal more, towards the Suppression of an Evil, utterly unknown to our prudent Forefathers, but thoroughly pernicious to many in our Time. For it is plain, that this ill forceable Usage in Malt-liquors, by beating the Yeast into them, clogs and detriments the fine penetrating Particles; so that, in this Sort of Fermentation, the gross excrementitious Matter cannot separate from the finer Parts, by which Means it will retain a strong, gross, fulsome Sweetness; which, instead of being avoided as a very great Enemy to the Health of Man, many of the vulgar People admire, and count it good and nourishing; when, in Truth, such Liquor fails not to sur, foul, and obstruct the Stomach and Passages, sending back dark, dulling Fumes, and Vapours into the Head, and also generates an hard fabulous Matter in People subject to
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the Stone and Gravel; therefore let both Men and Women refrain such Malt-Liquors, if they have any Respect to their own and Childrens Health.

It is the Advice of an eminent Person in Knowledge and Practice this Way, that the lightest Fermentation, or Working of Ales or Beers, is the most conducive Way to Health; and that all heavy Fermentations are heterogeneous and unnatural to the Drink and Body of Man: For tho' the common Way is to tun Drink, when it begins to fall or ferment more gently; yet then it will come under a fresh Fermentation in the Barrel, that oftentimes causes it to work again, as fierce as ever, which is apt to make it fret and spend itself; for long or fierce Working makes all Drink grow sharp and stale, sooner than when the Fermentation is moderate and regular: It will, indeed, in such Case become fine somewhat sooner; because the volatile Spirit, or sweet Body, is wasted, or rather turned into Sharpness by too long and fierce Working: Therefore, those, that have a Mind to avoid these Inconveniences, ought to tun or put up their Drink *young*, as the Brewers call it; that is, before it hath fermented too much; *viz.* so soon as the Drink works, it ought to be put into the Vessels, and you need not doubt but it will work sufficiently. Nay, this Gentleman carries his Opinion further, and says, when your Wort is thoroughly cold, mix your Yeast well with it, and put it presently into the Vessel, and it will do extraordinary well in warm Weather; and if in cold, Allowance must be made accordingly, by putting the Yeast into it Blood-warm. But how contrary is this healthful Way to the Practice of many who load their Ales in particular, with Quantities of saline, sulphureous Yeast; and, that their Drink may have enough of it, they sometimes make Additions of fresh Parcels in the Time of Fermentation. I once happened to be in a common Brew-house; and saw a square Tun with Drink in it under a violent Fermentation; which

induced me to ask the Man how long it had been there: He told me from *Friday* to *Tuesday*; and that latterly he had been obliged to beat the Yeast in it every two Hours to keep it down. At another's I saw several square Tuns that were about four and a half, or five Feet deep, that were so built, as to admit of loose Frames of Boards fastened on all Sides into them, to allow for the great Risings of their Heads of Yeast, before they beat or whisk'd them in, which would be elevated sometimes several Feet higher than the fixed Tun. Here was Adulteration with a Witness; here the fine Spirits of the Wort were entangled, imprisoned, and choaked, that should have been cherished, nourished, and digested, with all the Moderation and Freedom possible, and in their Room the hot, salt, Brimstone Spirits of the Yeast substituted and made predominant, to a horrid Degree of Degeneracy indeed. But according to the Proverb, One Man's Mistake is another's Gain.—
 Remarks: ——— I cannot say this Person is intirely right in advising to tun the Drink so young, as when it first begins to work (unless it be Small-Beer); but when the Ale or Beer has been worked as cool as possible, to let it have a Digestion first in the Tub or Tun; and when it is arrived to a fine, curled, white Head, then to put it up as soon as can be done, is a good Way; because, if it does not thus ferment first in the Tun, the Coldness of the Cask and Cellar, in Winter, would be apt to check and hinder it doing so in the Barrel. But, as he was a Physician, he directs this early Barreling up the Drink, to be the healthiest Way of all others, and very likely it may be so. But be sure never to fill up the Vessel again with what has worked out.

C H A P. VI.

Of Recovering prick'd, stale, and damaged Butt
and other Malt-Drinks,

I WAS told by a credible Person, who was formerly concerned with a great Brewer in *Westminster*; that he made a Trial to recover some stale prick'd Butt-Beer, that was return'd by one of his Customers, and began after this Manner: First, he ran off a Piece of strong Wort; then he put some fresh Malt on the Goods, and over that the damaged Beer; that he let stand some Time on the Goods and Malt: But, instead of bettering it, it came off a Small-Beer to his great Surprize; for, as he told the Story, the Rich robb'd the Poor; because the Goods absorb'd the strongest Part of the Drink, and emitted only the smaller Part, as white Loaves in an Oven, when mix'd with the brown Sort, will take from them, but the Brown not from the White.

A Second Case.

ANOTHER Person, who was a Victualler in the Country, and brewed his own Drink, I personally knew, that acted in such an Affair about four Years ago; but after a different Manner. He first boiled his Water, and put it over four Bushels of Malt, by a Hand-bowl at a Time, as usual; and so soon as a small Quantity of the first Wort had run off just to take away the loose Flower of the Malt, he put over three Hand-bowls full of the damaged Beer cold, and when it was all discharged, he put over two Hand-bowls full of boiling Water, that also ran off without stopping the Cock at all; and so on, a Parcel of the Stale-Beer, and another of hot Water, 'till all the Strength of the Malt was thus washed out: And thus he served another four Bushels of

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Malt 'till all his damaged prick'd Stale-Beer was cur'd, and brought again into a mild pure State by Fermentation, as at other Times. And is an excellent approved Way.

Remarks on the above-written Cases.

IN these two Cases the small Brewer appears to be the greatest Artist; because he improved his Drink, when the other was spoiled by Mismanagement; for it is well known, that several spongy Bodies are, by their Make and Textures, proper for straining or refining Liquors; and amongst others, a Body of Malt, confined in a Tun or Tub, will answer one such End and Purpose, as is apparent by returning and putting over several Hand-bowls full of the first Running of the Malt, which is commonly thick, in order to receive it back again thin and clear; so also will a flannel Bag, fastened about a Hoop, discharge foul Malt-Liquors as transparent almost as Sack, and which are used in all great Brew-houses, for straining the Dregs and Settlements left in the Backs or Coolers after the Worts are run off.

IN the great Brewer's Operation I conceive he committed these Mistakes: First, by the Heat of the Goods, and the Beers lying amongst them an Hour or more, the agitating Parts of the Yeast contained in them were stirred up, and brought into a small Fermentation that disordered the whole Body of the Malt: The stale Quality also of the Beer, I suppose, in some Degree might constrict and lock up the Pores of the Malt with its gross and sharp Properties, which caused it to emit a thinner Body than it received: Whereas all such Drink, put over the Goods, should be directly run off with an open, small, continual Stream; that the Beer might have less Power to stay, astringe, and ferment the Goods, and thereby better prevent the Retention that their hollow Grains naturally make of the gross Part of any Liquor.

Secondly,

Secondly, HERE was an Omission of pouring on scalding Water after the Stale Drink was run off, in order to wash away the glutinous, gross Parts that the Beer had left on the Goods, which was to have prepared it for the Reception of the next Lading over more Stale-Beer; that the small Brewer very judiciously did, and by his alternate Additions of cold Stale-Beer, and scalding Water, he each Time kept his Goods in right Order, so as to prevent their being clogg'd with the heavy thick Parts of the Beer; and thus recovered his damaged Drink. But then in this Case I must remark, that the small Brewer had the Advantage of the great one, in his Brewing of only four or eight Bushels of Malt; for here he could put over the several Parcels of Stale-Beer and Water at Pleasure, which the great one could not so well, by Reason of his large Copper, Mash-Tun, and limited Times of Brewing; for, in this Affair, there is a great deal of Leisure required, to give Time to the Stale-Beer and Water to run off in a small Stream, that the Liquors may have the more Time to bring away with them the Goodness and Vertue of the Goods; otherways the damaged Beer cannot have a perfect Cure. And, if there is a Quantity of such Drink to be cured, it may be done by repeating the Brewings 'till all is over. But here may an Objection arise, that such Drink may be thorough clear and fine; and that there is no Yeast nor Foulness to cause a Fermentation and clog the Goods. To this I answer, that all Drinks, that have passed a Fermentation and Digestion by Yeast, are tinctured and incorporated with it; and tho' the Drink is aged, yet will the Effects of the Yeast remain in its Body in some Degree, and cause such a Fermentation, as may be perceived by the thick Froth of Malt-Liquors, when only warmed over the Fire for present Drinking. But admit there was not the least Yeast in the Drink, yet such strong Malt-Liquor has a much grosser Body, tho' ever so fine, than Wa-

ter; and which consequently will hinder it a free Percolation through the spongy close Grains, that like a Sieve will keep back the fizy Part of the Beer, and transmit a thinner Liquor, as it happened in the great Brewer's Case.

A Third Way.

TAKE three Pounds of Hops that have been boiled in a first Wort only Half an Hour; and, as soon as they are cold, put them into a Hogshead of prick'd or stale damaged Beer or Ale. Then take two Pounds of pure, soft, fat Chalk; break it small, and put it likewise into the Cask; and, if the Drink is not too far gone, it will fetch it again into a smooth, mellow, fine Condition.

A Fourth Way

Is done by mixing new Drink with the old; but in this there is required a particular Management; for, if too much of the stale prick'd Drink is incorporated with the new, it will not answer your Expectation; therefore observe to order this in a due Proportion; let there be one Gallon of such Stale-Beer mix'd with three Gallons of new at least, that the latter may have the greater Power; for it is by such superior Force, that the acid sharp Qualities of the Stale are over-come and reduced into the smoother Nature of the New, and thus it will bring the whole Body of the Mixture under a new Fermentation, that will both clear, fine, and soften it: An Instance of which I knew done in a Kilderkin that had about six Gallons of Stale hard Beer a little prick'd. To this was put ten Gallons of New that work'd it well, and at six Weeks End, when the Cask was tapp'd, the Drink prov'd very clear and good.

C H A P. VII.

The Receipt for Brewing Dorchester-Beer.

BOIL the Water and let it stand, till you can see your Face in it; then put your Malt in by Degrees, and stir it; let it stand two Hours; then leak on your Complement: Boil the Wort and Hops thirty Minutes; cool it as soon as possible, stirring it that the Bottoms may be mingled; then set it in the Guile-Tun, 'till it gathers a Head, which must be skimmed off; then put in the Yeast, and work it till the Head fall; then tun it, keeping the Cask filling up so long as it will work.

Remarks on the Particulars of this Receipt.

THIS Receipt came to my Hands from a Physician, who has a Name for being curious in Malt-Liquors: However, I shall make my Remarks on its Particulars, for the better Understanding of the Nature of the Ingredients, and the several Methods here prescribed for their Uses. And first, I am informed, that at *Dorchester* they lie on a Chalk, which may afford a good or bad Water. If it is soft, and it will easily lather, it then is excellent for this Use; but, if it is hard, creeky, and curdling, it is as bad; for Experience has proved, that astringent or binding Waters are not agreeable, notwithstanding the common Use they are put to in Brewing Malt-Drinks; because their hard Qualities will still remain in the Beer or Ale, and affect the human Body accordingly: For tho' it has passed several Digestions in Brewing; yet will not the mineral Nature of such Water be totally destroyed, as is evident in the Taste of Beers and Ales tinged by them, that will still communicate the bad Properties of such Waters to the Palate and Body, after having lain many Months in the Barrel: They

also naturally give a sharper Taste, and induce Staleness in Drink much sooner than the softer Sorts; and if there are any unhealthy Qualities in them, or in the Malt, Hops, or Yeast, they are the sooner and faster fixed in the Body, as their astringent binding Properties have more or less Power.

It says that the Water is boiled.—It is true, according to the old Way among the private Brewers, this Method is followed: But by the more intelligible Sort, it is not; but only so much heated as to be ready to boil, or at most just broke into Boiling; for the longer it boils, the weaker it is, and the more unfit for Brewing; because the Spirits of the Water would evaporate away in the Steam, which ought as much as possible to be prevented; and therefore, in great Brew-houses at *London*, they are right in this Article of not boiling their first Water or Liquor to the Expence of its Spirits, which are truly worthy of Conservation as they tend to the Preservation of the Drink, and giving it an agreeable brisk Flavour to the last.

LETTING it stand till you can see your Face in it. ——— Is what I must own is generally practised throughout the Country, as an Indication that the Water is in a true Temper to receive the Malt; but in this also I cannot commend the Country Method; for, if the Water did not spend itself in the Copper by boiling, it will now in the Mash-Tub, and there be deprived of its Natural Spirits in Steam, that here have an Evaporation for a Quarter or more of an Hour: But to be more particular in this Point, I cannot think but this Invention was first contrived to supply the Ignorance of the Brewer, who indeed is by this Means under less Hazard of committing a Mistake, than if he was to do as the *London* Brewer does; who, instead of staying till the Water cools in the Copper, lets in a Parcel of cold Water directly; and thereby brings all his Liquor into a Temper at once, and so prevents the Mischief that boiling the
Water

Water would do. But this is a Piece of Skill that every one is not Master of ; and to such the old Way is preferable.

THEN put your Malt in by Degrees, and stir it.— This has been such a random Direction in Receipts of this Kind, that I never met with any Brewer in my Life, either great or small, that I ever heard dispute about this Matter, or ever mistrust there was any thing in it beyond common Management : But I am sure there is considerable, as I have constantly found by Experience, tho' their Mouths are frequently full of disallowing what is generally called a *Pudding-Consistence* in the Malt ; and that such a Misfortune is only brought to pass by one particular Way, *viz.* by scalding the Malt, which I own may be done : But I can now assure them, it may be done another Way, and that is, by mashing the Malt too long ; and then the Brewing is never truly natural where the Water is put over by the Hand-bowl, or what is called *Lading over* ; by reason the Malt then will lie in so heavy and close a Body, that the hot Water can't have so quick, free, and easy a Circulation about all the Sides and Parts of the Malt, as when it lies looser : And therefore, when the Malt is put into the Water, it should run but slowly, and be stirred as little as possible ; I mean no more than needs must to keep it from balling ; and then the Water will have free Access to all the light Body of the Malt. It is true, this most serviceable Nicety does not affect the great Brewer in his large Quantities of Malt, or where the Water ascends through a false Bottom, and the great Oars are used several Times in a Brewing ; because they don't here lade over by Degrees, but mash all at once. However, every one to their Conveniency and Mind ; the Lading over by Degrees pleases me best.

LETTING it stand two Hours. — This is soon said and writ ; but there is more in the Matter than at first seems : The letting it stand two Hours, is a
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very good Way to give the Water Time to enter the Pores of the broken Malt, and extract its Vertue : In this Respect I approve the Country's Method beyond that of the Brewer, who generally lets it stand only one Hour ; but I like his Way best, that caps the Malt or Goods : That is, so soon as the first Mash is done, he puts some fresh Malt spread over it to keep the Spirits in, and prevent their Escape in Steam, which is an excellent Way to give the Drink the true Flavour of the Malt ; that it will be sure to do, if it thus lies two or more Hours under Cover.

LEAKING over. — Is what may be called putting over the Malt, at Times, many Hand-bowls of Water, that it may run gradually off, and wash away the Flower of the Malt by a slow Degree, that the Vertue of the Malt may be leisurely extracted ; which is more natural, and much better, than by hasty Proceedings ; but this I have said enough to elsewhere.

Boil the Wort and Hops thirty Minutes. — This Article I would, if it was in my Power, reform in the first Part, but not in the latter. I am very sensible that the first Publication of the Hops true Nature, has done a great deal of Service in the World towards the Enjoyment of more wholesome Malt-Liquors than heretofore this Nation usually enjoyed ; and I would contribute the best of my Power, that the Wort may have also its Cure as well as the Hop : And therefore I advise, that the Wort, instead of being boiled Half an Hour, may be boiled briskly 'till it is broke enough ; which may easily be done, if it boils but Half an Hour before the Hops are put in, and then boil it longer with the Hops in ; or put in the Hops at the first Boiling of the Wort in one or two Bags, and, after Half an Hour, take them out, and boil the Wort on by itself : Thus both the one and the other will have their due Cure : For, in my Opinion, it ought to be established as a general Rule, that no fresh Hop ought to be boiled above thirty Minutes in Wort, nor the Wort
boiled

boiled less than till it breaks into large Particles ; for, if they are, I am sure the Liquor must suffer in some Degree ; first by the nasty, earth, gross Parts of the Hop ; and secondly by the Wort's being raw, and not thoroughly digested.

COOL it as soon as possible. — This answers Nature's End in the best Manner ; for Wort can't be too cold to work, if it can be made to work at all : By this Temper it is, that the Wort is prevented fretting, and the fine Spirits of the Malt dissipated ; all violent Fermentations being an Enemy to Nature, and are often the Cause of sudden Staleness and Sourness ; for which Reason Brewers dare not take the same Liberty in working of keeping Beers, as they do in the common Brown and Pale-Ales that are to be drunk directly ; because it would be in Effect forcing of Nature beyond her genuine Motion, which is the best Dictator, and proves herself most improved, when she is most gradually managed and assisted ; and therefore the Art is so to work all Malt-Liquors, that the Salt and Sulphur, with which they abound, be kept in a due Regularity.

STIRRING it that the Bottoms may be mingled. — This is very particular indeed, and contrary to the Practice of all *London* and *Country* Brewers that I ever knew : For in *London* the great Brewer takes great Care to leave the Dregs and Sediments behind in the long fixed Backs, and 'draw off' their Wort from them as fine as possible, as thinking such gross *Fæces* would prejudice the Drink, especially the keeping Sorts : Indeed it must be allow'd that foul Sediments, as they subside the Thickness of one, two or three Inches in a Butt, will become a Feed or Subsistence to the Beer for some Time ; but then let it be considered, that, by putting all the Sediments into the Cask along with the Beer, the worst Part of all that is loaded with the gross earthy Salts and Sulphur of the Malt, Hops, and Yeast, is here reserved in the Beer to the last ; whose harsh, earthy Qualities, being very unwholesome,

unwholesome, will not fail to communicate their rough Properties to the Drink, and on Change of Weather be very apt to disturb the Body of the Beer, and bring it under a Foulness and Staleness sooner than ordinary; for, as the Feed is, such will be the Nature of the Malt-Liquor. The greatest Artists, that have had a regular Learning in the Art of Brewing, allow that Drink, though it be ever so fine, put into the Guile-Tun out of the Coolers, will carry with it into the Cask such a Share of Matter, as will become sufficient *Faces* for feeding the Beer some Time, if there is Malt enough given it: But where that is doubted, and that the Drink may be further improved, any of the Compositions, or rather the Balls, mentioned in my first Part, may be used, which I have experienced to be excellent for this Purpose, and are of a much more preserving, fining, and wholesome Nature, than the foul natural Sediments of the Drink.

THEN set it into the Guile-Tun till it gathers a Head, which must be skimm'd off.—It is very likely a Head will arise in the Guile-Tun, where all the *Faces* are put in with the Wort; because the Salt and Sulphur of the foul Dregs will give it a Sort of small Fermentation, and cause a Cream to appear in a Head, which he says is best skimm'd off, and so do I; for it is a Sort of Excrement that the Wort discharges of itself; and, the less there is of such left in the Drink, the better it is. But I never like to see Wort have a Cream on it before the Yeast is put in; for oftentimes this is a Presage of the Fox.

THEN put in the Yeast, and work it till the Head fall.—This must be done without all Doubt, and should be worked as cool as possible; and when it has got to a good Head, to beat the Yeast in only once, and cleanse it into the Vessel, is the best Way of all others for keeping Beers. By this the Drink will have its Body fully opened with a due Fermentation, that is perfectly necessary to make it fine, and drink
clean

clean and light. I knew three petty Brewers of three Minds in this Respect. One said, Draw off the Drink by a Cock placed six Inches above the Bottom of the Tun or Tub, that the Sediments may be left behind. A second said, Do that and skim off all the Yeast besides. A third said, Put Beer, Yeast, and Sediments all into a Barrel. Now let us examine which of the three was most right. The first had, surely, a true Notion of the Matter; because it is these *Pieces*, that would afterwards cause a violent Fermentation in the Barrel, and bring on Acidity and Staleness in keeping Drinks: And to hinder their incorporating with the Beer, is the Way to have fine Drink. The second, that was for taking off Top and Bottom, declared himself more in the right than any of the three; for that there would be Yeast enough left in the Drink to cause a Fermentation in the Barrel, notwithstanding the Top and Bottom are taken off before. But the third, I think, wholly in the wrong, that would have all put into the Cask; for then by Consequence there must be a violent Fermentation excited, while such Drink abounds with the Salt and Sulphur of its additional Yeast, and Dregs of its own Body; that are two Principles of such a sharp, fiery Nature, as are easily put in Motion, even by the very Influence of the Weather; and which is the Cause that such Beers are so frequently disturbed on its Changes, and become stale, thick, and sour in a little Time.

THEN tun it, keeping the Cask filling up, so long as it will work. — A very good Way, indeed, and what is consonant to the best Management in Brewing; and for that Purpose some of the Drink is kept out by Way of Reserve for this Use, having a thick Head of Yeast on it within about two or three Inches of the Top; which will greatly contribute towards keeping in the Spirits of the Drink; for I think there cannot be too much Security taken for keeping in the Spirits of the Drink, which are constantly up-

on the Wing, and ready to fly away upon all Occasions; and then such Drinks will soon become vapid, stale, and sour. But there is a most contrary Way practised by some Publicans that I know; and that is, when the Drink has done working, and the Yeast duly settled, there will be a thick Part and a thin Part; now as to the thin Part, these Sort of avaricious People carefully run as clear off the Tub or Pan that it is catched in as possible, and return the same into the Cask, reserving only the thick Part out: This is another horrid, nasty, unwholesome Part of Brewing, that is worse than what I have complained of before, of beating or thwacking the Yeast into working Ale or Beer; for this is the very Tincture or Quintessence of that poisonous Excrement, and is so opposite to the sound Nature of Drink, and the Health of the human Body, that in the first it will immediately infect the whole Cask of Malt Liquor with its fulsome Taste, and in the Drinker cause a Squeamishness or Sickness in the Stomach and Head for some Time after, and often violent Cholics. But according to the Proverb, What the Eye never sees, the Heart never rues; for, were the ill Effects of such Liquor truly known, I don't suppose the very necessitous Man would take it into his Belly, that could possibly satisfy Nature any other Way; because, in very Truth, Drink thus *poisoned*, as I may in some Measure call it, with the most corrupt refuse Part of the Beer and Yeast, is only fitting for the Hog-Tub, or which is much better, to be thrown down the Kennel; for there it will do least Harm. It once happened as I was drinking at a Public House in a Village, among other Discourse, the Brewer very frankly own'd, he always took particular Care to let the Yeast settle after it had work'd out of the Barrel; and then poured off the clear or drinky Part into his Vessel. On this I told him some of the pernicious Consequences attending such Mixture. His Answer was, that truly he had paid Excise for it, and he

he could not afford to lose it. This was only one I accidentally found out; but I do not in the least doubt, but there are Thousands in the Nation besides, that are guilty of this adulterous Part of Brewing; and then it is no Wonder that Cholics, Stones, Gouts, Vapours, and Consumptions, &c. are so rife as they now are: Nay, the dead Droppings, or Leaking of the Tap, are put by several into a reserved Cask to digest and recover itself with Time, and then become saleable Drink; but this I likewise detest for its nasty, vapid, unhealthy Quality that it contracts in the open Tub, exposed some Time to the Air, and other incident Corruptions, which must necessarily retain a filthy Nature, tho' confined two or three Months in a Vessel afterwards. And therefore I am incited to take Notice of the Hardship, that such Publican Brewers lie under of being forced to pay Excise for such excrementitious Drink, and thereby tempted to prejudice the Health of the ignorant Drinker, for the Sake of re-imbursing themselves of the Duty, and which, I think, should be a moving Consideration to an Officer to take Care of oppressing the Subject with Overcharges in Gauging, that I remember too frequently happened to me, when I was concerned in the Public Brewery. And as I thus write in Vindication of the Subject, I would nevertheless be understood, I am likewise a Votary for the very same Justice on *Cæsar's* Side, whose Dues are equally his Right; and therefore I shall here insert the Copy of a Letter written by a common Brewer in *London*, which I found among his Papers after his Death, *viz.*

Mr. ———

THIS is to inform you, that about eighteen Years ago, I set up the Trade of Brewing, and thought it not amiss to take all Advantages and Opportunities, to enrich myself by it, in respect of the Duty; but, after I had gone on in this Error, God was pleas-

ed, after two Years Gain this Way, to lay a great Affliction upon me in respect of my Health; and being brought very near to the Grave in all outward Appearance, and being under the Apprehension of the awful Justice of the Almighty, I took in Hand the Work of Examination more seriously; and calling to Mind the Sins of my Child-hood and Youth, I proceeded to those of riper Years, and of my present Circumstances; and tho' before I thought it no Crime, to save what I could of the Duty, now Conscience tells me that it was a Sin, and a very great one; because it is not rendering to *Cæsar* the Things that are *Cæsar's*, as our Saviour taught us to do; and not doing to another, as I would he should do unto me. If I were the King or Governor; I would not be willing to be defrauded of what was given me, and becomes my Right by Law, (as this to King or Queen of this Realm is); and our Saviour that said, Render to *Cæsar*, hath in this taught us to be just to our Governors, as well as our Equals, and pay Honour to whom Honour, Fear to whom Fear, Custom to whom Custom, and Tribute to whom Tribute is due. These Things being now set in a clear Light, I was brought to a Hatred of this my beloved Sin of Gain, was made to resolve against it, and have kept from the Practise of it ever since; tho' you may be assured, it was as pleasing to me, as to yourself, before I saw it to be a Sin; but, seeing I went on in it but two Years, I do account myself obliged to make Restitution to the Government for it to the utmost Farthing. I send this to admonish you to do the same; and tho' you may think it a hard Task; yet it is no more than what I put myself under; for there can be no true Repentance without Restitution; where we have Ability to do it, as you and I have: And tho' you may say it will amount to a great Sum, it therefore calls the more for the Payment of it; and if it comes to all you are worth, yet it is best to restore these ill-gotten Goods; for what can it profit

you or me, if we gain the whole World, and lose our own Souls; and therefore my Advice to you is, seeing you cannot reasonably expect to live much longer, to cast up, as near as you can, all you have defrauded the Government of, all the Time you brewed, both by whole Guiles, and Parts of Guiles; in making your Length short, and then making it longer with Small-Beer, and also by hiding and other Ways, which you know best; but it would have been best, not to have known any Thing of it in Practice. It is my Resolution, that, when I can't follow a Trade or Calling without defrauding, I will lay it down. I think you have laid it down as to yourself, but that is nothing, unless you make Restitution for all your unlawful Gain; and warn your Sons that they do not the like, but immediately break off from these wicked Practices, which otherways will be both to you and them Gall and Bitterness at the last: And, that it may not be too late, I send this to you, not to do you Hurt, but Good; not to make you Poor by restoring, but by restoring to make you Rich in Faith and Heirs of the Kingdom of Heaven; which I think cannot be, while you retain the Sin or the Effects gotten by the Sin, or uphold or encourage your Sons in going on in the same Manner; for which God has promised to visit the Sins of the Fathers upon the Children to the Third or Fourth Generation, and especially such Children as go on in their Fathers Sins, as yours do in the Sin of Covetousness in the highest Degree; but if you will not own it to be a Sin, I tell you, you must own it now, or you will be forced to own it when it will be too late to repent, or make Restitution for the Wrong you have done in it. I preach no other Doctrine to you, than what I take myself; and having done what I thought was my Duty, and what I was bound to do, I leave the Event to him that disposes of all Things. But withal I desire you to do what you can to restrain all others you know

have been, or are in this horrid Sin of Fraud and Injustice.

C H A P. VIII.

A Receipt for Brewing Drink after the Shropshire Method.

WITH regard to the Ingredients or Materials of Brewing good Beer and Ale, three Things ought principally to be taken Care of, *viz.* good Hops, good Malt, and good Water. As to Hops, provided they are well pick'd and dried, the *Kentish* Hop is esteemed for Strength, to equal, if not exceed any of our *Engl.ish* Growth, &c.

THE Water to be made Use of, if it can be had, is best that comes off a Marl or Chalky Bottom, or River Water after a Flood, reserved in Tubs with Taps two Inches from the Bottom to draw it off clear from the Sediments; but in some Places as there is a Necessity, so there are Ways and Means of meliorating the Water by throwing Chalk into, or ramming the Bottoms of Ponds and Wells with clayey Marl, &c.

THAT Malt is esteemed best, and I think deservedly too, which is made after the *Nottingham, Darby, or Derby* Way, which for Fineness of Colour, Strength, and Taste, exceeds all others. Having obtained these three Ingredients in Perfection, the next Step towards having good Drink, is to take Care of the Manner of Brewing, which is various and different according to the Usage of different Places: But one Way has been universally approved of in Places famous for good Drink. The Way is this: Having boiled your Water very well with a little Bran thrown into the Copper in mashing up, put about three Pecks or a Bushel of your ground Malt into a Tub; then pour upon it Boiling hot Water; then stir it till all the Malt is

wet; then lift it into your Mash-Tun, and so proceed till your whole Quantity of Malt is wetted; then let it stand three or four Hours; when you draw off, let it run from the Tap in a small Stream, sprinkling the Top of your Mash once in three or four Minutes with hot Water. By this Means you will not disturb the Sediment, and may make your Ale as strong or as small as you please. In boiling observe the Breaking, &c.

FROM the Coolers to the Working-vat, from thence to the Vessel, &c.

Remarks on the before written Receipt :

THIS Gentleman, it is plain, intended out of an honest and generous Disposition to benefit the World, by letting them know his Way of Brewing as it is practised by himself, and several others; and I must own I have drunk Ale and Beer at his House free of any other Fault but two; and they were, the Liquor's not being fine in the Glass, nor clear of that nasty, bitterish, earthy Taste, that all Hops give Drink in which they are boiled too long. But, to be more particular, I will examine his Receipt from the Beginning, where he says, that good Hops are necessary; and that the *Kentish* Hop is equal to, if not exceeds all others. This, I own, is my Opinion; but, why a peculiar Commendation is due to the *Kentish* Hop, is to be accounted for: It is my Notion, that they have no more Advantage in their Soil, than those of *Hertfordshire*, and some other Countries; because, in both, as I remember, there are Sands, Chalks, Clays, and Loams. Their Situation almost alike hilly, or what may be called *Chilturn* Countries; a Title that distinguisheth them from the Vale Countries; so that I can't think *Kent* has any Preference on that Account: But I must be an Advocate for it on two others; and they are, first, That, as *Kent* lies Southward from *London*, it certainly has a

greater Influence of the Sun's Rays than *Hertfordshire*, and some others that lie more Northwards, which undoubtedly is a great Benefit to the Growth and Spirit of the Hop, as ripening them sooner and better, than those that have not such a happy Aspect, and are thereby delivered more from the Power of the cold Dews and Frosts that happen in the Beginning of *September*, to others which are gathered about that Time, and is prejudicial to them and many other Vegetables in some Degree by the Chill it gives them; which is the Reason that some of the Curious gather their Golden Pippins before they are thorough ripe, as rather having them a little shriveled, with a fine Spirit in them, than full mature, and damaged by the Cold; for the hotter the Weather is, when they are ripe and gathered, the better it is for the Hop; and by the same Rule the *Southam* Cyder is stronger than any other in *England*; because the Fruit has a favourable Assistance from the Sun in this Southern Situation as well as the Root, that is obliged here to run shallow on the Marble Rocks, which indues the Fruit with a stronger Spirit than others are. Secondly, The Hop in this County of *Kent* may probably receive a stronger Spirit than others from the Effluvia of the warmer Air, that becomes more potent by the exhaled Vapours of the great Quantity of Salt Water, that I am apt to believe encircles near two Thirds of this County; and so I take it to be with what they call the *Sea-Wormwood*, that grows on the Rocks about *Barnstable* in *Devonshire*; which is very valuable for its Flavour and Strength beyond the common Sort that grows on some of our waste Grounds; and that by reason of its shallow Root, the Dashing of the Salt Waves, and the thin Warm Air or Vapour that arises from the Water, that is abundantly more subtile and finer than the gross Land Air; which undoubtedly impregnates this Vegetable with an excellent Spirit; as the *Kentish* Hop

may also receive for some of the same Reasons. Yet some say the *Worcestershire* Hop excels.

HE comes next to the Water, and praises a Chalk or Marl Bottom, or River Water after a Flood. To this I answer, he is right as to the first two; but as to his taking Water out of a River, presently after a Flood, and putting it into Tubs to settle before it can be used, I can't be of his Opinion; because, while such Water is making its Sediments in open Tubs, the Spirit of it dies in some Degree, and you lose the best Quality of the Water, which all Brewers in a singular Manner ought to employ their greatest Care to preserve; and that such Water has a powerful Vital Virtue, is evidenced (as I have in another Place observed) from that of the *Thames*, that is said to stink two or three Times in an *East-India* Voyage, and at last, upon Opening the Bung, will send forth a fine Spirit of an inflammable Nature: And therefore where it can be had out of a River pure and clear, I think it far preferable to use it directly, than to obtain it by the Tap out of Tubs, unless meer Necessity is the sole Reason for the Contrary.

MALT is the other Article; and which he very justly allows to be the best of all others, when it comes nearest to the *Nottingham*, *Darby*, and *Dorchester* Sorts, which are dried with Coak; and therefore are excellent for their Strength, pale Colour, and Flavour; because the Kernels by this Sort of Fire are free from the unwholesome and unpleasant Quality of the Smoke, which all other Fuel in some Degree or other taints the Malt with; and not only hurts it in these two Evils, but also with their more irregular Heats that all Fires are subject to, except Cinder and *Welch* Coal, whereby the Malt is better made in some Parts of its Body than others; now, the truer it is dried, the more and finer Drink it will make; and then such Malt is further improved in its Strength and Colour by the sulphureous pale Effluvia, arising out of the

Coak or Culm : But this Effect in the latter is apt to be too strong and unpleasant.

HE also adds, that boiling Water is to be poured upon three Pecks or a Bushel of Malt, first in a Tub, and after it is stirred, to be all put into the Vat, and so proceed doing the like by another Bushel, till all is put into the Mash-Tun. This is the Reverse of what I have taught in several of my Methods of Brewing; and it is my Opinion, that those who so universally (as this Gentleman terms it) follow his Receipt, it is because they know no better Way; for if he knew the *Nottingham*, *Darby*, and *Dorchester* Rules of Brewing, as well as he does the Nature of their Malt, he would I believe alter his Mind and Fashion; for in those Places they are Strangers to such a Hodge-podge Way, as being their chief Endeavour to keep the Malt, Goods, and Grains as light as possible in the Mash-Vat, or Tun, that the Water may have free Access to, and into all the Parts of the broken Malt, the better to extract its Quintessence and Spirit; and, that they may do it gradually, they take special Care not to let the Water be boiling hot, when the Malt first unites with it, lest its fiery Violence scald, lock up, and stop the Pores of the Malt, make it clot and cake together, and the most flowery Parts of the Malt run whitish, glewy, and sily, like Paste; for, when it so happens, their Hops cease from obtaining good Drink that Brewing; because then the Malt will never mix kindly, nor give out its Strength to the Water. This is also proved in scalding of a Hog; where the Judgment of the Butcher is tried in taking his Water in such a Degree of Heat, as will cause the Hair to come off easily; but, if he lets it boil, it will rather set and fasten it on: Nay, the *Nottingham* Brewer is so tender in this Article, that after he has put a Bushel of dry Malt, over five that have been just mash'd to keep the Spirit in, tho' it has lain thus two or three Hours,

yet

yet he dares not let his Water be boiling hot, that he first lades over, lest it scald and spoil that Bushel; but takes Care that it want several Degrees of that Heat: And, when it is thus wetted, he then boldly puts over his Jets or Bowls of boiling Water; for then all is out of the Power of this Sort of Damage. It is true this Mixing of the Malt with boiling Water first in a Tub, will prevent its Balling, or Gathering together in Heaps, so that the Water can come to all its Parts (which is the chief Reason, I suppose, that this Way was first invented;) but then it must consequently bring all into what I call a *Pudding-Consistence*, that will cause the Malt to lie so close together, that the boiling Water afterwards can't have a free Circulation to all its Parts; nor can its Goodness then be got out so regularly and easily, as if it lay in a looser Mass; and therefore to supply this Misfortune of Balling, I put in the Malt very leisurely upon the Water in the Mash-Tub, and stir it, as I have already directed in the Chapter of *Brewing Wheat-Malt*, where the rest of his Receipt is fully answered.

A Receipt for Brewing a Drink according to a Method used in Philadelphia in Pensilvania.

TAKE five Pounds of Molosses, Half a Pint of Yeast, and a Spoonful of powdered Race Ginger: Put these Ingredients into your Vessel, and pour on them two Gallons of scalding hot, soft, and clear Water; then shake them thoroughly well together, till it ferments, and add thirteen Gallons of the same Water cold, to fill up your Cask; let the Liquor ferment about twelve Hours, then bottle it off with a Raisin or two in each Bottle.

THIS was given me by a Person, who says that a pretty wholesome cheap Drink, for quick Spending, may be made after the Form of this Receipt: But, as

I never yet tried it, I leave the Proof to those that may think fit to make Use of it.

Another from South-Carolina.

I LATELY had an Information from a Person who lived six Years at *South-Carolina*, and belonged to one of his Majesty's Ships of War there, that they have no Malt-Liquor, but what comes from *London* or *Bristol* at ten Pence *per* Bottle. As for their common Drink, a Table-Beer, he says it is very good, but apt to purge those that are not accustomed to it upon their first Drinking it; and if very new, as they are forced by Necessity sometimes to drink it so, it makes them very sick: It is made in the following Manner.— They make Use of no Malt or Hops, but take a sufficient Quantity of the young Pine-Tops (which they have growing in great Plenty in the Woods there, and from which Trees is procured the Turpentine they deal so largely in) and boil them in Water for about an Hour, or till the outward Skin or Rind peels or slips off; then they strain the Liquor; to which they put a sufficient Quantity of Treacle (the Quantities he could not inform me) or Molosses, which they boil for some Time; then cool it a little, and put it up in their Vessels, which they call *Punbins*, and so work or ferment it, being Strangers to Yeast. They take some of their Potatoes (which are of three Sorts, the Yellow or *Brimstone* as they call it, the Red, and Brown; there are some of them a Foot or more long, and are very sweet in Taste almost like to our Parsnip, (but the Natives prefer the *Irisb* Potatoe to eat with their Meat.) These they cut into Pieces very small, and mash them; then put them into their Drink, which works it very well, and their Sweetness gives the Liquor an agreeable Relish; for it is apt to be a little too bitter from the Pine-Tops, which are very strong, but very wholesome; tho' when they can get Spruce (which

(which is somewhat scarce, and grows among the Rocks) they prefer this Drink before that made with the Pine, both for Wholesomeness and Pleasantness. They preserve the Grounds to accommodate Persons, as we do our Yeast, that are brewing.

A Country Victualler's Way of Brewing.

HE has two Mashing-Tubs, one that will mash four Bushels and the other two; and one Copper that holds Half a Hogshead. The Water, when boiled, is put into the biggest Tub, and a Pail of cold Water immediately on that: Then he puts his Malt in by a Handbowl-full at a Time, stirring it all the While, and so on in a greater Quantity by Degrees; (for the Danger of Balling is mostly at first) till at last he leaves Half a Bushel of dry Malt for a Top-Cover: Thus he lets it stand three Hours. In the mean while another Copper of Water is directly heated, and put as before into the other Mash Tub, for mashing two Bushels of Malt, which stands that Time. Then, after the Wort of the four Bushels is run off, he lets that also of the two Bushels spend away, and lades it over the Goods of the four Bushels, the Cock running all the while, and it will make in all a Copper and half of Wort, which is boiled at twice; that is, when the first Copper is boiled an Hour, or till it breaks into large Flakes, then he takes Half out, and puts the remaining raw Wort to it, and boils it about Half an Hour till it is broke. Now, while the two Wortes are running off, there is a Copper of Water almost scalding hot made ready, and is put over the Goods or Grains of both Tubs; where, after an Hour's Standing, the Cock is turn'd, and this second Wort boiled away, that he again puts over the Grains of both Tubs to stand an Hour; which, when off, is put into the Copper and boiled again, and then serves hot as it is instead of the first Water for mashing four Bushels of fresh Malt; where

where after it has lain three Hours and is spent off, it is boiled; but while it is in the Mash-Tub, a Copper of Water is heated to put over the Goods or Grains that stands an Hour, and is then boiled for Small-Beer. And thus he brewed in all ten Bushels of Malt as soon as he could, with two Pounds and a Half of Hops for the Whole.

Another,

WHOSE Copper holds about twenty Gallons, makes Half a Hoghead of Ale off four Bushels of Malt, thus: He just mashes the first Copper of Water, and lets it stand three Hours before he draws it off, which he reserves in a Tub with Hops; then having another Copper of boiling Water ready, he lades that over, a Handbowl-full at a Time, keeping the Cock continually running till all is off; then he boils this second Wort first with Hops till it breaks, when he takes Half out, and puts the first Piece of raw Wort to the rest, and boils away again till it breaks; then makes a Kilderkin of Small-Beer without any Hops, which when cold, he puts one Pail of cold Water to it to keep it from souring, and the next Day it is heated, and serves for the first Liquor towards brewing four Bushels of fresh Malt next Day, and at last makes a Kilderkin of Small-Beer. By which Method he pays no extraordinary Excise. — While the Wort is boiling, this Brewer for some Time lades it up and down with a Hand-bowl, believing this Motion contributes much towards making the Wort break the sooner.

C H A P. IX.

*A Dissertation on the several Parts of the
Brewery.*

ANOTHER, to brew four Bushels of Pale Malt, useth one Pound and a Half of Hops thus : He rubs them well between his Hands, and then cools a little Wort, in which he wets them all ; then puts them into a fine Net, and boils them only twenty Minutes, but his Wort longer till it breaks ; by which he enjoys a fine palatable Liquor, fit to drink at a Month's End.— Remarks on the same.— First, He is certainly right in using that Quantity of Hops to four Bushels of Malt, even for common Ale to be drunk in a little Time ; because as the Pale Sort is the most luscious of all others, there is required no less than so much. Secondly, And to have the purest spirituous Part of this Vegetable in a little While, he is no less judicious in rubbing them first ; for by such Friction they are put into a Condition of imparting their Essence more freely to the Wort in a little Time. Thirdly, his Method of soaking them first in cool Wort is good ; for if Hops are put directly into boiling Wort, as the common Way is, you may then expect the Pores of them to be locked up and scalded by the astringent Heat of the Liquor, and thereby hindered emitting so much of their Virtues as is necessary in that Space. Fourthly, his Management in boiling the Wort longer than the Hop, and till it breaks, is a most sure Way of giving a Cure to both ; for you may depend on it, if Worts are under or over boiled, they are not rightly brewed. If under, then it will not work kindly in the Vat, nor fine truly in the Barrel, nor taste pleasant in the Glass. If too much, its viscous Parts will not thoroughly

roughly break by Fermentation; for, by too long Boiling, the Body of the Wort gathers into a thicker Consistence than it ought to have, and when very much boiled it is apt to fox, or become ropy in the Cask, and thereby subject to the Breed of Worms while it lies on the same. Fifthly, This may then justly upbraid the old erroneous Way that some are guilty of, who boil all their Beers and Ales by the Hour-Glass or Half, or, in plainer Terms, in the Dark; for it is impossible for the Art of Man to adjust such Boiling by that Rule, or any other, except the Eye; because one Sort of Malt won't break so soon as another, nor will one Sort of Water admit of it so soon as another, nor will a slow Boiling so soon as a quicker; and the Reason for such a wrong Method of Brewing was occasioned two Ways: One by the general ill Custom of the Times; and the other by the Difficulty that attends such an Observation in the great Copper, where the Curb is put up, and the Top of it is four or five Feet higher than the Wort, that leaves only a narrow Vent for the Steam to ascend out by; and then such Wort, that is under or over boiled, by Consequence can't be so wholesome as that boiled to its true Crisis, by Reason it is not of so easy and natural Digestion; but, like the Extrems of under or excessive boiled Meats, will not fail to disagree with the Constitution of the Body in a Degree; and if such Brewers happen right (as undoubtedly they sometimes do) it is more by Chance, than Cunning: But then where is the Prudence of those who have the Convenience of Buying or Brewing right Drink, and yet lay out their Money all the Year in bad Malt-Liquors, without Regard to their precious Health (the greatest Jewel in Life) and the considerable Profit that may be obtained in saving the Excise; and how a Family may brew their own Drink in a little Room, and with a few Tubs, I think I have amply shewn in my first Book of the *London*

and

and *Country-Brewer*, besides many other serviceable Curiosities that since have been proved by those I never saw or knew, and their Praise founded at the Booksellers Shops, &c. for the same. And as I have both in that and this Book detected the horrid Practice of beating great Quantities of Yeast into Ales, to the great Damage of the human Body; and also exposed the common but considerable Loss that Thousands fall under by Clay-Bungs, I shall here only enlarge a little farther on the last. It is true, that these Bungs are certainly a very great Convenience to some Brewers, by being ready to supply the Place of better with little Trouble and Cost: But if a Person will but consider the several ill Effects attending the same, I am of Opinion, he will no longer suffer such a prejudicial Companion to be close to his Drink. For these are the Words wrote in Dr. *Quincy's* Dispensatory, Page 223, *viz.* “ We must consider that Clay is a mineral Glebe, and that the
 “ gross Particles, and metallic Salts with which
 “ Waters passing through such a Bottom do abound,
 “ are, as Dr. *Lister* observed, not to be mastered;
 “ that is, indigestible in the human Body; not only
 “ therefore will these cause, as he well argues, calculous Concretions in the Kidneys, Bladder, and
 “ Joints, and, as *Hippocrates* experienced, hard Swellings in the Spleen; but they must necessarily oftentimes, by their corrosive Quality, twitch and
 “ irritate the sensible Membranes of the Stomach and
 “ Bowels; and thus hinder and interrupt the Digestion of our Food. Nay, besides all this, when
 “ they come into the Blood, it is no Wonder if the
 “ small Canals of insensible Perspiration are frequently stopped up, and obstructed by them; for it
 “ is upon this Score, that *Sanctorius* teaches us in his
 “ *Medicina Statica*, *Sect. 2. Aphor. 6.* that heavy
 “ Water converts the Matter of Transpiration into
 “ an Ichor; which, being retained, induces a Cachexy;

“ chexy ; what Mischiefs will ensue hereupon, every
 “ one sees ; not only Pains in the Limbs, livid Spots
 “ in the Surface of the Body, Ulcers, &c. from the
 “ Acrimony of the undischarged Moisture ; but ma-
 “ ny besides of those perplexing Symptoms, which
 “ go by the Names of *Histerical* and *Hypocondria-*
 “ *cal*, that may take their Rise from the same
 “ Source.” By which it may plainly appear of what
 pernicious Consequence the Nature of Clay is ; but
 lest there are not enough ill Properties in the Wa-
 ter, that is taken out of such stagnating Wells, whose
 Bottoms are a Clay, and with which many Thousand
 Barrels of Drink are brewed, truly, there must be an
 additional Evil, by a Heap or Pat of Clay on the
 Bung-hole, which, by the Jolting of the Dray-Car-
 riage, is often wash’d for some Miles together into
 the Vessel, where it afterwards subsides, and becomes
 a Share of the *Fæces* that such Drink feeds on ; by
 which its Essence is conveyed into the Body by the
 Vehicle of such Beer or Ale. And as a farther Proof
 of the metallic, saline Parts contained in Clay, we
 may only observe the glazy Quantities that run or
 gather from it, by the Vehemency of the Fire where-
 in Bricks are burnt that are made with the same Earth.
 And therefore, in Time, the discerning Part of the
 World will explode so nasty and unwholesome a
 Thing from being used about their Casks of Drink,
 not only for the abovementioned Reasons, but also
 for several others that I have mentioned in my first
 Part, and particularly for one I never yet took Notice
 of ; and that is, when such Pats of Clay are much
 mixed with the Yeast, that works sometimes several
 Days together through the Hole in its Center, and
 remains on the Bung-hole a considerable While, there
 is apt to breed, as I have seen many times, several
 Worms from the Heat of the Weather, and the pu-
 trifying Natures of the Clay and Yeast : But what
 the Eye sees not, the Heart rues not ; for so it gene-
 rally

rally is when Servants have the Bunging and Unbunging of such Casks of Malt-Liquors, and thereby passies unobserved by the many Customers. In this Case the Country People are more sagacious, where many, who live among Plenty of red Clay, refuse any Application of this Sort to their Casks: On the contrary, they constantly use the Bung I have writ the Dimensions of in my first Book, and follow the right Method I have there mentioned of managing the same. Page 65. These Considerations lead me still further to make Observations on the three Principles of Water, Malt, and Hops. And first of *WATER*.

*I*N my Brew-house, there were used two Sorts; one the New-River, the other a Well: The New-River I must own is the best Sort that *London* affords for Brewing, which was kept in a Reservoir or great Cistern, containing about thirty or forty Barrels under Ground, over which was a wooden Floor, where a Firkin-man filled his small Casks of Beer three Times a Week; and, as I remember, this Cistern was never cleaned in my Time; for it was thought there was Business enough above Ground: But no Matter; Who sees our vasy, muddy Sediments, that often increased by the Foulnesses of new Supplies, and subsided at the Bottom; where it from Time to Time tinctured the succeeding Quantities of fresh Waters with its corrupt, unwholesome Qualities that keep Company with the Beer or Ale made with it to the last? Notwithstanding, strictly speaking, all Brewing Utensils should be as neat as any used in Dairies, and accordingly are kept so by many, those that brew their own Malt-Liquors especially. However it was thought good enough to brew with, and relax the hard burnt Corns of the unwholesome brown Malt. And, for the Pale Sort, we used the sharp, hard, stagnated Clay Well-water, that was thought most proper to extract the Quintessence out of this tenacious,

tenacious, tough Grain. I have used the *Thames* Sort in Brewing to a considerable Advantage; I mean in making a greater Length of Drink from Malt by this Water, than any other would do in *London*; but how agreeable this was to the Health of the Drinker, if taken in the worst Part of that River (for the best I own is a good Water) I leave to better Judgments. I shall only relate what a Person told me he tried on this Account; and that was when he was Journey-man to a Distiller, and his Master abroad, he took the Opportunity of satisfying his Curiosity, by charging the Still with about 100 Gallons of *Thames* Water, and had for his Satisfaction only one off that he tasted, but soon spit it out in Haste, as being of an unsufferable, nasty brackish, muddy Relish. Another Case was that a Maltster, living within a few Miles of *Dunstable*, was reported to have the best *October* Beer, by making Use of his Horse-pond Black-Water, and accordingly it was taken by the Country for an Orthodox Story; and, for what I know, it may have led others into an Error of using the same unwholesome Sort, in Hopes of having the like fancied Success. But was I to act only as an Hear-say Author, I should certainly be very culpable as well as they, and more so as the Propagator of such considerable Damage, instead of detecting Errors, and directing profitable Methods. But, to do the World Service on this Account, I shall here declare how a Person may brew with foul Water (the Clay, Allum, and some other Mineral Sorts excepted) and yet have sound Beers and Ales, *viz.* — When you are confined to use a troubled, muddy, greenish, or even an ill-scented Water, as many are in the Country, who have no other Supplies than what Ponds or Ditches, Cisterns or Tubs, afford, that generally, in dry Summers, become stagnated, and often contain in them many small Worms and other *Animalcula*. I say, in such a Case, boil your
Water;

Water ; and, while it is heating, throw half a large Handful of common Salt into a Copper of it, that holds a Barrel ; and, as the Liquor grows hotter, there will a Scum arise, which must often be carefully taken off, 'till no more appear : Then put such your boiling Water into the Tun or Vat ; and, when cooled by a Pan or two of Cold, run your Malt on it by Degrees, as directed, and you'll find that such foul Water will not only produce you a sound Wort, but also a white Yeast. For I am often forced by Necessity to brew with such Water, having only a Current out of the common Road that feeds my Ditch, and that a Pond in my Garden. How happy also should the *Londoner* think himself for the Communication of this most serviceable Secret, on Account of the *New-River, Thames, and Hampstead Waters*, that are very apt to run foul on great Rains and Winds ; but, by this salubrious Antidote, are obliged to throw off their otherways foul, nasty *Fæces* or Sediments, by a Scum that is hereby easily clear'd off, before it passes the several Digestions of the Mash-Tun, Back, or fermenting Tuns ; which when the Water was in such an ill State, neither I, nor the Workman that brewed for me, took any Measures to cure this grand Evil ; for indeed, to say the Truth, I then had no Notion of the ill Qualities of these fæculent Parts and Scums ; though, if we will but employ our Reason, there may be a true Conception easily made of both their unwholesome Natures. The first shew themselves to be the earthy, vasy Parts of the Water, by their ponderous Subsidence ; for, whenever there is sufficient Time and Opportunity allowed them, they will not fail to become a Body of *Fæces* at the Bottom of any Vessel that contains them. The second results from the first, as being the more light and frothy Part of those *Fæces* or Sediments, and are raised or separated from them, by the Agitation of the fiery Particles of the

heated Water and Salt; and is of such Consequence to avoid, that every old Woman, that can cook herself a Bit of Meat, will be sure not to be wanting in her Care of salting the Water, and despuming as fast as it appears, lest its pernicious Nature corrupt both her Meat and Soup, by being boiled into the same. And shall the Brewer be wholly regardless in this Matter, though he has a thousand Times more Reason; because he has more than a thousand Times the Quantity of thick, troubled Water to use and prepare for the most noble Body in the World, even that which is human. But so it is through a long Series of ill Custom and Ignorance, that this is become one of the least regarded Articles by many in the common Brewery. For in Truth, I never knew one of them in my Life that ever attempted to take off the Scum off the Water or Wort. On the contrary, when I have argued with a common Brewer, near me, of the horrid Nastiness of such *Fæces* or Scum: — Oh! says he, I matter not how foul my Water is, since I can bring my Wort off from my cooling Back, as fine as I please. — And really so it was, that by this Means my Customers were gulled out of any Scrutiny concerning the Water that they brewed their Drink with; for, if they could see the Liquor fine in the Mug, or Glass, all Questions about the Water and Scum were hardly so much as once thought on; tho' in Truth, nothing belonging to Malt-Liquor deserves it more, and therefore I shall here observe the Absurdity of this Brewer's Answer. — Does he not hereby as good as tell us, he cares not what the Nature of the Drink is, so it take the Eye and Heart of the Drinker, and excuse him from any Suspicion of Fault, tho' at the same Time, in Fact, such a one is no less than his own Proficient at the Expence of my Health; for, such as the nasty Nature of such *Fæces* and Scum is, so much is the Drink tinctured with its Quintessence

teffence and unwholesome Qualities, by being boiled all together, and thereby so united, as that neither Fermentation, nor Age, can ever disunite or separate such its ill Properties, while the Drink indures ; because it is the Nature of Ebullition to conjoin and astringe the Parts of all Ingredients that come under its igneous Potency. This may also serve as an Answer to all those who are so vain to say, they value not any Foulness of Water or Wort, for that Fermentation will clear it, and throw off all by the Yeast. A poor Shift indeed, tho' a very common one ! But how much the Health of the Customer is concerned in such Management, I leave to the Judgment of the Reader. In the next Place I am to observe, that, to the nasty *Fæces* or Sediments of the Water, there are often added those of the Malt ; for in my Brew-house, where we brew'd five Times a Week, it is not to be supposed that we could give the Wort a due Time to make its Sediments in the Backs, nor Leisure enough to run it off by the Cock in such a small Stream as was requisite to drain it fine into the Working-tun ; so that here both the *Fæces* of the foul Water, and those of the Malt were joined together in some Measure, and in this Condition work'd and fermented all Night 'till the Morning, when we sold perhaps twenty Barrels by the Gallon ; that is, by Pails and Tubs, at two Pence and two Pence Halfpenny *per* Gallon. The rest we sent out by the Dray ; but how wretchedly unwholesome must that *Œconomy* be, where such new Malt Beer was drunk the same Day it came from the Brew-house, or the Day after, as I have known many do, before it has well done working ; they not considering that the human Body is a Sort of Alembic that distils or separates the pure from the impure, and then what must become of the grouty, yeasty, fæculent Parts of such a Compound nasty Liquid ? Is not this enough to lessen our Wonder, when we see many, of the Town-born especial-

ly, look with white Faces and pale Lips, attacked with frequent Cholics, eaten up with Scurvy, and emaciated by lingering Consumptions, that undoubtedly are often the Effects of bad Drinks; which by Consequence make large Lodgments of Corruption in the human System, while they stuff and load it annually with innumerable Draughts of Dregs and Foulnesses contained in such thick unsettled Drinks. But I wish I could end here, and had no further Reason to employ my Pen, in exposing this bad Husbandry that extends itself too often to the Gentleman and Tradesman's Cellar, where the Barrel, Kilderkin, or Firkin, is taken in for Family Use: Here then by the Mismanagement of the Servant, or through Necessity of having none but one Cask to tap, the Vessel is set a running before it has had Time to clear itself; and then there are little Hopes left of drinking fine Beer out of that Cask. This was often the Case with several of my Customers, tho' it is certain no Malt-Liquor whatsoever can be good and wholesome, if it is not truly clear and fine, and I think I may justly add, if it is not free from all nasty *Neces* that too often lie at the Bottom of Casks, in more than small Quantities, and tincture the Drink with their bad Qualities; but some there are who vainly fancy that Bear (especially the aged Sort) ought to have something to feed on, otherways, say they it will soon grow sour. To this I answer, that neither Beer nor Ale can be drawed off so fine from the Mash-Tun or Cooler,* as to want a sufficient Sediment to feed it, as may be easily proved by an Observation when the Drink is drawn off, that never yet appeared to me without rather too much of this fishy Compound, which by its earthy and saline Parts naturally induces Hardness and Begereness in the Liquor. And, altho' Ale and Beer, loaded with such Dregs, may become fine in Time, yet is such Drink more liable to be disturb'd on Change of Weather,

than that which is more free from such an ill Companion ; and that by Reason the Particles of the Atmosphere, hovering about the Cask, will not fail on certain Seasons to join those in the Cask of their own Nature, and raise a Sort of Fermentation, to the great Disturbance of the Drink. And this Contact is more or less influenced, as the Cellar is of a dry or damp Nature. If it is a Chalk, Gravel or Sand, then it is best Brewing in *October*, to give the Drink Time to pass its Digestions in the Barrel before the Summer comes on : But if a Clay or any Water is apt to ouze, and stand in the Bottom of a Cellar, then *March* is to be preferr'd, that the Malt-Liquor may make its Sediments go through its Digestions in the Barrel, and get a fine Body before the Austerity of the Winter renders such a damp watry Place too chilly by the frequent Interruptions of Frosts and Thaws. To this Purpose also some are so curious, and that in my humble Opinion with a great deal of Reason, to brew their pale strong Beers in *March*, on Account of the lesser Share of Fire that such Malt has in it, than the brown Sorts, and therefore requires a whole Summer to meliorate and ripen it directly after its Brewing : But with the high dry'd brown Sort it is otherways, by reason of the great Quantities of Fire used in its Drying or rather Parching, whereby it is the more fitted to agree with any of its contrary Principles, as the damp, cold Seasons of a succeeding Winter, which relaxes and better reduces such Drink to a Melioration. It is this then that induces a sagacious Person to brew all his Brown strong Beers in *October*, that they may have their Cure before the Summer comes on. But observe, that you don't put too much Salt into the Water you brew with ; if you do, it will certainly stale it very soon, and leave a Drought behind instead of quenching Thirst ; and, when you use any, there should be more Hops put into the Wort to ballance the hard stale Quality of the Salt in

the Drink, or rather my alcalous Balls, which are excellent to keep off Acidity, and preserve it in a mild, sound Condition; or some of those Receipts may be made use of which I intend to publish in my next Book that will answer somewhat of the same Purpose.

C H A P. X.

An eminent Physician's Way of Brewing Ale and Beer without Boiling.

THIS paradoxical Method has for some Years past gained but little Reputation in the World among the ignorant, opinionated, and self-interested Part, whose Tenets are so attach'd to Particulars, that a general Improvement can seldom get Footing till Time and Custom paves its Way by the Example of the truly wise and impartial, who suspend their decisive Judgments 'till they have brought a Matter in Question to the undeniable Test of a demonstrative Experiment, and scorn to condemn a Thing (that has any Shew of Reason on its Side) by meer Speculation; for, as he has justly observed, those who are wedded to Tradition, and their own Humour, give little Hopes that Reason will sway their bigotted Perverseness. But, to prove the Rationale of this new Method, he has made several Remarks as a Student in Physic on the Animal Œconomy, and says, that as our Bodies suffer a daily Wasting by our innate Heat, Perspiration of the Spirits and Humours through the Pores of the Skin, and the Impressions of the ambient Air, there is required a daily Recruit of Nourishment. To this End the Variety of Foods and Liquids are to be considered as they are more or less healthful to our Bodies; and as the Stomach is the Agent that digests all Meats into a milky Substance called *Chyle*, which, passing into the Guts, meets

meets with two different Juices from the Gall and Sweet-bread, that, being mix'd together, create an Ebullition or Fermentation. which further perfects the Chyle, and is sucked thence by the milky Vessels, and carried through several Receptacles till it mixes with the Blood, which returns its Nature and Nourishment to the Heart, whose Pulsation drives it into all Parts of the Body. And, being thus intermixed with the Blood, it is at length transmuted into it, like the former.

THE Blood, being thus made out of Chyle, is by the Arteries conveyed to all Parts of the Body for their Nourishment: But the most pure and spirituous Parts ascend up to the Brain (where out of it the Animal Spirits are made) being the Seat of Fancy, Reason, Judgment, and Memory; for from the Brain are all the Nerves or Sinews divided into all Parts of the Body, which cause its voluntary Motions, as Walking, Standing, Labour, &c.

FIRST then, if our Drinks or Meats be either improper in Quality, or too great in Quantity; in either Case it disturbs this curious Œconomy, Excess in both laying the Foundation of most Diseases; for every Thing delighteth to produce its own Simile. Therefore all unwholsome Meats and Drinks are incapable of being converted into a pure and healthy Blood; but will in Time acquire a Sharpness or some other evil Quality; which, being carried to the Brain, clouds it with Vapours, interrupts its noble Faculties, and by often Repetitions makes a Magazine of corrupt Humours: By which it appears, what vast Importance good Meats and Drinks are of for securing Health of Body, and improving all our intellectual Faculties; because the Passions of the Mind follow its Temperament; for, such as the Diet is, such will be the Blood. To this Purpose this ingenious Gentleman declares, the first Step towards the Generation of the Stone, Gravel, Gout, Consumption, and

many Diseases is the drinking strong, hot, sharp, intoxicating, stale Liquors, and fiery prepared Drinks, as Beer high boil'd with Hops, Brandy, Rum, old Wines, which for the most Part tend towards a hot sharp Spirit, breed a hard gritty Substance in the Passages and Ureters, and burn up the radical Moisture. Which to prevent in the succeeding Generation, it is now practis'd by several of the great ones, to confine their Children to select Diets, consisting chiefly of Puddings, Soups, &c. but little of any Flesh; and to that Degree, that I have known a Boy and Girl petition the Servants for a Morfel of a Fowl. This is done in order to prevent a Lodgment in their Bodies of those pernicious Scorbutic Salts, that all Flesh abounds with: And so in their Drinks they are not less curious.

Secondly, THE boiling Hops two, three, or four Hours in Beer, is a Thing of pernicious Consequence; because this Usage destroys the mild, opening Qualities of the Drink, and in their Room institutes and impregnates the Wort with a harsh bitter astringent Nature; and, when Hops and Beer are so boiled, they prove very injurious to several Constitutions; especially those inclinable to the Stone, or Gravel, by their extraordinary restraining Operation.

Thirdly, THAT the boiling of Wort, or any spirituous Liquor that is extracted from Things whose Body is opened by Fermentation, as Malt is in a very high Degree, does not only destroy and evaporate the fine, thin, subtile Spirits, which are only capable of Penetration; but it does as it were fix or stagnate the Whole; by which it becomes of a grosser, fuller, or stronger Taste in the Mouth, which through Custom and Ignorance is esteemed a Vertue, but the contrary is understood; for thereby it becomes of a heavier Operation, lies longer in the Stomach, and sends gross Fumes to the Head; which is obvious by tasting unboiled Wort, and that boiled with or without

out Hops, and you'll find that this last has not only lost its pleasant sweet Taste, but its opening, penetrating Vertues, by which it becomes of another Nature and Operation, which Fermentation does in some Degree help, but it cannot regain those fine, thin, soft Vertues that it lost in boiling, the fierce Heat of the Fire being an utter Enemy to all spirituous Drinks, Liquors, and Cordials. It is also to be observed, that unboil'd Ales and Beers do generally drink smaller in the Mouth, than that which is boiled; because its spirituous, sweet, balsamic Qualities are not so much destroyed, suffocated, or stagnated by the igneous Particles of the Fire as the other; but it most naturally warms the Stomach, and is not so subject to send Fumes to the Head, runs thro' the Body quicker, purges more powerfully by Urine, which are naturally Testimonies of its Vertues, and that the better Parts are preserved in the Preparation. It is also to be observed, that all Drinks made without Fire, altho' with raw, crude Fruits, Apples, Grapes, and the like, as Wine, Cyder, and many other Sorts, are not only more spirituous and brisker in Operation, but also more cleansing and penetrating, if Order and Temperance be observed. But note, that all fermented Drinks are much better and greater Preservers of Health when new, than Old or Stale; for Age turns their mild Vertues into hard, inflammable, and keen Properties; for this Cause, all Stale Beer, old Wine, and Cyder are far hotter in Operation than new, and consequently more prejudicial to Health, especially in the Gout, Gravel, Stone, and Consumption; therefore those, who would drink Beer and Ale more wholesome and homogeneous, may observe the following Rules, *viz.*

FIRST make your Water or Liquor near boiling hot, then put so much into your Mash-Tub, as will wet your Malt; stir it, and let it stand Half an Hour; then add your whole Quantity of hot Water that you
pur-

purpose to put up for the first Time, and let it stand an Hour and an Half; but, if you would have your first Wort very strong, then two Hours, if the Season be not hot; then put what Quantity of Hops you think fit into your Receiver, and let your Wort run on them; and, after your Hops have infused an Hour and an Half in your Wort, then strain it off into your Coolers, and you have done with the first Wort. Then put upon your Malt your second Liquor near the same Heat as the first, and let it stand only one Hour at most; then take what Quantity you please of fresh Hops, and put into your Receiver, as before, and let your second Wort run on them; then take both second Wort and Hops together, and put up into your Copper; there let them infuse till your Wort is near boiling, but not boil; then strain this also into your Coolers, which you have done with also. Now, if you will make Small-Beer, put what Quantity of cold Water you think fit on the Grains, and let it stand Half an Hour; then run it off to some fresh Hops, and put both this third Wort and Hops into the Copper as you did the second, and let the Hops infuse till they are near boiling; then strain it into your Coolers, and you have done. But remember that your Water never is to boil; for Boiling irritates and evaporates the subtile, fine, penetrating Gas or Spirit; and then the Water becomes more harsh, hard, fixed, and dead, which renders it not so capable to draw forth or extract the sweet Vertues of the Malt; to prove this, boil a Quantity of River Water, put it into another Vessel, and let it stand a While; then take a like Quantity of cold, and put into another Vessel, and let that stand the same Time as the other, and you'll find the boiled Water to stink, and never be sweet again; but your Water, which remains intire, not touched with the Fire, will also putrify, or rather ferment, but then it will recover and become sweet and good for any Use, as before.

Again,

Again, tho' I have mentioned the making of Small-Beer after the Ale, I would here be understood, that all such Beer is injurious to Health, and the common Drinking thereof does generate various Diseases, especially the Scurvy; because in the Grains is left nothing but a terrene gross Phlegm of a tart four Nature, which incorporates with the Water; and, to make it much worse, it is generally boiled with the Dregs of the Hops, which have been boiled several Hours before in the first and second Worts, that still increases the Mischief: However, of this I have amply wrote in my first Book.

THE Quantity of Hops for Beer, if you propose to keep it Half a Year, or a Year, ought to be six or seven Pounds to a Quarter of Malt; but, for Beer or Ale that is to be spent presently, two, three, or four, to eight Bushels will suffice. Tun your Drink young, that is, as soon as it works, put it into your Cask, and it will be much wholesomer than if it ferments too high before. And, as to Boiling of Worts after they are drawn from the Malt, I do aver (says this Gentleman) that it is not only unnecessary, but mischievous for the foregoing Reasons; 'tis not Boiling, but a due Fermentation that makes excellent generous Liquors. Malt passes through three Digestions: First, by the Sun and Elements. Secondly, by its being made Malt; and, Thirdly, by its Infusion in Water, and needs not a fourth by boiling; for, tho' I say it is to be heated, it is not to correct its Rawness so much, as to fit it the better to extract the Vertue out of Malt; which being once effected, all our Pains in Boiling is superfluous; because this Drink has passed through all the Digestions and Fermentations necessary to its Conservation, and will keep accordingly; for I have made excellent Beer this Way, that has kept twelve Months, tho' six Months is long enough: But if any are dubious of the Veracity and Benefit of what is here advanced; for their farther Satisfaction
and

and Conviction, I refer them to Experience as the best Master.

C H A P. XI.

Sir Tho. Seabright's Method of Brewing a Pipe of Pale Strong Beer.

TAKE three Quarters of the finest white Pale Malt, let it be ground not too fine, but just that all the Corns may be broke; let your Water be soft, running, Rain or Pond Water; boil it Half a Quarter of an Hour, then lade it off into your Mashing-Tub; let it stand till you can just bear your Finger in it: Then put in your Malt by a little at a Time, keeping it stirring all the While: It will take Half an Hour's Mashing in this Manner: When done, cover it up close, for two Hours and a Half, or three Hours, returning it back into the Mash-Tub, till fine. At first letting off, put in fourteen Pounds of the finest Pale Hops, rubbed in with your Hands, that they may not lie in Lumps, boil it to twenty, not exceeding thirty Minutes, with as much Fierceness as possible, to be kept in the Copper; immediately after throw the Liquor off into the Cooler, straining the Hops clean out; let it be almost cold, not Blood-warm, before you let it down into your Working-Vat. One full Quart of good Yeast is enough for this Quantity; you may let it work one or two Days; then tun it, keeping the bottom Sediment out; let be filled up every Day for a Week; after bung it in three Weeks or a Month; it is sometimes near twelve Months before it is fine for Bottling.

THE above Receipt was communicated to me by that honourable and generous Gentleman; on which
I shall

I shall only make this short Remark, that in my humble Opinion his Boiling the Wort but Half an Hour with the Hop is not agreeable, because it can't have its due Cure in so little a Time, tho' the Hop has ; but as I have already writ, and intend hereafter to publish more on this Subject, I refer you to the same.

The Fraudulent Practice by Short-measured Casks exposed.

C A S K S. — These are unavoidable Necessaries, and must be had at any Rate: Their Sizes in *London* are generally the Pin, Firkin, Kilderkin, Barrel, Hogshead, and Butt ; of which Number there are three that differ from the rest in Measure on a particular Account ; and they are the Ale Firkin of eight Gallons, the Ale Kilderkin of sixteen, and the Ale Barrel of thirty-two Gallons : The Small-Beer Firkin being nine Gallons, the Small-Beer Kilderkin eighteen Gallons, and the Small-Beer Barrel thirty-six Gallons. Now as there is a considerable Difference in the Measure of these three Casks, I think it but doing Mankind common Justice to take Notice of a horrid Fraud that was never yet exposed in Print, committed by some ill Persons concerned in the Small-Beer Brewery for many Years past, and that by carrying these Ale Casks full of Small and Ten Shilling Drink instead of the Beer Casks, whereby many honest Customers have been imposed on to a considerable Damage. A particular Case or two I shall here mention as it in some Degree related to myself. My Father happened to serve a Clock-maker in *Fleet-street* for some Years with Table-Beer in Kilderkins, and other Casks, till at last he was supplanted by a Firkin-man, who by a villainous Invention imposed on them both in this Manner, *viz.* He comes into the Shop under a Pretence of buying a Clock ; and after he had agreed to the Price, he tells the Owner that

that he was a Brewer, and would furnish him with Drink till all was paid. To this the Clock-maker agrees, and the Debt was discharged in these short-measured Casks, that generally wanted considerable of being full. Now this Impostor did not confine himself to this Way of cheating only, but was detected in several other sly and notorious Facts. Once a Gentleman that was another Customer came to a certain Brew-house, where he took up his Drink, to enquire for him; but, he being absent, told his Case to the Master-Brewer, a worthy Person, that there was a Cask brought into his Cellar by two Men seemingly as a full one, but was truly an empty one or near empty, and at the same Time carried another away from off the Stilling that had some Gallons in it. At another Time this Monster in Iniquity sold his Firkin-Trade to a Person for valuable Considerations, and presently afterwards went about and persuaded several of the Customers to take Beer of him again, to the great Prejudice of the honest Purchasers. And now, as I have engaged my Pen so far, I will proceed to calculate what a Family, that drinks a Kilderkin of Ten Shilling Beer a Week, may suffer by such a Fraud, that wrongs the Customer of two Gallons in the Measure of the Cask, and sometimes another by the Vessel's wanting of full, which is three Gallons in all; and amounts to ten Pence *per* Week, or two Pounds three Shillings and four Pence *per Annum*; a Matter I think of Consequence, and calls for a strict Observation. But here I would be understood that I do not extend my Reflection on the honest Brewer or Firkin-man; for I have known a Firkin-man that would always not only send out lawful Casks, but full Measure, and scorn'd to be guilty of the least Wrong this Way: So likewise the Strong-Beer Brewers, who I believe are most of them Men of strict Justice and Probity; an Instance of one of them I shall here mention, as it occur'd to my Knowledge

ledge from the Relation given me by the Brewer concerned in the Affair.—An eminent wholesale Victualler that sold Stout and other Stale Beer by the Butt and Hogshead to those new set up, who are often obliged to furnish themselves this Way, till they can get a Stock of their own at a sufficient Age; agreed with this Brewer for a Number of Barrels of Keeping Beer, on Condition he would let him have so many new Hogsheads as would contain all the Drink. Now in this Proviso, the Victualler had a sinister End, that the Brewer at first perceived not; for, being acquainted with the Cooper that was to furnish them, he persuaded him to make them under Measure, that he might get a Profit by selling to the Customer a short Hogshead, instead of a full-measured one; and though he thus sold by the false Cask, he bought by the true gauged starting Barrel; which happened afterwards to be discovered by the Brewer, who was so honest a Man, that he gave a large Sum out of his own Pocket to be distributed among those that had thus suffered, that they might have ample Restitution made for the Fraud committed by Means of his Cask, tho' unknown to him: I have been the more particular in the Relation of these Pieces of Knavery that they may be a Warning and Prevention to Gentlemen, Tradesmen, and others how they deal with Men of bad Reputation, which this Firkin-man generally had; who, though he carried on his Frauds to a great Degree for a long Time, lately died very miserably poor and distracted.

BUT I can't yet discharge my Pen from this Sort of Imposition, by Reason that two considerable Small-Beer Brewers were also guilty of sending out these Ale Kilderkins and Firkins to their Customers, one whereof declared that he had done it, but left it off some Time ago, when he thought he had got enough (I suppose) to trust Providence by honest Measure. As to the other, I don't
know

know whether he ever did. A horrid Thing indeed, for Persons sometimes to suffer not only by Drinks made with unwholesome Waters, Malt, Hops, and Yeast; but, to compleat the Scene of Villainy, must have short Measure into the Bargain, to a considerable annual Loss where there are two, three, or four Kilderkins consumed in a Week, as in some Families there are! Bad indeed it is with the Customer who is damaged by such a Wrong; but worse it will be to him that commits it, who must die without true Repentance, if a Restitution is not made, and he of an Ability to do it; and how that can well be done to those that may be deceased in the Time, and others that he may never come at, I know not. However, with many who have a Convenience of Brewing their own Drink, the Risque of dealing with such Men may be avoided, and you may please yourselves several Ways, by so doing. Yet, where the necessary Room and Utensils are wanting, the honest common Brewer, who uses a right Method, may supply such best, and who I must own is commonly provided with the best of Coolers, Backs, Tuns, Room, &c. for this Purpose.

The End of the Second Part.



THE
London *and* Country
B R E W E R.

CONTAINING,

- | | |
|---|--|
| <p>I. Of the four QUARTERS of the Year, as they relate to Brewing MALT-LIQUORS.</p> <p>II. The State of BARLEY for the Year 1737.</p> <p>III. Of MALT-KILNS.</p> <p>IV. Of FUELS for drying the several Sorts of MALT.</p> <p>V. Of the great public BREW-HOUSE.</p> <p>VI. Of the small private BREW-HOUSE.</p> <p>VII. An excellent Way of Brewing a But of Pale strong BEER, by an Inn-keeper.</p> <p>VIII. Brewing a Hoghead and a Half of PALE-ALE from fresh MALT, by a private Person.</p> <p>IX. The best Way to make ELDERBERRY - BEER (called EBULUM) CHINA-ALE, and several other Sorts.</p> | <p>X. Of the DEVONSHIRE white ALE.</p> <p>XI. A SCHEME for Brewing strong MALT-LIQUORS after a new improved Method.</p> <p>XII. Of WORTS, and their Improvements after a new Method.</p> <p>XIII. The BARNSTABLE Way of Brewing a Hoghead of fine Pale ALE.</p> <p>XIV. Of Working BEER and ALE after a new Way, to their great Advantage.</p> <p>XV. Of Brewing BUTT-BEER called PORTER.</p> <p>XVI. An Account of the destructive WEEVILS, with several Ways to destroy them.</p> <p>XVII. Common PURL improv'd, by a famous new cheap Receipt now in Use, rendring it far more wholesome and pleasant than by the common Way.</p> |
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By a Person formerly concerned in a public Brewhouse in London, but for Twenty Years past has resided in the Country.

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L O N D O N:

Printed for THOMAS ASTLEY, at the *Rose* in St. Paul's Church-Yard. MDCCXLIV.

[Price One Shilling.]

THE STATE OF NEW YORK

IN SENATE

January 15, 1867

REPORT

OF THE

COMMISSIONERS OF THE LAND OFFICE

IN ANSWER TO A RESOLUTION

PASSED BY THE SENATE

ON THE 15TH DAY OF JANUARY

1867

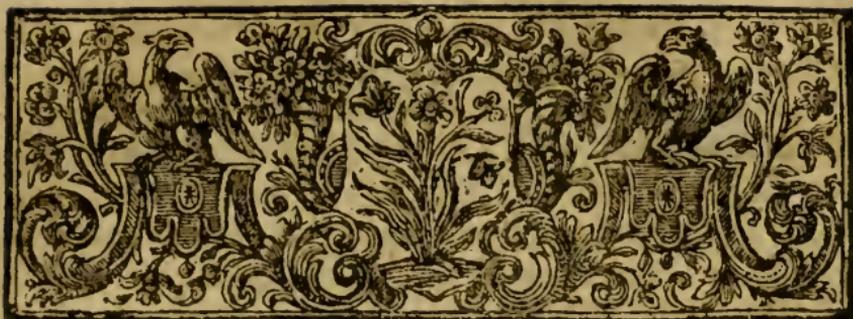
ALBANY:

WHELAN & SON, PRINTERS

1867

Price per copy

10 CENTS



T H E

P R E F A C E.

HAVING been pretty full and particular in the Prefaces to my two former Treatises, on this Subject, I shall be the briefer here; and only observe, that, as I annually travel through several Counties in the Way of my Business, I have had the greater, and really the only Opportunity of thoroughly acquainting myself with the different Methods of making Malts, brewing Beers and Ales, and inspecting into their After-management: In all which (though there be still too much Reason for Complaint) blessed be God, I have seen great Improvements, especially within these few Years, which, as they were very much wanted, and of great Importance to the Nation, induced me to use my utmost Efforts, in some Measure to bring them about, still hoping to see them advance, by the laudable Endeavours and Example of some unbiassed Persons, who will not any longer submit to support bad Customs, merely for the Sake of Profit, in a Case that so nearly

The P R E F A C E.

*concerns the Health and Well-being of Multitudes. The
aforesaid new Methods of making Malts, brewing
Beers and Ales, and their advantageous After-manage-
ment in the Cellar, with Variety of other useful Matters
never before published, I have here freely communicated;
which, I hope, will not only render the Work compleat,
but also be attended with its most wished for Effects,
viz. The fully apprising the unwary Drinker of his
Danger, as well as better informing the Judgment of
the Artist, and directing his Practice in the right
Channel.*





C H A P. I.

Of the four Quarters of the Year, as they relate to Brewing Malt-Liquors.

I. *Of the Spring Quarter.*

AIR of itself is a Fluid of an elastic or springy, yielding Nature, of a thinner or thicker Body, as it is more or less compressed, dry, or moist. From the two Principles of Heat and Moisture all Bodies are opened, and made to exert and diffuse their innate good or bad Qualities, whereby they are rendered capable of mingling or incorporating with the Air of the Place. From hence it is, that there is a pregnant Reason for brewing in the Spring-time, because then both Air and Water are stored with Exhalations from growing Vegetables, which join others, and especially those of the same Kind: And thus it is, that the Particles, which float in the Air, are, as it were, sucked in by those of the Water, Malt, Wort, and Hops, to their great Improvement, especially in the open Country. Of this Communication, the ingenious Mr. *Boyle* makes a Sort of Proof, by telling us that a Piece of Allum divested of its Salts, and hung up in the Air, will in Time recover its pristine State from the Salts in the Air. Others say, that if a Water is distilled from a fragrant Vegetable, and becomes almost vapid and dead, though at more than a hundred Miles from any Land, will yet in the Spring-time regain its Scent and Virtue, by joining in Contact with its similar Particles, which float in the Air, and are diffused over the whole

Earth and Sea: As is also particularly apparent in Wines, Cyders, &c. which commonly fret when the Vines and Trees are in Blossom. Therefore the Spring-Season must be very convenient for brewing Malt-Liquors; because then the Pores of the Earth are unlocked, and the Aromatic Nitral Vapours set free after having been bound in by the Winter Cold; but now ascend by the warm Powers of the Sun, which replenish our Atmosphere with lively and sulphureous Particles, arising from the sweet Vegetables that now exert their Strength by the Rarefaction and Thinness of their Saps, and administer their fragrant and salutary Effluvia's to all Things they can come at; and that in the greatest Perfection, when it arises from Corn-fields, Gardens, large Commons, and where Trees and Hedges are not too thick, and the Land too low and watery. And though Blossom-time is accounted dangerous for brewing even to a Proverb, yet I cannot help being of a contrary Sentiment, for Reasons I shall by and by assign; and also because the Air and Waters in *March*, *April*, and *May*, are seldom damaged by the Violence of Heats and Droughts, which makes me suppose the Saying was broached when the Art of Brewing was little known; for now the Springs generally run high by the Swell of the Winter Rains, that consequently must render them more pure: So that in this Respect *March* far exceeds *October*, because it is to be supposed the Waters then are low after a Summer's dry Weather, which in course leaves them very earthy. But the Rain Water in particular has the greatest Advantages, because it is freer from any earthy, saline, and metallic Quality, than any other Sort whatsoever. Besides which, the fat, dewy, and vegetable Exhalations in the Atmosphere, as they meet this delicate Water, must still be an additional Improvement to it, and make it exceed all other Sorts at this Time of the Year for Brewing; and, especially if Ale is made with it; which leads me to renew my former Observation, that now is the best Time to brew the pale and amber Sorts

of Malt-Liquors, for their more immediate enjoying the Rarefaction and Melioration of the Summer-Air, which best agrees with all Drinks made from tough Malts, that have the least Share of Fire in them; as the Winter-Air does with the brown Sorts, whose Bodies are loaded with igneous Particles, and best reduced into a smooth, temperate Condition, by that frigid Season; and therefore, *October* is very justly preferred for brewing such high-coloured Liquors.

II. *Of the Summer Quarter.*

IN this Season is the Extream of Heat and Drought, as in Winter of Cold and Moisture; and therefore it is not so agreeable to Brewing as the Spring and Autumn, because it hastens Fermentation too much: Upon which it has so great a Power, that it is difficult to keep the Drink from too high an Agitation; and then the Spirits fly away, which should be most carefully preserved for the Conversation and Fining of the Drink. Now also Rivers, and more especially Pond-Waters, are most impure, not only from the great Quantity of growing Vegetables, but likewise from the Breed of Insects, that makes it both unwholesome and improper for brewing. And here I must observe the Unhappiness of those People, whose Business necessitates them to live in a bad Air, and in the Use of worse Water, which many in the low Grounds of *Kent*, *Essex*, and some other Parts of *Britain* do, particularly those in and about *Prittlewell* and *Ratchford*, about two Miles from the Salt Water in the Hundreds of *Essex*, over-against the Isle of *Shepey*. It is here the Water so affects the Land-springs, that both their Wells and Ponds afford them little other than a brackish alluminous tasted Water; insomuch that it causes their Drink which is brewed with it, to turn sour presently, and their Bread to rope as well as their Beer; and the more because its saline Quality makes it so penetrating and sharp as to extract and bring away with it the Tincture of that muddy Sullage or Earth, that lies in great Quantities on their Shore, as well as those mineral Earths through

which they are strained and pass; and thereby probably communicates such unwholesome Qualities to their Bread and Beer, which causes these lamentable Effects; as the Natives themselves justly believe, who say that their Water taints the Dough beyond the Power of the Fire to cure: For sometimes, in two or three Days after it is baked, it will appear like Cobwebs, every time it is cut, and if broke, it will plainly shew it self stringy and ropy. Not but that I must own this cobwebby, ropy Condition of the Bread may be, and is often brought on by using stale four Yeast, when the Water is absolutely good. Yet here is a plain Proof of the Corruption of the Water, because, if the Yeast is good, these Misfortunes will happen; to prevent which, some of them boil Hyssop in the Water, others the Twigs of an Ash or Black-thorn, and find it very much answers their Purpose both in Baking and Brewing. But there is a Difference even in brackish Waters, occasioned by the Nature and Situation of the contiguous Earth; for, in the Yard behind the Governor's House at *Upton-Castle*, that lies on the River *Medway* about two Miles from *Rocheſter*, there is a Well out of which they pump a Water a little brackish; and yet it makes both excellent Bread and Beer, as I have often tasted: The Reason is, the Shore that lies near it is a clean Sand, and so is the Earth through which the Salt Water is percolated or strained till it mixes with the fresh that supplies the Well: And what gives it a further Advantage is, that though it stands below the Level of the high Water-Mark, by which it becomes brackish; yet the Water is free from those infectious Particles that a muddy Shore and a flat Situation would consequently give it: For the very same Reason, the Inhabitants of the great Castle of *Dover* enjoy a most fine clear soft Water, out of perhaps the deepest Well in *Kent*; and that free of any brackish Taste, because the Earth, adjoining to the Salt Water, is a Rock of Chalk, wherein this Well is situated within less than a Quarter of a Mile from the Sea. And here I cannot but observe a

Neglect that many are guilty of, to make Use of foul Pond or River Waters, that in particular require first a Clarification of their fulsome, unhealthy Particles, before they are used in brewing, and especially such as are supplied by Currents from the common Road, or other dirty Conveyance. But where there is no Conveniency for doing this, or that the Trouble and Charge are thought too much to give them Time in Cisterns or Tubs to make their Sediments, the last Opportunity ought punctually to be observed; and that is, by scumming clean such Water, as it is heating in the Copper: For though it may be objected, that these Sort of Foulnesses may be discharged by the several after Fermentations, it is certainly wrong Management, to suffer such Filth to accompany the Wort till that Time; because the infectious Scum will be incorporated with the Drink, by the three Digestions of mixing with the Malt boiling and working, so as to tincture it with the ill Qualities that may be contained in such Waters, as I have shewn in the Example of Distillation. But when necessitated to brew with such foul Water, see the Remedy in my second Part. Well-Waters now are sometimes very low for want of sufficient Supplies of Rain, and thereby the subterranean Circulation is slow, and almost stopped, which gives the Earth a greater Power to load such Waters with earthy, mineral, stagnating, and insidious Particles, which, in Spring and Winter, they are most commonly free from, by the Plenty of fresh Waters, that then saturate the Land; for which Reasons, all possible Regard ought to be had to obtain Water in a true Order, as it is the Fountain of Life to all Vegetables; for by it they are generated, nourished, and increased; and thus it opens the Gates of Nature, for all Properties to breathe and send forth their innate Qualities. — The softer and purer Part of Water may be drawn off, and the harder and more earthy saline left behind, by passing it through an Alembic. Another common demonstrative Proof is that of our Tea-kettles, whose Insides are loaded and crusted with the
terrene

terrene, and fix'd saline rough Particles of the Water, which consequently must evaporate its better, softer, and more pure Parts by boiling, and thereby render it harder.

III. *Of the Autumn Quarter.*

THIS Season is commonly attended with moderate Weather, and often fine Showers, especially about *October*, that then begin to recruit the Rivers, Ponds, and Wells, with fresh Supplies of pure Water, after a dry Summer; which capacitates them to be more serviceable in brewing good Malt-Liquors, than in the preceding Season: But are most advantageous to the brown Sorts, which stand in need of a cold Air to reduce their fiery, sharp Particles, that by many, of the Country People in particular, is not at all regarded, whom I have known to use a hard keen Water for this Purpose, which in a great Measure locks up the Pores of this Sort of parched and burnt Malt, and so deprives them of their expected Length or Goodness of their first Worts; which a soft Water would easily extract and bring away, and which, in brewing strong *October* brown Beer, must be very detrimental, because it not only deprives them of their Quantity, but also endows such Drink with a sharp, griping Quality, that the sooner brings on Staleness and Loss. A further Proof of the Effect of hard Water we have very plain in a fresh Cod, which to dress nicely, the Cook cuts into several small Pieces, in order, as they call it, to *crimp* it, by letting them lie in hard cold Spring-Water about an Hour, and then boiling it in the same Sort; by which Management it will harden, curdle, and keep its Whiteness, insomuch that it will eat almost as firm as Beef. But in case there is no other Sort to be had to brew this brown Malt with, or if Pond or River-Water be foul, take some Ashes made on a clean Hearth burnt to Whiteness, from green *Ash*, or from *Beech* which some say is better; and after they have been well sifted, put the fine Ashes in a Bag, and hang it a whole Night in a Cask, Cistern, or square Tun of such Water: It will not only soften the one, but cause

cause the gross Particles of the other to subside by Morning, and in a great Measure cure it of the unwholesome, metallic Qualities, make it better extract the Vertue of the Malt, and preserve it against Foxing, being of so wholesome a Nature as to be prescribed by Physicians as a good Diuretic.

WHEN such Water is thus prepared for Brewing, draw it out of a Tub or other Vessel, by a Syphon, or a Cock, placed three or four Inches above the Bottom, that the *Fæces* may be left behind. At a certain Town in *Suffolk*, from *Michaelmas* to *Al-lhollantide*, their Well-Water has such an earthy ill Quality, as renders it unfit to brew with; because the strong Beer made of it won't work, insomuch that they have been forced to brew it over again, though all the rest of the Year it is pretty good. Yet, by way of Security, they are forced to boil their Wort several Hours, else it will stink in a Week or two's Time. This Town joins to the Salt Water.

IV. *Of the Winter Quarter.*

Now Water by Cold becomes of somewhat a thicker Body, so that, though it is in its utmost Heat, yet is it not so capable to enter the Pores of the Malt and wash out its Salt and Oil, as when us'd in a more temperate Season. The same Effect also the cold Air has on the Malt to restringe and keep back the Emission of its Vertue; for which Reason at such a Time, the Water should be used in the highest Degree of Heat the Nature of the Malt will admit of. To do which there consequently must be a greater Evaporation of Steam, which certainly is very prejudicial to the Drink; because the Vapour of the Water is no less than the lighter, purer, more subtil and penetrating Part of it, that should enter into the small Pores of the Malt, and there, by its attenuating Particles, open, dilute and wash the Oil out of its tenacious mealy Body. From whence it is plain that there is a great Expence and Loss of the Water's finer Parts by the Steam, to the Prejudice of the Drink; and though it is a general Practice to brew without having any Regard to this serviceable Management, it is nevertheless true, that this Observation

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is most valuable, and by all Means should be observed with the greatest Nicety by all Brewers whatsoever. This Season greatly retards Fermentation, as the Summer forwards it too much.—Therefore a prudent Brewer will now avoid this Work as much as he can, and be the more cautious in guarding what Wort he is necessitated to make, from the Danger of this Extream.

C H A P. II.

The State of Barley for the Year 1737.

THIS Summer 1737 being a very dry one, and attended with a wet Harvest, that Barley, which was sown early in *February* and *March*, got so speedy a Cover, that with the Help of the Dews it grew apace, and prov'd an excellent Crop; but that which was sown later, in *April* and *May*, as bad. The first Shoot and Ear was of a large Size, the last produced a little Shoot and small thin Kernel; insomuch that this, and that which sprouted in the Field by Rain, after it was mown, would not make Malt; which occasion'd a Person of good Judgment to say, that he verily believ'd, every tenth Corn never sired on the Floor, but remain'd Barley to the last. Nay, it was reported, that seven Quarters of these underling Kernels were sifted out of a large Quantity of Malt, which in a manner prov'd all Barley, and fit for little else but to grind and fat Hogs. So that many must consequently have suffer'd a great Loss (the ignorant Buyer especially) both by Measure, Tax, Making, and above all by the Disappointment of Brewing good Drink; for that there has not been such a Season these seven Years past for bad Barley. This therefore is to inform all Farmers, and others who are Sowers of Barley, of that incomparable and invaluable Receipt, for the Improvement of this Noble Grain, publish'd in the *Practical Farmer*, p. 25. which shews a new Method how to steep Barley Seed in a certain cheap Liquor a Night
and

and a Day, and then to lime and sow it : A Receipt first invented at *Paris*, but perfected in *England* ; which will cause it so to branch as to bring on a Cover at once, and secure the Crop throughout the Summer, in a flourishing Manner, with little more than the Help of Dews; and also give the Barley a fine even Body, an exalted Vertue, and a great Increase ; as he himself yearly proves, and which no Sowers of Barley should be without, because even in later Seasons, on Chalks, Gravels and Sands, the Ingredients will bring on a most fertile Cover and Growth. In the same Book are contain'd many more practical, valuable Secrets never before publish'd, and sold by the Bookseller hereof.

C H A P. III.

Of Malt-Kilns.

THE Plate-Kiln, and the Tile-Kiln, which are full of small Holes, were invented to dry brown Malts, and to save Charges ; because in both these they use no Hair-Cloth, but dry three Kilns of Malt in less than twenty Hours. These I cannot commend, by reason the Ends of the Corns are apt to pitch and lodge in the Holes, and there are parched or burnt, when some other Parts of the Malt's Body will be in another Condition. So likewise is it with the Wire-Kiln, which is also work'd without the Hair-Cloth ; but then the Kernels are apt to lie between the Wires and be scorched too much. However, these all answer their Ends in making a high colour'd Malt to please the *Londoner*, especially, with their blood-red Drink. The next is the Free-stone Kiln, one of the best Sorts of all for drying pale Malt, either with Coak, *Welch-Coal*, or Straw, &c. and generally is at least twenty Hours in drying off one Kiln. Its common Dimensions are twelve Feet square, laid with four Rows of Stones, three Feet wide each Stone, or with more if less, containing many Holes, each being

as broad again at Bottom as at Top, over which a Hair-cloth lies; these Stones lie on common flat Iron Bars, supported by common square upright Iron ones, and is now more and more in Use. I have also seen another very profitable and sweet Method of drying brown Malts, exceeding all the Wire, Plate, and Tile-Kilns, perform'd by the help of four cast Iron Plates, of about an Inch thick or somewhat more, and near three Feet square, with which they burn *Newcastle* Coal, and convey its fulsome Smoke through a Fiew or Funnel, so that the Malt is dryed very leisurely and in a pure Condition, by the Heat contained in the several Pieces of cast Iron; which at first was invented to supply the Place of the Iron Pipes that dry'd Malt by hot Air, at a very chargeable Rate; but this is a very cheap Way. Now as there are various Sorts of Fuels and Kilns to dry and cure Malt with, there are also diverse Fancies and Opinions concerning them. Some will use no Drink made from *Welsh* Coal, alledging it has a disagreeable Tang from its sulphureous and smoky Vapour. Others argue the same, on account of Coak or Cinder. Others object against the smoky unpleasant Taste of Drink made from Malt dry'd with Wood; while some again are Advocates for it, and prefer it to all others; so that the Custom of the Place in a great Measure carries it. However, there is too much Truth in this, that was said by a judicious Maltster, in a famous Town where there is reputed to be above twenty of them; That not above six of that Number were Masters of their Business. But, let them understand the Art ever so well, and practise it with the most advantageous Conveniencies, yet none can come up to the Help of Fiewes, or Malt dry'd by the Sun alone, through a sufficient Number of Glass Windows in a proper Situation.

C H A P. IV.

Of Fuels for drying the several Sorts of Malt.

W O O D.

THIS Article I think myself obliged to reassume, although I have already wrote on the same in my former Treatise; because I have since seen different Ways of performing the Drying of Malts. There are many Malsters where Wood is plentiful that use this Fuel, as being the cheapest they can have for their Purpose, and is generally of but two Sorts, *viz.* The *Oak* and the *Beech*. The first, as it is of a very hard and durable Substance, they lay up in great Piles or Cocks to dry, and waste the sappy phlegmatic Part of the Wood; so that, when they come to use it, it will the sooner run into Fire, and consequently less Smoke, whereby the Tang or Vapour of it does the less Harm to the Malt. And so careful are they in this respect, that some will keep the *Oak* Sort seven or ten Years by them before they use it. But as the *Beech* is a Wood that much sooner decays, they only pile it abroad one Year, and take it into the Malt-house next, so that two Years fit this for Use. And to make it answer better, many in the Western Parts burn Coak with this, or *Oak*, and thus make it run sooner into a clear Fire, and less into Smoke. The Roots also of the *Oak* by some are preferr'd, because of their soft Nature and quick Burning. So the *Ash* Billet is esteem'd a valuable Fuel, but this is scarce in most Places. With this Fuel of Wood, they generally dry their brown Malt.

C O A K.

THIS consequently has less Sulphur or Bitumen in it than the *Welch* Coal or Culm, provided it is carefully cured in the Oven or Burning-place. For, in the Management of this, there is a considerable Difference, which makes them say, that the Coak, made at the Coal-pits, much exceeds that made elsewhere; because there they burn it in larger Cakes than they do in other Places,

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for the smaller it is burnt the worse it is. However, to make this go the further, many, as I have observ'd, lengthen it out with *Oak* of ten or fifteen Years old, which they burn together in a fixed Grate; for by this Age such Wood comes near Charcoal, which is the best of Fuel, and which undoubtedly would be mostly used for drying Malts, could it be afforded; because nothing is more detrimental to Malt than Smoke; and though the Wood of *Asb* yields the whitest Smoke, yet will such sooty Vapour tinge the Malt with a high Colour. With Coak they generally dry the Malt used for brewing Ale; for, if this is truly cured, it certainly has less Sulphur in it than any *Welch* Coal or Culm; and therefore the Drink made from such Malt may be used much sooner than that from Coal or Culm, which requires at least nine or twelve Months Age, to overcome the sulphureous Tang of such Malt. Yet is this Coak also used by many to brew their *October* or keeping Strong-beer with, as an excellent Fuel, as was proved by its Effect in the But-pale-beer, sold at the *Half-moon* in *Warminster*, which was the finest I tasted upon that Road, and frequently sent to *London* for Presents, being brewed with a hard Water, of a white maumy Rock, that, on Tasting, seemed to me more brisk and spirituous than any I ever drank; which, I think, is easily accounted for: For, upon Examining into the Nature of this Earth, I understood it to be a strong Sort of Chalk, well stored with Alcalious Salts, which consequently gave the Water a superior Strength, as it did the lean, white, yellow, and red, sandy Land, it was laid on; for with this same Maum (not Marle) they dress and manure their Ground many Miles about this Place, and are forced for this Purpose, to dig it out of Pits, and not out of narrow Places like Wells, as we do the soft Chalk, because this Sort is too brittle for such Confinement; and out of these Pits they take great Pieces, that they carry into the Fields, where they break it small with a Sledge, and, after a frosty Winter, it becomes so fine, as to mix with the Earth; and so enriches it, that for ten Years together, there need no
other

other Assistance ; it being a Rule here, that the harder the Maum, the stronger Nature it is of, and then it is thought to do double the Service of soft Chalk. In short, Coak by many is prefer'd to *Welch* Coal or Culm, by reason it is less prejudicial to the Liquor ; for the less Tang it has the more agreeable it is to the Palate.

Welch Coal, Culm, or Stone-Coal.

By all these Names this Fuel is known in diverse Parts, and though it comes only out of *Pembrokeshire*, yet is there a great Difference in its Nature. One Sort, on holding a Piece against the Sun, will appear in shining golden Streaks, occasioned by the greater Quantity of Sulphur, that it is impregnated with more than others, and less of the Bitumen or pitchy Part ; so that this is said not to smoke at all, and therefore makes the finest of Pale Malt ; whereas all other Sorts that appear of a solid, shining, jetty Black will smoke more or less. This Coal or Culm is dug up at *Milford*, *Haverfordwest*, *Tenby*, and other Places in the County of *Pembrokeshire* : But none is so much in Esteem as the golden-streaked Coal of *Tenby*, which is endowed with so much Sulphur, that, in the Ships that come from thence, they can hardly bear the Room it is burnt in, and at *Bristol* is sold for eight Pence a Bushel, where they are in no small Concern for this Sort of Coal, because its great Usefulness has of late encouraged them to dig so much out, that their Mines at this Place are almost exhausted, and which in a few Years they are like to sustain the Loss of. At a famous Town in the *West* for brewing Beer, they burn this *Welch* Coal in a moveable Iron Grate with four Wheels of about six Inches Diameter each, called there a *Waggon*, being eighteen Inches high, as much over, and three Feet long, to wheel out when they turn the Malt on the Kiln, lest the Brimstone Vapour of the Fire suffocate the Workman. In this County they distinguish one Sort from the other, by calling the biggest Stone-coal, and the smaller Culm, which latter many in *Wales* work up with Clay and Water, to the Bigness of a Cannon-Ball, and then it

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will burn in Grates, but the Stone-coal will not without some Cover to keep it from the Light.

Wheat Straw.

THIS Fuel, tho' it is one of the most ancient Sorts, still keeps its Reputation, so that when it is in due Order, and managed by a skilful Hand, none exceeds it for drying of both pale and brown Malt, for Brewing either Ales or strong Beers: Because, I suppose Wheat-straw to be in a thorough dry Condition when it is used, and a Fuel the most free of Salts and Sulphur of all others; as is plain from its Ashes, which are the least efficacious of all others, when laid on Meadow or ploughed Ground, as I have duly proved. From hence it is that the Smoke of this sweet Fuel is so little prejudicial to the Malt, and I must own, that, in all my Travels, I never tasted any Malt-liquor more pleasant than that dried with Wheat-straw, which when rightly imployed, free of Weeds, under a Free-stone Kiln in particular, is inferior to none; as it is commonly done at *Lavington* in *Wilts*, and other Places. But this delicate Fuel is refused by many for two Reasons; First, because it is somewhat dearer than some other Sorts; Secondly, because it requires the Care of two Men to a Kiln; for here the Fireman is obliged to give such close Attendance that he cannot leave his Place to turn the Malt; whereas, with Wood, Coak, or Coal Fuels, the Fireman can do both. Which leads me to take Notice of what, in my humble Opinion, is a Mismanagement in some Brewers, who for Cheapness sake will buy Wood-dried brown Malt, commonly made on Kilns without a Hair-cloth, for brewing the common Butt Brown-beers, sometimes at sixteen Shillings *per* Quarter, when the Pale Sort is at two and twenty Shillings, or four and twenty Shillings. As believing the smoky Tang, by Time and the great Quantity of Hops, will be overcome. But I have known many Instances, where the Hops has overcome such Drink by the Smallness of its Body. And no Wonder such blood-red Beer has more Colour than Strength, since the Brewer, by the low Price he will have the Malt at, forces

the Maltster to make it accordingly; and then he so blows up the Kernels by the Vehemency of the Fire, that, by that and the Help of the Malt Tails, he fills the Bushel with a great deal of Show and little good Malt; insomuch that I have heard of a Maltster who gave thirty Shillings a Quarter for his Barley, and sold his brown Malt at but twenty-five Shillings by means of the great Increase he was this Way obliged to make, to ballance the Brewer's low Price. For it is a common Saying, that there is brought to *London* the worst of brown Malt, and the best of Pale.

C H A P. V.

Of the Great Common Brew-house.

THE Improvement which has been made of late Years in this Brew-house are many, insomuch that four Men's Work may be done by two, and as well, as I shall make appear by the following Discourse; and first of the Situation and Building of a Brew-house. This in its full Conveniency is certainly of great Importance towards obtaining good Malt-Liquors; for this Purpose, where it is to be erected independent of any other Building, in my humble Opinion, three Sides in four of its upper Part, or second Floor, should be built with Wooden Battons about three Inches broad, and two thick, according to the present *London* Mode; which by its many vacant square Holes admits sufficient Air, and seldom too much Sun; so that the Backs or Coolers by this means have a quick Opportunity to cool a thin laid Wort; especially, if the Wall's farther Side stands to the *South-west*, where the Copper is to be fixed with an Arm near the Bottom of the same, and a large Brass-cock at its End, to discharge with Expedition hot Water into the Mash-tun, and Wort into the Coolers. For this Purpose, its Bottom should stand about ten Feet above the common Level of the Street-ground, whereby is

prevented in some Degree the cooling of the Water and wasting of the Wort; for now the tedious ascending Motion of the Pump is avoided, and the Charge of that and Man's Labour saved. But besides the great Copper there is commonly, in a large Brew-house, a lesser one; if the first holds twenty Barrels, the other may contain eight: The large one for boiling brown Worts, the lesser one for Amber and Pale-Ales. In former Days, if there were two Coppers in a Brew-house, they were at such a Distance, that it might be properly said, there were two little Brew-houses near one another, which obliged the Master to have a Man to attend each Copper. But the present Contrivance excels the old one, and these two Coppers are now so erected that each Fire-place is within Feet of one another; so that one Stoker supplies the two Fires and Coppers, which saves the Wages of one Man, that usually amounted to near thirty Pounds a Year; besides having them now under a more immediate Inspection of the Workman Brewer.

THE second Improvement that has been made is also of considerable Service, and that is by grinding the Malt directly into the Mash-tun; which is performed by the help of a long descending wooden close square Spout or Gutter, that immediately receives it from the high fixed Mill-stones, and conveys it into a cover'd Mash-tun, that thus effectually secures the light Flour of the Malt from any Waste at all. Whereas formerly they used to grind it into a great, square, boarded Place, which lay lower than the Mash-tun, commonly called a *Cafe* or *Bin*: From hence it was taken out with two Baskets and put into the Mash-tun, to the Loss of some Quantity of the finest Flour of the Malt, that would fly away and make a Lodgment on the Men's Cloaths, and the adjacent Places. But now the Charge of building and repairing the square Cafe is altogether saved, its Room put to some other Service, the Expence of Ropes and Pullies sunk, and the two Men's Time converted to other necessary Uses in the Brew-house.

THE third Improvement is the Water-pumps. These

formerly were erected in a Brew-houſe for the convenient Conveyance of Water out of the Reſervoir and Well; the Former for the New-River, and the Latter for Spring-Water. They were work'd with long Iron Pendant-handles with a large Knob of Lead fix'd to their Bottom Ends for the greater Eaſe of Men's Labour: But the preſent Contrivance works both theſe Pumps with more Expedition by a ſingle Horſe put into the Malt-mill, and that in as true a Manner as any Men whatſoever; which ſaves great Part of a Man's Wages.

THE fourth Improvement is by the Wort-pump. This uſed to be work'd with a long Iron-handle as the Water Pump was, but is now likewise ſupplied by the Horſe-mill in the ſame Manner that is, and will with great Expedition throw up the Worts out of the Underback into the Copper.

THE fifth Improvement relates to the Backs or Coolers, which are certainly more conveniently placed in a great Brew-houſe, than in the private or ſmall one; becauſe, in many of the former, they have full room to lay them on a ſingle Stage or Story. To each of theſe is faſtened a Leaden-pipe about an Inch or two Bore, with a Braſs-Cock at the End, that diſcharges the Wort at Pleaſure into a ſquare or round Tun; beſides which is alſo another Hole about four Inches Diameter, fill'd with a wooden Plug, whoſe Uſe is to let out the Dregs ſwept through it into a Tub under the ſame, to be ſtrained by a Flannel-Bag faſtened to a Barrel-Hoop, and the clear Wort thus ſtrained is mixed with the reſt. This leads me to obſerve the Miſfortune that I have ſeen ſome labour under, who, being confined to a narrow Space of Ground, run into Brewings of great Quantities of Drink, which obliges them to build three Stages of Backs one over another, that often occasions their Worts to fox, or damage in ſome Degree, by the long Heats the under one ſends upwards, ſo that the flat Planks are made hot both at Bottom and Top, and thereby deprived of one of the principal Conveniencies in Brewing, a due Freedom of Air, which a ſingle Stage ſeldom ever wants.

By means of the Copper Arm, the Worts now run swiftly into a single Teer of Backs, that formerly used first to be emptied by a Pump placed in the Copper, and thrown up into a little Back, just over it, from whence it ran out into the great Backs; and if there were one or two Teer more, the Wort was convey'd into the same by a small wooden Pump placed in the Copper-Back. This better Management saves the Loss of a great deal of Time, Waste, and Men's Labour. These Improvements, and many others that I am sensible of, rais'd my Surprize to see several great common Brewers, in some of the *Eastern Parts of England*, brew ten Quarters of Malt or more at a Time in a Mash-tun, placed almost close to the Ground, the under Back deep in it, expos'd to the Fall of Dirts, Drowning of Insects, and other Foulnesses. The open Copper also a little above the common Level of the Earth, the Coolers in a proportionable Lowness. And to make up a compleat Mismanagement, they brew most of their Four-penny Ales after their Six-penny Beers: So that you can have no mild Drink here, but what tastes of the earthy Parts of the Malt and Hops to such a Degree that I was commonly forced to be at an extravagant Charge, and mix some Ingredients with it, to correct its unpleasant Taste and unwholesome Qualities,

C H A P. VI.

Of the Private Brew-house.

BY this Name, I would be understood to mean all such Places that are occupied and set apart for Brewing Malt-Liquors for Gentlemen, Tradesmen, and others own particular Uses. A Matter of Pleasure, and Profit enough in my humble Opinion to induce an *Englisman* to love the Production of his own Country, and prefer it to those of Foreigners; because, by this Opportunity, every one may be Master of his own Fancy, have his Utensils in the best Manner he thinks fit, chuse his own Malt, brew when he will, and what Sort he likes best.

best. Here he may enjoy his leisure Workings and light Fermentations; in short he may here act the absolute Governor, and brew his Drink after the best Rules and Instructions. And when Malt-Liquors are thus made according to the newest Improvements, in my Opinion, there will be less Cause than ever of gratifying our Palates with adulterated Wines, at the Risque of our Healths and Expence of our Pockets. In Order then to come by such salubrious Drink, it is truly necessary in the very first Place to be Master of a convenient Brew-house; for, without this, it is but a lost Attempt to get right Malt-Liquors. And here the Case admits of two Suppositions; First, whether such a one is to be had by Choice; or, Secondly, of Necessity: If by the First, then the *Northern* Part claims the Preference for Shade and Coolness, that are of Importance in this Affair; but if by Necessity, then the Case allows of no Dispute: However, where it so happens, that the Brew-house can be near the Cellar, it will save a great deal of Time, Charge, and Labour; because then the Drinks are sooner, easier, and safer convey'd into it; but more where it can be carried by the Leather-pipe from the Tun, Cooler, or Starting-tub into the Cask; as is now done by some of the abler Sort.

AND observe that the Arm and Cock are not confined altogether to a raised Copper in a great Brew-house; for in a Private one, this is also absolutely necessary, even though the Copper is confined to stand as near the Ground as possible; because both the hot Water and Worts may be drawn off quicker, and safer from any Danger of Scalding and Wetting, that the common plain Copper very much exposes a Person to, who is obliged to empty by Scoop, Pail, or Hand-bowl; which is a Conveniency of no small Moment, if we consider the many Disasters that have befallen this hazardous Method; besides the Time, Wear, and Tear, which are here likewise saved.

In private Brew-houses, there is seldom Room enough to be had for those necessary Conveniencies, Square-

backs; or, if there is, the Charge is often grudged, or at least can't be afforded; but where it can, it is wrong to want them, because these are the chief Securities against fox'd, sour, and foul Malt-Liquors; for here it is that the Sediments must be first left behind, and the Worts cooled at Discretion; for it is certain that the shallow Back can discharge the Wort finer than the Tub, as being fixed in its Place and never disturbed while the Worts are running off; whereas Tubs must be removed to pour the Drink clear from the Bottoms, or else the Hand-bowl must be gently used, which in some Degree will likewise disturb some Part of the gross *Feces* or Bottoms. These Backs in the great *London* Brew-houses are generally made with the Heart of *Oak*; but in most Country Towns, they may make them of *Deal* or some of the aquatic Woods at an easy Price. But then, as I said before, these Coolers are of but little Service where they are placed too close to one another, because one heats the other, and often charrs the Wort; as I and many others have too much Reason to complain of: For when I travelled the Road in 1737, at several Towns, I could have no other than foxed Ales, and thick unwholesome stale Beers, which made me ask a great Inn-keeper, who was his own Brewer, why his Malt-Liquors were in such a bad State? His Answer was, that all the Summer Time it was commonly so, but good in Winter. This induced me to inspect his Brew-house, where I found his Copper, Mash-tun, and Coolers, as near as they could be together; his Underback or Receiver deep in the Ground, and Part of it in the Way of the Dirt of Shoes and other Nastiness to fall into; his two square Coolers fixed about eighteen Inches one above the other, and all in a small narrow Place; so that this Person was seldom or never clear of fox'd or prick'd Drinks in some Degree: Though in Winter his Ignorance made him believe they were sound brewed, because the Taint was then not so much as in Summer.

THE Mash-tun here should be as smooth within-side as it it was turned; because such an Utensil is not so

apt to furr as another made out of a large Wine-cask, whose Staves, being uneven within-side, give room for a Lodgment of the Remains of Worts, which fail not to become of an Acid Nature and corrupt the next pure Worts, if not thoroughly eradicated. And indeed all Tubs, Pails, and Jetts, used in brewing, should be of the smooth Sort. Of this, some are so curiously nice, that if by Accident one of them happen to be dipt into cold Water, they will scald it a-new, and dry it before it is made use of. This small Mash-tun has several Forms belonging to it for discharging its raw Worts into the Receiver or Underback. One is by a Cock fastened in the Bottom, over which is another called a *false* Bottom, and is the best Way of all others; because, by this, you may spend off the Wort very easy, safe, and fine, free of any Danger from the Stoppage of Malt. The Second is by a Brass-cock, fixed in the Side near the Bottom to a Tap-whips within-side. The Third is by a long wooden upright Plug, surrounded by a high Basket Strainer that stands almost in the Middle of the Bottom. The Fourth and last Way I think a bad one indeed, and that is done by a Spiggot and Foffet, which I have seen many use: Here when they draw off the Wort from the Malt, they put a Birchen Twig into the Tap to adjust the Stream; but sometimes the Weight of the Wort forces out the Spiggot, and then the Current alters, to the Fouling of the Wort; to stop which the Fingers must be employed to put in the Twig tighter, and so expose them to a second Scalding.

THE Floor of either a great or small Brew-house is justly deserving of some Consideration, as it is always more or less serviceable by its good or bad Condition; for this, like a Dairy-Room, should have all the propitious Allowances given it that can be, towards keeping it dry, sweet, and cool; and therefore such a Floor should always be laid somewhat higher than the common Level of the Ground; or with such a gradual Declination, as may bring away all Wetts and Slops, that consequently must often happen in such a Brew-house; for, if it

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was otherwise, and Water and Worts were permitted to make Lodgments in Holes or hollow Places, there must in course be produced corrupt and foul Puddles, whose ill Scents and nasty Daubings are always ready to affect and damage the Utensils and Worts. For this Reason, all boarded and planked Floors are to be rejected, as they are obliged to be laid hollow on Joysts and Sleepers, that will surely rot them in a little Time, and create unwholesome Stinks and Vapours; besides the great Danger that attends such a wooden Floor in its Slipperiness when wetted, that exposes a Person to Falls as he is carrying scalding Worts or Water; and also when two Men may be under the heavy Burden of a Barrel of Drink on the Slings, that weighs near 400 Pounds, which may occasion the Loss of their Lives. An Instance of this Folly I knew once happen to a common Brewer in *London*, who thought it the cheapest Way to have a boarded Floor in his Brew-house, and accordingly bought *Oaken Ship-Planks* at *Chelsea*, for that Purpose; but the Consequence was, that in a little Time he repented himself of his Mistake, and had it laid with the broad *Portland Stone*.

C H A P. VII.

Brewing a Butt of pale Strong-Beer, by an Inn-keeper.

I HAVE my Malt just broke in Grinding, to prevent my having foul Drink by the Mixture of its fine Flour in too great a Quantity, which I let stand in Sacks by the Mash-tun side, ready to be put in after the Water that is now heating in a Copper, holding a Hogshead and a Firkin under a close wooden Cover to keep in the Steam, where it is to continue till it is ready to boil. In this Condition, a Hogshead of it must be put immediately into the Mash-tun, and, as soon as possible, a Pail of cold Water in that, to qualify it (though most others venture to mix this tough Malt with it in a boiling

boiling Heat) for receiving ten Bushels of Malt, that I put in very leisurely, whilst a second Person stirs it with an Oar or Paddle, as it runs out of the Sack, without any further mashing throughout the Brewing of Strong-Beer or Ale. Then immediately, with my Oar, I make room about the Basket upright Strainer for the sifted husky Part of one Bushel more of Malt, which I lay round it as close as I can; and the Flour thereof I spread over the Top, besides a single Bushel of Wheat-Bran over all that; here it is to remain three Hours in Winter, and two in Summer. At this Time, I have a Firkin of hot Water left in my Copper, to which I add a Barrel of cold to make it up forty-five Gallons: This I heat away, and make it just ready to boil against my first Wort comes off the Goods; which when it is fit to do, I loosen my Plug and spend it off by a small Stream on one Pound of rubbed Hops, returning first what comes foul till it runs clear: Then I make use of my hot Water in the Copper, and leak it over the Goods by a Jett, or three Hand-bowls at a Time, letting that almost go off before I put on more; and so continue till I have a Hogshead and six Gallons of Wort, which will about empty my Copper; for, in this Case, I allow near a third Part of the Water's being drunk up by the Malt never to be returned, and sometimes more than the Waste of one eighth Part for the Wort's boiling away. As soon as this is done, I rub three Pounds of Hops more, with near a Quarter of an Ounce of Salt of Tartar, and throw all into the Copper. At this Time I have another Copper, that holds a Barrel of Water, now boiling hot, which I lade over the Goods by degrees as before, 'till I get a second Wort off for making me half a Hogshead of Ale, that I sell within Doors for four Pence a Quart. In the mean Time, I boil my Copper of first Wort, 'till all the Hops sink, which is the Sign of its being enough, without staying for the Wort's breaking or curdling; accordingly I strain it, and let it lie very shallow in Coolers. By this Time, I receive a Barrel of second Wort off, having here as much Wort returned as the Water that went in. This I
boil

boil with all the Hops that came out of the First, till it breaks, and then strain it into Coolers; observing to supply the Grains with a Hogshhead of cold Water as soon as the second Wort comes off; which after it is soundly mashed, and has lain three Quarters of an Hour, I draw off, and boil it without any Hops a Quarter of an Hour; then I discharge it into my Coolers, to be heated next Morning and used instead of the first Water which is call'd *Doubling*, for Brewing eleven Bushels more of Malt in the same Manner the last was done; only with this Difference, that, when at last I mash up with cold Water for Small-Beer, I put only so much on as will bring me off thirty-four Gallons, for making me half a Hogshhead in my little Copper, with the Hops that I us'd before.

Observations on the same.

THE common Method of having but one Copper to one Mash-tun, has too often proved the Inconveniency of it by the bad Effects of Beers and Ales made from the same, which are often, in Summer especially, prick'd or sour'd on the Grains, by the Length of Time they are obliged to allow for the several Mashings and Soakings of the Malt or Goods in the hot Waters; and if the Misfortune seldom amounts to this Degree of Damage, yet it frequently happens that the Wort, less or more, is in an unhealthy and unpleasant Condition; which to avoid, I would advise every one that has a Conveniency to have two Coppers to one Mash-tun. In this Case I address myself to all except the great Brewer, who, though in my humble Opinion he has most need of it, yet, by long Custom being us'd to his single Utensils, I can hardly suppose he will alter; but I hope some of the smaller Sort will have regard to this Item, as a Method that certainly must be very useful, in giving them an Opportunity to enjoy a fine sweet Wort: For it is generally allowed, if the Wort goes into the Copper in a bad State, it will come out so, and never receive a true Cure, as being damaged in its first and best Condition. Now whether the Tun has a false Bottom, or a Basket and Plug, or a Brass-cock,

near the Bottom; the Form hinders nothing of this Benefit: For if you brew with the false Bottom, by Mashings and not Leakings over, then, as soon as your first Wort is spent off into the Underback or Receiver, you are to run off your hot Water out of your Copper into the Mash-tun for a second Wort; and directly get the first Wort into the same to boil: Now as this your second Wort will come off the Goods, half an Hour at least, before the First is ready to go into the Coolers, here happens too great a Vacation of Time, that may chance to prejudice it, by thus being necessitated to let it lie out of the Copper so long, which a second Copper prevents by receiving and boiling it away directly. And as to the Mash-tun, that discharges its Wort by Plug or Cock without a false Bottom, this second Copper is rather more serviceable, because, your first Wort commonly lying two or three Hours with the Malt, Part of the same Copper which follows will be expended in Leakings over to make a compleat Copper of the first Sort: Then if you have but one Copper, there can be no hot Water made ready as it should be for a second Wort, till the first is boiled off, and that will take up near two Hours; all which time the Goods must lie idle, and very likely prick or sour. Otherwise you must hop the first Wort, and put it by into Tubs till the second is boiled, which will consequently by this lose some of the Hop's Spirit, and the purer softer Part of the Wort, &c. But if you have a second Copper of hot Water ready, when the first Wort is put into the first Copper, the Danger of these Misfortunes will be intirely avoided.

Secondly, THE Heat of the Water, as I have more amply remarked in my two former Treatises on Brewing, should be in a greater Degree for Pale than Amber and brown Malts.

Thirdly, THE Mashings also, for Reasons I have formerly assigned, should be as little as possible, so as the Malt is kept from Balling.

Fourthly, THE Steam of the Water should be kept in, as I have before accounted for.

Fifthly,

Fifthly, THE putting the hully Part of a Bushel of Malt round the Basket, is what never was exposed in Print before, though it is an excellent Way towards obtaining a fine Current of Wort, that gives a Benefit to the Liquor, even to the last.

Sixthly, THE Rubbing of the Hops with Salt of Tartar is likewise a new Method of great Service, in forcing the oily Part of the Hop to emit its viscid Quality, and expeditiously join in Contact with that of the Wort: For by this, the fine floury Part of it may be obtained, clear of the earthly Phlegmatic, which long boiling never fails of extracting, to the great Prejudice of the Beer and its Drinker's Health. A Proof of it is evident from the smooth pleasant Taste that such Malt-Liquor receives from this Management, and which of late is in such Esteem, that I know a Collector of the Customs, who boils his Hops but five Minutes, which certainly would be too little a While to get a sufficient Tincture from them, was it not for the penetrating and attenuating Nature of this Salt, whose Virtue is not only valuable on this Account, but also for fining and preserving the Drink afterwards. And though the common Criterion or Sign of the Wort and Hops being boiled enough, is by this Innkeeper and many others observed to be when the Hops all sink; yet I think he is wrong in not boiling the Wort longer than the Hops, because I am sure the Drink won't be so soon fine in the Barrel, as that boiled till it breaks or curdles.

Seventhly, As to the Boiling a Hogshead of small Wort at last, to serve as the first Water or Liquor to be used in the succeeding Brewing, the same or next Day, it is a good Way; because it adds to the Strength of the next Liquor, and conduces to preserve it sound the longer. But, before I conclude these Observations, I must take Notice of an egregious Abuse that this Innkeeper and most others are guilty of, by brewing their common Ale from the Goods of the first Wort; a Misfortune that is mostly known to Travellers by woeful Experience: For, in many Parts of the Nation, there is no other mild Sort

to be had, and then a Man is obliged to swallow so much Dirt of the Malt and Hops, that he must have a strong Constitution to overcome its dire Effects.—So also with the same Reason I observe, that when these Butt-Beers are loaded with Hops, without a sufficient Strength in the Drink to sheathe their acrimonious Points; such Liquor I say must consequently be very injurious to weak Constitutions, whose Stomachs are less able to bear their Sharpness; and what is worse, it must go very hard with such, when, on a Road, they are so unfortunate as to be confin'd to such Liquor in a Publick-House, which perhaps is the only one in the Village.

C H A P. VIII.

Brewing a Hogshhead and a Half of Pale-Ale from fresh Malt, by a private Person.

AS my Copper holds a Hogshhead and a Firkin, and I am to brew twelve Bushels of Malt, I charge it full of Spring-Water, which I heat till it is just ready to boil, but not boil: This I put into my Mash-tun, and run ten Bushels of Malt very leisurely on the same, keeping it all the while stirr'd by a second Person; which when it is sufficiently done, I cap with the eleventh Bushel, and let it stand while I get another Copper full of boiling Water as fast as I can; twenty-four Gallons of which I put into my Tun and mash up, covering all with the twelfth Bushel. Then I immediately add eighteen Gallons of cold Water to thirty-nine of hot left in the Copper, and get it into a boiling Heat against all my first Wort comes off; which, after it has stood two Hours, I spend away, and boil it with two Pounds of Hops (first well rubb'd) in a roomly Canvas or such as they call *Straining Cloth*; and at the End of thirty Minutes after it has begun to boil, I take them out, continuing the Ebullition till the Wort breaks enough, when I directly empty it into Coolers, and there have about forty-two Gallons. By this Time, my second Wort is ready to go into the
Copper,

Copper, that I made by mashing up my Goods with the fifty-seven Gallons of boiling Water, and letting it stand three Quarters of an Hour before I discharged it. This I boil away with two Pound more of fresh Hops in the Canvas-bag, in all Respects as I did my first Wort, and so receive off forty-nine Gallons, which, with thirty-seven I had before, makes me eighty-six, that will (allowing for after Wastes) be about a Hoghead and a Half of Ale: And last of all, I mash up with thirty-six Gallons of cold Water to stand three Quarters of an Hour; and then I boil it with all my Strong-drink Hops, about an Hour and a Half, till I have about twenty-seven Gallons, or Half a Hoghead off for Small-Beer.

Observations on the same.

WE may observe, that the Author of this Receipt is of Opinion, that the Water is hotter and more capable of extracting the Vertue of pale Malt before it boils than after. For in this Condition, he says, it is more loaded with igneous Particles than when raised to the State of boiling, whereby its Parts are more broke and divided, and so become more open to evaporate the Particles aforesaid, and admit too much of the circumambient Air, which must consequently render it cooler than before such Ebullition commenced. And further to prove this Assertion, if you do but just dip your Finger into Water, just before it boils, it will blister, but when boiling it will not.

Secondly, HE here caps his Malt twice, the better to further the Business in hand, by confining the Heat or Steam, and it is a good Way.

Thirdly, HIS boiling the Hops in a Canvas, must certainly give him the Satisfaction and Benefit of adjusting the Time of such Ebullition, and also by it enjoy the great Advantage of boiling the Wort till it breaks or curdles.

Fourthly, BUT above all, he brews his Ale from Malt, and not from Goods which must certainly load such Drink with the pure Saccharine Juice and lively Particles of the Grain, which are here obtained in their
natural

natural Order: On the Contrary, that Ale which is made only from Goods (*i. e.* after a first Wort is run off the Malt) must consequently be unpleasant and unwholesome, as I have before remarked.

C H A P. IX.

To make China-Ale, and several other Sorts.

TO six Gallons of Ale, take a Quarter of a Pound or more of China-root thin sliced, and a Quarter of a Pound of Coriander-Seed bruised; hang these in a Tiffany or coarse Linnen-bag in the Vessel, till it has done working, and let it stand fourteen Days before you bottle it; though the common Sort vended about Town, is nothing more (at best) than ten Shilling Beer, put up in small stone Bottles, with a little Spice, Lemon-peel, and Raisins or Sugar.

To make an Ale that will taste like Apricot-Ale.

TAKE, to every Gallon of Ale, one Ounce and a Half of wild Carrot-seed bruised a little, and hang them in a Linnen-bag in your Barrel, till it is ready to drink, which will be in three Weeks; then bottle it with a little Sugar in every Bottle.

Egg Ale.

TAKE, to twelve Gallons of strong Ale, eight Pounds of lean Beef which must be cut into little Bits and half stewed with a little Water; and when it is cold, let the Gravy be put into the Vessel of Ale, the Fat being blown of; then let the Beef with twelve Eggs, their Shells being only bruised, but the Films not broken, a Pound of Raisins of the Sun stoned, two Nutmegs, a little Mace and Ginger, and two Oranges cut round, be put into a Linnen-bag, and hang it in the Barrel before it has done working; put in also two Quarts of *Malaga* Sack, and stop it up; let it stand three Weeks; then bottle it, and into every Bottle put a Clove and a Lump of Sugar.

Cowslip Ale.

TAKE, to a Barrel of Ale, a Bushel of the Flowers of Cowslips pick'd out of the Husks, and put them into your Ale, when it hath done working, loose in the Barrel without Bruising, and let it stand a Fortnight before you bottle it, and, when you bottle it, put a Lump of Sugar in each Bottle.

Blackberry-Ale.

TAKE two Bushels of Malt, and make it into Strong-Ale, allowing a Quarter of a Pound of Hops to it; when the Wort is cold enough, put it into your Vessel with a little Yeast, and the Juice of three Quarters of a Peck of Blackberries full ripe, and ferment them all together; when it has work'd sufficiently, stop it up close, and at six Weeks End you may bottle it, and, in a Fortnight after, it will be fit to drink.

Cock-Ale.

TAKE a Cock of half a Year old, kill him and truss him well; and put into a Cask twelve Gallons of Ale, to which add four Pounds of Raisins of the Sun well pick'd, ston'd, wash'd, and dry'd; Dates sliced Half a Pound; Nutmegs and Mace two Ounces: Infuse the Dates and Spices in a Quart of Canary twenty-four Hours, then boil the Cock in a Manner to a Jelly, till a Gallon of Water is reduced to two Quarts; then press the Body of him extremely well, and put the Liquor into the Cask where the Ale is, with the Spices and Fruit, adding a few Blades of Mace; then put to it Half a Pint of new Ale Yeast, and let it work well for a Day, and, in two Days, you may broach it for Use; or, in hot Weather, the second Day; and if it proves too strong, you may add more plain Ale to palliate this restorative Drink, which contributes much to the Invigorating of Nature.

Elderberry-Beer.

TAKE a Hoghead of the first and strongest Wort, and boil in the same one Bushel of pick'd Elderberries full ripe; strain off, and, when cold, work the Liquor in the Hoghead, and not in an open Tun or Tub; and

after

after it has lain in the Cask about a Year, bottle it, and it will be a most rich Drink, that they call *Ebulum*, and has been often prefer'd to *Port-Wine*, for its pleasant Taste and healthful Quality.— *N. B.* There is no Occasion for the Use of Sugar in this Undertaking; because the Wort has Strength and Sweetness enough in itself to answer that End; but there should be an Infusion of Hops added to the Liquor, by way of Preservation and Relish. Some, likewise, hang a small Bag of bruised Spices in the Vessel. You may make a white *Ebulum* with pale Malt and white Elderberries.

C H A P. X.

Devonshire *White-Ale*.

THIS Ale that I have just hinted of in my First Part, I shall here write a further Account of, in order to set forth its Excellency, and pave a Way for its general Reception in the World. To this End I write with an eager Pen, by the Inducement of the best Qualities belonging to a public Liquor, *viz.* Pleasure and Health. About sixty Years ago this Drink was first invented at, or near the Town of *Plymouth*. It is brewed from pale Malt, after the best Method known in the Western Parts of this County; and as it is drank at *Plymouth*, in particular by the best of that Town, the Alewives, whose Province this commonly falls under to manage from the Beginning to the End, are most of them as curious in their brewing it, as the Dairy-Woman in making her Butter; for, as it is a white Ale, it is soon sullied by Dirt, and as easily preserved in its frothy Head: Besides, here their Sluttishness would be more exposed, perhaps, than in any other Place in *England*; because, in this Town, there are few or no Cellars, on Account of their stony Foundation which is all Marble: And therefore their Repositories, being above

Ground, are generally exposed to the View of their Guests, who may passingly see this Liquor fermenting in a Row of earthen Steens, holding about five or more Gallons each: And, though the Wort is brewed by the Hostels, the Fermentation is brought on by the Purchase of what they call *Ripening*, or a Composition (as some say) of the Flower of Malt mixed with the Whites of Eggs: But, as this is a *Nosstrum* known but to few, it is only Guessing at the Matter; for, about thirty Years ago, as I am informed, there were only two or three Masters of the Secret, who sold it out as we sell Yeast, at so much for a certain Quantity; and that every Time a new Brewing of this Sort of Ale happened: A great Ball or Lump of it was generally sufficient to work four or five Steens of Wort, and convert it from a very clear Body into a thick fermenting one, near the Colour and Consistence of Butter'd-Ale, and then it was only fit to be used; for if it was let alone to be fine or stale, it was rejected as not worthy of buying and drinking. Yet some out of Curiosity have kept it in Bottles, rack'd it off clear, and made of it Flip and other Compositions very good. Now this white Ale being thus fermented into such a gross Body, becomes a Sort of Chyle ready prepared for Digestion in the Stomach, and yet so liquid as to pass the several Secretary Ducts of the Animal System soon enough to give room for new Supplies of this pleasant Tipple, even at one common Sitting in a public House: For though this Drink is not so thin and clear as the brown Sorts, yet, by its new, lubricous, slippery Parts, it is soon discharged out of the Stomach; and notwithstanding such Evacuations, it leaves a very nutritious Quality behind it in the Body, that brings it under a just Reputation for preventing and recovering those who are not too far gone in Consumptions; and therefore would be of extraordinary Service to labouring People: In short, this famous Liquor is of such a salubrious Nature as renders it a most agreeable Drink both to the sedentary and active Person; which plainly shews the

transcendent Quality peculiar to this White-Ale, beyond all other Malt-Liquors whatsoever : For who dare, nay, who can make so free with any new Beer or Ale, while it is under Fermentation, as with this? And that by Reason of the poisonous Quality of the Yeast, and the fulsome, nauseating, unwholesome Nature, that such working Drinks are endowed with; whereas this invites one to drink it as fast as any of the common brown or pale Ales, and at the same Time administers to the Body such medicinal Assistance, that no other Malt Drink, Wine, nor any other potable Liquor now in Use, as I know of, comes up to it, not only for the aforesaid Intention, but it is likewise usually prescribed by Physicians, as a Remedy in the Cholic and Gravel, by its lubricating, diuretic Nature; and it is the best Liquor in the World for a wet Nurse to drink for increasing a most nourishing Milk. Its Strength also is so great, that, though it is drank while working, it is as intoxicating as the common Ales or Beers; for by the Time a Man has drank a Quart or two to his Share, he will find it enough to go off with; and if any one thinks fit to make it stronger (as is often done) it is only adding Half a Pint of Sherry with a little Loaf-Sugar and Nutmeg, and then it will not only be strong, but very pleasant; and sometimes entertaining to a Fault; insomuch that several have been inticed by its luscious, stimulating Taste, and cordial Quality, to a Degree of Extravagance, by their too frequent Expence of Money and Time in the Enjoyment of this delicate improv'd Ale.— To all which, I shall add the Opinion of an experienced Physician who has drank of it, *viz.* I take the *Devonshire* White-Ale to be a very pleasant nutritive Liquor, and well fitted to pass the several Secretions of the human Body; not only by its consisting of such rarified adhæsive Particles from the Saccharine Juice of the Vegetable, but its being drank in a particularly agreeable, brisk, and smooth State, in Taste not unlike our first Nutriment, which certainly renders it easy of Concoction in the Stomach, and being mode-

198 *A Scheme for brewing strong Malt-Liquors,*
rately taken, it may justly claim a Place in the first
Class of diuretic Restoratives,

C H A P. XI.

*A Scheme for Brewing strong Malt-Liquors, after a
new improved Method.*

PROCURE a strong, sound, fine Wort, by using good Straw dried Amber-Malt, just broke; pure, soft, running, or rain Water, in a right Degree of Heat, that is, just before it boils, and stir'd together no more than is absolutely necessary to keep from Balling, letting it stand under a Cover of fresh Malt its due Time in a double Mash-tun; I mean, a lesser one, put into a larger; the former to be exceeding smooth within-side, and to have four Feet, either fixed or moveable in the latter, with a proper Brass-Cock, long enough in its Barrel to screw through both their Bottoms, and a Strainer to be fastened to one End every Time it is us'd; or, which is better, the inner one to have a false Bottom, as in the common Way: The Cavity or Distance between the Tuns should be from six to twelve Inches or more according to their Size; their Tops to be of an equal Height, and to have another common Cock to fix in towards the Bottom of the outer Tun, to draw off the Water at Pleasure; pouring boiling Water in so as to encompass the inner one very near as high as the Mash: Then, when the Wort is let go, to receive it in a Goose-quill Stream upon good new Hops well rubb'd between the Hands, setting the first Wort so received with the Hops aside, continuing to lade over by Hand-bowl-fuls hot Liquor enough for a second Wort, which must be received on rubb'd Hops, as before: Then strain and mix both Worts together, displaying them thin to cool; this done, receive a little of it into a clean Hand-bowl, or rather well glaz'd earthen Pan (and indeed were earthen Ware, such as we call the Stone-sort, made use of throughout the whole
Manage-

Management, it would be much the better) wherein is a sufficient Quantity of good fresh Yeast, and mix them well together; this Mixture put into your Barrel, Kilderkin, or other Vessels being thoroughly sweet and dry, and let the rest of the Wort run as fine as possible upon it, till the Vessel is full, and the Whole well mixed. After a due Fermentation, put away what has work'd out, and fill up the Vessel with the Infusion of Hops, as hereafter directed, stopping it up as close as may be, excepting the Top-vent or Cork-hole, in the upright Cask where it work'd out at, over which paste a Piece of brown Cap-paper, and so let it remain, till upon Pegging it at Discretion you observe it comes fine: Then, if you would keep it longer, have ready another Vessel of the same Size, into which rack off your Drink, and at the same Time put into it three Parts of parch'd Wheat, and one of whole malted Horse-beans freed from their Hulls, or Dumplins, made after this Manner, *viz.* Take fine Malt, Rye, and Bean-flour, (if the two last were malted, they would be the better) each equal Parts; mix them up with a strong Infusion of Hops, or some of the same Drink, into a Mass, out of which form Dumplins; then bung it very tight, and keep it in a cool Cellar for three or four Months or longer, and you will enjoy a fine, sound, sparkling, pleasant, and wholesome vinous Liquor from the Tap; or, you may then again rack and bottle it off for Use.

The Infusion of Hops.

FOR this Purpose it would be very proper to have a large Vessel made of Copper and well tinn'd, in the Shape of a Coffee-pot, wide at Bottom and narrow at Top, with a Spout in the Side, having a Strainer next to the Body, and a Screw-Top to it; likewise, a Head to screw on: Into this Pot put your Hops, being first well rubb'd between the Hands, with a little Salt of Tartar (a Quarter of an Ounce to four Pounds of Hops) and as much fair Water as will cover them well: Let it stand all Night cold, and the next Morning set it over a gentle Fire so as to boil up; take it

off and let it stand till cold (the Tops being close screw'd all the while ;) then pour off the clear Liquor, without Pressure, through the Spout, which immediately pour gently into the Vessel, by the Help of a long, narrow-spouted Funnel to reach down into the Drink, without much damaging the Head of it.

THE Reason why I deviate from the common Way of Brewing is, that it is a justly received Maxim among the most Judicious, that the more light, pure, soft, and vinous our Malt-Liquors are, so much the more are they homogenous, and better adapted to pass the several Secretions of the Human Body, and consequently the more wholesome: Therefore this being our Business, in the first Place I observe, that long Mashing (as commonly practis'd) renders the Wort liable to several Accidents, especially, according to the Season of the Year it is performed in; but one more particularly of impregnating the imbib'd Liquid, with so much of the farinaceous or gruelly Part of the Malt, as not only to induce an Acidity, but likewise a Ropiness in the Drink, which I take to be owing chiefly to this erroneous Management; because it must be granted, that it is a due and regular Degree of Heat (*cæteris paribus*) that causes the Grain to emit its Vertue; now, by long Mashing, by and by, the contrary Principle gets the Ascendant, and so chills and stagnates it, as to bring on this vicious Property, which, the longer it is thus kept neither hot nor cold, it is the more exposed to. Therefore, I have recommended this new Method of a double Mash-tun, whose outer Part, by being filled with boiling Water as soon as the Mash is set, facilitates the Operation by Way of *Balneum Marie*; that, before the incircling Water is cold, the Wort may be let go: And in Winter especially, this must be of considerable Service, because you may keep the Water in what Degree of Heat you please, by running it off as its cools, and still adding more boiling. In order to this, you should have two Coppers employed, to be more certain in the Heat of your Liquors, and to expedite the Performance; which is a Matter of

no little Moment, seeing it is so essentially necessary in avoiding the aforesaid bad Accidents, and procuring a pure, sound, vinous Wort. Again, boiling Malt-Liquors, tho' so customary (in my Opinion) frustrates our Expectation; insomuch, as it certainly hardens and thickens them, which is one chief Reason why they are commonly allotted so much Time to digest in the Vessel, in order to break and divide their cohesive mummy Particles; which are much better primarily prevented by not boiling the Wort at all, notwithstanding the common Objection, That, without Boiling, the Liquor will be raw and not keep: To which I answer, that the Liquor has before received due Maturation in the Copper and Mash-tun, besides the after Digestion and Rarefaction it acquires in the Vessel by Fermentation and Age. And as to its being more liable to decay; it is certainly, not the Boiling that preserves Malt-Liquors, but their Spirit, which is obvious to a mean Capacity; and could we possibly extract the Quintessence of the Malt without it, I should much rather chuse not to use any Heat. Lastly, in order to enjoy Malt-drinks, that are to be kept any Time, in a sound, fine and mellow Condition, I have found it very necessary to free them (as soon as thoroughly digested and fine in the Vessel) from their gross Sediments, or common Lee, which, from its yeasty Particles, &c. never fails more or less to damage such Drinks, especially the pale Sorts, by inducing an Acidity, and rendering them liable to fret and become foul upon Alteration of Weather; therefore a proper artificial, alcalious Composition substituted in its stead, prevents these bad Accidents, and very much preserves and meliorates the Liquor it is put into.

Examples to illustrate the great Advantage of infusing the Hop in a close Vessel, and not boiling it in an open Copper.

By this I engage myself in an Article, hitherto omitted by all others, and yet I think it a very Capital one; by Reason the first flowery Spirit of this aromatic, fine, oily Vegetable is of such an excellent Nature, that the most learned Naturalist allows it to have no *Succedaneum*; and there-

therefore I endeavour'd to contrive a Way (that I have experienced) to confine and preserve its noble Quality intire, which cannot possibly be done, where there is an open Evaporation allowed the Hop; and tho' I have all along hitherto in my two former Treatises encouraged a short Boiling of fresh Hops, in order to their answering this great End, yet believe me, it is only doing the Thing in Part, that even then is a thousand Times preferable to the filthy, unwholesome, old Way of boiling them two or three Hours; which, as I have remarked, never fails of extracting the worser and losing the better Part of this fine Ingredient. So that this, like the best of many other Things, may be perverted; as I can prove by many Examples, of which the following shall suffice, *viz.* There is a certain Plant called *Daucus* or Wild-carrot, which grows plentifully in some common Fields, about Knee-high, with a bunchy Head, in the Shape of an Onion in Seed, and is brown good Part of the Winter; the Seed of which is a Carminative, and has several other excellent Qualities, particularly two, one of a bitterish, and the other of a peachy Savour; of which Seeds take Half a Pint and boil them in a Canvas-bag in a Kilderkin of Ale-Wort Half an Hour, and they will not fail to give it a fine Relish, and keep it sound some Time: But if you take the same Seeds at the End of that Time, and squeeze them into the Drink, there will come out an unsufferable, ill palated oily Juice, that will spoil all the Liquor it is mixed with. The same it is more or less with other Vegetables, the Hop in particular, if used after the same Manner, or by too long boiling, and evaporating its best Part or Spirit by the Steam. Somewhat agreeable to this is the modern Practice of preparing some Medicines from Vegetables; the Vertues of which were heretofore directed to be obtained, by Decoction or Boiling as in the *bitter Decoctions*, and that of *Sena*, of our old Dispensatory; but now (among other great Amendments and Improvements by the learned Faculty) they are expressly and more elegantly ordered to be infused.

A CERTAIN Virtuoso who once dealt pretty largely in the Distilling Business, and was noted for his Skill in meliorating our *English* Brandy, so as to render it little inferior to Foreign, used the following Method, *viz.* to hang a pretty large Piece of dry *Florantine* Or-rice-Root by a Packthread, or otherwise, in the Top-Part of an Alembic, so as the boiling Liquor may not touch it, and it will give the Spirit or Water, so drawn off, a fine, agreeable, Raspberry, vinous Relish and Flavour: But if you boil it in the Liquor, it will have none of this delicate Quality, but, instead thereof, impregnate it with a very disagreeable, harsh, earthy Taste. So likewise if you infuse this Root cut in Slices in a little *English* Brandy for about six or eight Hours, it will much improve it; but, if any considerable Time longer, it will affect it in the disagreeable Manner aforesaid.

BUT for a further Proof that Hops should not be boiled in Wort, but infused, I add the following demonstrative Reason: A Distiller boiled off a Brewing of strong Wort in his Still, and for an Experiment, as soon as he put in his Hops, clapp'd on the Head, and there came off by the Worm only a bitter Water saturated with the pure aromatic Part of the Hop.

Now as some may not have the Conveniences of using the Copper-pot with its screw Head as I have before described; such may have one made of Tin instead thereof; or I would advise you first to rub and then to put one, two, or more Pounds of Hops with the Salt of Tartar into an earthen glazed Pot, allowing Room enough, and made somewhat like a Churn, broad at Bottom and narrow at Top; on these pour so much pure, soft Water as will wet and cover them well, so that a Quart may be got off each Pound, and immediately stop it up with a Cork, or some other Thing, to keep all the Steam so in, that none may make its Escape; set it over a gentle Fire, and let it boil up; then remove it and set it by till thoroughly cold: Then pour the bitter Liquor off into the Cask as soon as it has done working, and bung it down tight directly. But here in
course

course will arise an Objection against this Procedure; because the Hop is to be infused in hot Water and not Wort, and so must make the Drink weak and raw. To this I answer, That though I have here recommended Water rather than Wort, yet every one is at his Liberty to act as he pleases, and upon Trial, I believe, will be convinced, that pure soft Water is the best *Menstruum* or Vehicle to penetrate into, divide, and imbibe the viscid or cohesive Part of the Hop by Infusion, especially as it is assisted by the Salt of Tartar, which is a great Alkali and very wholesome; so that, by thus confining the Steam of both Water and Hop in a glazed earthen, or other Vessel, the Quintessence of the Hop will have a pure Extraction as soon as cold, after the same Manner that Teas are made, whereby the finest Parts of this most serviceable Vegetable will be obtained, and the earthy, unwholesome Qualities left behind for the Imbittering of Small-beer, or doing a good Piece of Service by giving them to a poor Neighbour; whereas if hot Wort was used instead of Water, it would not be able to receive such a strong Tincture from the Hop; because both the Hop and Wort are two oily Bodies that cannot so easily incorporate as a thinner Liquid: Nor can so much Water as a Quart to a Kilderkin of strong Drink be of any Signification, since it is loaded with the full Strength of the spirituous Hop, that, to preserve in the best Manner, I put into the Barrel as soon as it has done working, and immediately bung it up in order to conserve its Spirits intire, which if mixed with the Wort that is to be afterward fermented, in course there will be a great Expence of those Spirits, which may after this Method be truly preserved.

*A further Account of Brewing Malt-Liquors,
without Boiling.*

In my Second Part, Page 150, I wrote largely on this Article, and yet think myself under some Obligation to enlarge on the same Subject here, by further recommending this advantageous Method to the World, as being very profitable, pleasant, and wholesome.

A Mil-

A Miller, near *Chelmsford* in *Essex*, is famous for brewing his Drink after this Manner, that he makes so strong as to burn if thrown into the Fire, and is always fine. His Way is to boil the Hops in Water, and, after they are strained out, he puts that Water into his Tun for the first Mash; and, if he has Occasion for more hot Water, he boils fresh Hops, strains them out, and puts the Liquor over the Goods, as he did the first Time; because the more terrene and feculent Parts of the Hop, commonly extracted by Ebullition, are by this Method as it were filtered out, and left behind in the Grains; for there is a natural Contact between the earthy, phlegmatic Parts of the Malt and Hops, and so è *Contrà*, as the Salts of the Yeast sooner join or have a readier Contact with those of the corrupted or fermented Grain, *i. e.* Malt in Wort, than they do with Molosses, or other Bodies that have not more or less undergone a Prefermentation: After this he cools his Wort and ferments as usual, but without boiling it at all. And also in *Hertfordshire*, I know a Man that has brewed all his Drink for his own Family many Years after this Manner, with great Reputation. The same likewise I found practised at *Froome*, and some other Parts of *Somersetshire*, and is certainly an excellent Way, provided this can be done without losing any of the Hop's Spirit by Evaporation: Wherefore, instead of boiling them in an open Copper, they should be infused or boiled under such a confining Cover, as will secure their Vertue; then if they are strained out, and the Water put over the Malt, the Wort will certainly be the better; and in this Case fewer Hops will do, because their whole Strength is thus intirely preserved. Wort is better for not being boiled, because Boiling thickens and hardens it; and Water also by evaporating the lighter, softer, and more pure Part: Though I cannot say that any Spirit evaporates in boiling Wort; because, if the Grain is so opened as to emit any Spirits in Malting, it is thoroughly lost in the Watering and Drying, as was fairly demonstrated by the Experiment

of the Still above mentioned in the Account of infusing Hops. Also the common Objection of its being raw, and not fit for keeping, I have already obviated by this Reason, that it is not Boiling that maturates and preserves Malt-Liquors, but a right and due Fermentation, and its Spirit; which is likewise further confirmed by the Practice of a certain wealthy Virtuoso near *Bristol*, who constantly brews his Ale and Table-Drink without boiling their Worts; and, in his own Words, he sometimes keeps his Ale near twelve Months, and believes both to be as good as any of his Neighbours: Notwithstanding he is very particular in another Respect, which is, that he never puts Hop or any other Bitter to either Sort, and affirms it to be pleasanter and wholesomer without; though he formerly us'd to brew in the common Way.

C H A P. XII.

Of Worts and their Improvements, after a new Method.

WORT is the oily, spirituous Parts of the Malt, obtain'd by Infusions and Washings of hot Water, that lie and soak with the Grain, one, two, or more Hours; which gradually opens the Pores, whereby it the more freely imparts its Vertues by the further Assistance of a Cover of fresh Malt, which here prevents the Escape of the finer, softer, and most penetrating Parts of the Water by Steam, and causes a more equal Distribution of them throughout the Body of the Mash, by a due Confinement of the Heat; and, being swell'd and saturated to its utmost Distention, returns the overplus Liquor laden with the sweet, balsamic, nourishing, pleasant Parts of its Flower, and so continues to emit the same in a regular Tincture, by the several Ladings over or Washings that leisurely follow, and are constantly discharged by the Cock without stopping,
till

till the just Quantity is got off in a fine transparent Stream. Now to enjoy this virgin, delicate Liquor so obtained, free of all Adulteration, much Waste, and in its utmost Purity, is the Design of this Part. To this End, I put fresh Hops first rubb'd well between the Hands into the Tub under the Cock for the Wort to run' on, all the Time it is spending off, and, when I have my Quantity of first Wort, I empty the Tub of that and the Hop, still continuing without Intermission my Leakings over and Runnings out on another Parcel of fresh Hops for my second Wort; and if after that small Beer is to be made, more fresh Hops should be employed to receive it all the Time it comes away: And, when I have got Possession of a genuine Wort, it is to be managed as before, and as hereafter I shall direct. Now I am to account for the Excellency of this Method, and to shew that it transcends that practised by me at my great Brew-house; where, after the first Piece of Wort was discharged off from under its Capping of fresh Malt, all the after Worts were obliged to be expos'd an Hour, or near one each, on the Goods, to infuse and bring away their Strength; about Half an Hour running off, and almost Half an Hour longer before it can be pump'd out of the Underback into the Copper. In all which three Ways the Worts sometimes suffer in their better Part, which I prove by the Accidents of pricking, or a little souring of the Wort, that frequently happen in the Mash-tun or Underback, especially in hot Weather. From hence it was that my Malt-Liquors would sometimes suddenly acquire Staleness, because, truly speaking, they thus were deprived of Part of their original, native Sweetness before they went into the Copper, that is irrecoverable afterwards. But as this ancient Management commonly affects the Wort more or less in its fundamental Principle, but so as at first not to be perceived by the Unwary and Ignorant; it generally likewise escapes the Censure of the Drinker as to its true Cause, who falsely imputes the Badness of it to the Underboiling it,

the Length of Time in keeping it, or to the Want of a sufficient Quantity of Hops in it. However, it is certain that such damaged Wort is of dangerous Consequence to the human Body; for, if the Wort is sick, it cannot fail of communicating its unwholesome Quality to the Blood; and therefore I hope my Caution will give a just Idea to my Reader of the too commonly over-look'd Mischief that accompanies such ill brewed Beers and Ales, and so prevent the Loss of Health, Time, and Money, that many have been brought under, by not knowing the Source and Spring of their Illness; for it is certain that great Errors may be insensibly committed in the smallest and meanest Preparations, for Want of rightly understanding the Forms of Nature. So that I think myself obliged to write against the necessitous (though common) Way I formerly followed, in suffering the Wort to lie in the open, broad Mash-tun, and Underback of my great Brew-house an Hour and a Half, or two Hours, without so much as a Hop in it to secure its innate, tender Vertue, or Sweetness, against receiving Prejudice from Time, Utensils, Heat, and *Effluvia's* of corrupted Air. On the Contrary, the Method of obtaining Wort by Lading over hot Water proves the vast Benefit that it receives, when intirely preserved in its pure, natural State; as by such quick Dispatch, and the Tincture of the Hops, it surely does. For it is certain, that both these Conveniences potently oppose and resist Acidities and other ill Qualities, which often have proved the Bane of human Bodies, and in their Room maintained Malt Drinks in a wholesome, pleasant, mild Condition from their first Running out of the Mash-tub to their last Consumption. Which Management is also much better than that practis'd by some common Brewers, who, to secure all safe, lay a good Quantity of Hops in the Hollow between the false and fix'd Bottom of the Mash-tub: But by their Leave they are wrong in so doing, because here their Hops are obliged to lie the whole Time of the Brewing, which con-

consequently must extract the foul, disagreeable, earthy Part of them, and do the Drink great Damage. For herein consists the nicest Point in extracting the Virtue of any Vegetables, Minerals, &c. especially such as require several Digestions; first, by a proper *Menstruum* to obtain, and afterwards to preserve their fine, purer, and better Parts, so as at the same Time to avoid their more gross and terrene Qualities: In this, I say, consists the Perfection of all such Artificial, Spirituous Liquors that are to be procur'd by Infusion, Decoction, &c. Thus, Take a common Fire-shovel and heat it, then put Coffee-berries on it, and heat them also till they sweat; while this is doing, set some Water over the Fire in a Coffee-pot; when heated, throw it away, and dry the empty Pot on the Fire; then take the Powder of the heated Berries and put into the warm Pot, and immediately Water heated under a close Cover, and just before it boils, over it; and then this previous, gentle Heat, by the present Admission of igneous Particles into the Pores of the Berries, will so distend and divide them, as to cause them much readier to communicate their purer and lighter Parts to those of the heated Water; and in three or four Minutes standing close cover'd will afford a pleasant, strong Liquor without partaking any of the harsh, acid, gross Part of it, which the common Management yields more or less by using the Powder cold, boiling and standing double the Time.

Worts prepar'd by Digestion.

By this Way, as a late Writer observes, the Particles of Bodies are extracted, which are more light than the terrestrial Ones they proceed from, and that by a certain *Menstruum* that they intimately mix with. To this End, a gentle Fire is commonly used, that the Corpuscles which are most volatile may separate as it were of their own Accord; for a fierce Fire forces out the *Fæces* as well as the finer Particles; and, if it does not abate the Strength of the Liquor, it will not fail of fouling it; according to which Rules, says he, there may be practis'd a Sort of curing strong Worts, thus,

viz. Put your Wort into the Copper, and on it fix a blind Head that may be closely secur'd with a Paste, which by a moderate Fire may be digested Twenty or more Hours, with a sufficient Quantity of Hops, or some other Ingredients instead of them, after which it may be fermented as usual. By this Method, either Malt, or Treacle Wort, is said to be brought into an excellent, drinkable Condition, without diminishing its Spirit or fine Part. But I can't join in Sentiment with him on this Account, because, by this long, close Stewing, the whole Power of the Hop is incorporated with the Wort to the last Degree, never to be separated while it is Drink; and then it will be attended with many ill Consequences, as I have before observ'd: Besides, the Wort here is heated or boiled in the dark in a very blind Manner, and may thus obtain too thick a Body, which will much take off that fine, vinous Consistence which all Malt-Liquors should have: For Wort, though it has by a proper Length of Time boiled into innumerable Particles; yet, by being afterwards boiled on too long, the whole Body of it will again reunite and become an intire Consistence, as it was before it broke into such Particles. But I must own, if this Operation can be truly adjusted, so that the Wort and Hop may be boiled to a true Crisis under Cover, it is an excellent Way, and I am a Votary for such keeping in the Steam of Wort; though there is an Objection made by some, that the Wort cannot lose any Spirit in boiling openly, because the Liquor was never yet fermented. To this I answer, that though a Spirit can't be extracted from Wort, till it is fermented, yet it is certainly true that the softest and finest Parts of either Water, or Wort, will away in open and long Boiling, that were intirely necessary to incide and dissolve the viscid Body of the fermented Liquor, and make it healthful to the Drinker. Therefore I think this same Author more in the right when he advises, that as soon as Wort and Hops are put into a Copper, there should be a large blind Head fixed on the same, that is to be luted so

fast as nothing can evaporate : Then gently boil the Space of one or two Hours, as the Strength of your Liquor is ; then remove the Head, strain the Hops, and let out the Wort into a Cooler, so, says he, you have a Liquor in which is the full Vertue of the Grain and Hop. But in my humble Opinion he has not hit the Mark yet ; for though such Confinement preserves the Steam, and some Vertue of the Wort from flying off, it is an obscure and uncertain Way ; because there is no seeing when the Wort breaks, nor an Opportunity of taking out the Hops in due Time, so that there ought to be a better Method contriv'd. To which End I advance my Notion as follows, *viz.* In *September 1736*, as I was travelling through *Norfolk*, I happen'd into the Company of an eminent common Brewer, to whom I was hinting the great Service of confining the Steam of Worts while they boiled. In answer to which he told me he had attempted the very Thing, by fastening his two wooden Doors just above the Curb of the Copper, and also thought he had secur'd the square Hole in the Middle of his Copper-back ; accordingly he order'd the Stoker to boil the Wort as usual ; but it was not long before the Board on the square Hole gave away, and the Wort bursted out with such Fury that it boiled over on the Ground, and had like to have scalded the Fire-man ; which so affrighted him that away he went, and could never be perswaded to live with his Master afterwards. Here I observ'd his Copper-back to be but three Feet higher than the Copper, which consequently was too short a Distance for such a Trial ; for in this Case there should be such a Space allowed as to weaken the Ascent of the boiling Wort and Steam : So that I am of Opinion nothing less than four or five Feet high Vacation ought to be allowed for this Performance, in order to break the Force of such an Ebullition, by thus giving it Room enough to expand, and with all the Advantage that can be given to the Strength of the Brick and Wood-work about the same. By this Contrivance you may adjust the true Time of boiling both Wort and Hops, and that by only turn-

ing the Cock at the End of your Copper-Arm, and see at any time in a little drawn Wort, in what Condition all the rest is; which is far more profitable to the Brewer, and much better for the Drink than boiling a first Wort four Hours with all its Hops, as I heard another did in an open, low Copper, and yet was reckoned the greatest Brewer in the Country he lived in. In fine, the Benefit of this new Way must be considerable, since it is generally allowed, that according to the present common Mode of laying a Back over the Copper, with a narrow Hole in the Middle of the same for the Evacuation of the Steam, and a Pair of folding Doors at the Front, near Half of the Waste of Worts is saved, which used to be lost when boiled in an open Copper.

How three Men in Partnership brewed and sold Ale, without buying Malt, or paying Excise.

THIS Scheme as I was credibly informed, was invented by a *Yorkshire* Man, who, buoyed up with the Assurance of Success, proposed it to two of his Countrymen, that readily came into his Measures. For this Purpose they took a ground Room in *Gray's-Inn Lane*, which they furnished with a large Tub, a few Casks, and a small Kettle. Then they proceeded and bought a Sack of the coarsest Sugar, putting the same into the great Tub, first charged with a due Quantity of cold Water that they mashed and mixed well together. To this they added an Infusion of Hops, so made by pouring scalding Water on a Parcel in a Firkin, that when soaked enough they drew out at the Tap-hole, and worked all with Yeast as is done in Malt-Liquors. When the Drink was ready, they carried it out in the Dark to a Cellar in *St. Martin's-Lane*, where they sold it for common Ale at a Price that invited good Custom, and that brought in such a Profit as soon made two of the Partners^r become extravagant Rakes to the Ruin of their dark Enterprize.

C H A P. XIII.

The Barnstable Way of Brewing a Hoghead of fine Pale-Ale.

THEY draw off a Hoghead of fine pleasant Straw-coloured Ale from twelve Bushels of Malt, thus, *viz.* They boil the Water, then throw two Pails of cold into the Mash-tun, and the boiling hot Water on that; then immediately put in the Malt Half a Bushel at a Time: After stirring it till all is soaked, they cap it with Malt or Bran, and cover it close to stand three Hours; then see if the Mash is sunk in the Middle which it will sometimes do, and, when it does, it shews the Strength of the Goods, and must be filled up level with boiling Water to stand Half an Hour after, when it is to be run off in a Goose-quill Stream, which is to be returned upon the Goods again, by a Bowl or Pail-ful at a Time as back as you can from the Cock; for then the Liqueur strains through the Body of the Goods, and at last comes very fine; otherwise you force the thick Part down to the Cock; this is call'd *Doubling*, which they continue to do for Half an Hour, then stop and let it stand Half an Hour longer in Winter, but not in Summer; then they rub four Pounds of Hops very fine into the Kieve for the Wort to run off; they don't draw it off too near before they lade over more boiling Water out of the Copper, that is to be continued till you have your Quantity of Ale Wort, which with all your Hops is to be boiled till the Liqueur breaks or curdles; then they empty all into large earthen long Pans or Coolers, that they work, when cold, with the same Hops all together, thus, *viz.* They put a little Yeast (as little as may be, and that not a Day old if they can help it) to a Parcel, and mix that with all the rest to work twelve or fourteen Hours, and then they directly strain it into the Barrel, where they keep filling it up with fresh Wort till they leave it full at last. When the Fermenting is finished, they paste a Piece of brown Paper over the Bung-hole for
P 3 a Fortnight,

a Fortnight, which will very much conduce to its fining by its having a little Air, and then bung for good with a wooden Stopple. Thus they will draw their Ale perfectly fine in three Weeks or a Month at most.

N. B. THEY never mash here above once for their strong Drink, and seldom make small, because of its great Cheapness. Therefore they think it turns to a better Account to leave a Strength in the Grains for feeding their Swine.

C H A P. XIV.

Working Beer and Ale, after a new Way, to their great Advantage.

YEAST is an Acid, as appears by its soon turning sour, and consists of a great Quantity of subtile and spirituous Particles, wrapped up in such as are viscid: When therefore this is mixed with Liquor, it occasions an intestine Motion by the Interfering of Particles of different Gravities, as the spirituous Parts will be continually striving to get up to the Surface, and the viscid Ones continually retarding such Ascent and preventing their Escape. So that by these two concurring Causes, the Particles extracted from the Grain will, by frequent Occursions, be so comminuted, as continually to increase the more subtile and spirituous Parts, until all that can be made so by Attrition or Fretting are set loose from their viscid Confinements, as a learned Author plainly demonstrates. It is also influenced by the Air that in Summer is warm, light and thin, and greatly promotes it; in Winter it is thick, cold, and heavy, and much retards it. Also in Spring, and Summer, the floating Particles of the Air, that are of the same Kind as those in the fermenting Liquor, join them with their Strength, and make the Working more violent. So Malt-Liquors made from Beans, Oats, or other Vegetables will ferment higher and be stronger, if brewed when they are in Blossom.

After

After the old Way.

As I have all along in the several foregoing Operations endeavour'd to preserve the more pure, light, and subtile Parts of the Water, Malt, Wort, and Hops, I shall here likewise do the same in Fermentation. In the Working of Beer and Ale, the Spirits have the greatest Opportunity of making their Escape, and therefore here is the Place for your chiefest Care, that the Fermentation may be brought on cool and leisurely under the close Cover of a Lid and Cloths to preserve the Spirits; for, if you put your Nose over it while it is working, you will find the Strength ready to suffocate you; which plainly shews it emits a great deal of spirituous Effluvia, that will fly away if not kept well in, as you may also prove by putting a lighted Candle a little down under the Cover and it will extinguish it. But, if the Fermentation is not thus confin'd, your Candle will remain lighted, because the Spirits will then evaporate freely.

After the new Way.

THIS is very different from the old; for by this the Use of Tubs and working Tuns are wholly laid aside, on Account of the great Loss of Spirits that such open Utensils expose the Drink to, that here have such a free Communication with the circumambient Air, as to be influenced by it in a most plenary Manner; so that, if too free an Access to the aerial Particles is detrimental to the Malt-Liquor, here is full Liberty for their Action. To prevent which, take a little Wort before it is quite cold, and mix it with some Yeast; when it is fermented, put into it a Hogshead or Butt, and on that let the Wort run out of the Back, or pour it out of your Tubs as fine as possible, and as cool as the Season will permit. Then stop up the Bung-hole in the Head with a turned Piece of Wood wrapped round with wetted brown Paper, and let the Yeast work out of a common Cork-hole made in the Front of the upright Cask within about an Inch of the upper Head, by a little Piece of Leather nail'd under it, and a wooden Spout under that, to convey the Yeast into a Tub on

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the Ground ; so will you enjoy a Drink much stronger, finer, and better relish'd, than when work'd and tunn'd after the old Fashion : For this Way causes the Beer, or Ale, to taste smooth and retain a brisk, lively Quality to the last. But then such Working must be in a right Manner, neither too much nor too little. If in the first Degree, it will be apt to boil in the Cask in Summer almost like the Motion in a Copper, and bring it under a stale Hardness, make it taste harsh in the Mouth, and give too deep a Colour to the paler Sort of Drink : For this Reason some will follow this Method of Fermenting it all together in the Cask only in Winter, and not in Summer. If in the second Degree, it will be always sputtering and never fine. But the Danger of these Extreams will not be very hazardous where Care and Judgment attend the Work, and so may be perform'd at any Time of the Year with Safety, though the Equinoxes or most temperate Seasons are certainly the best. Besides which, here is a great deal of Waste prevented that always accompanies the Vat, Tun, Pump, Pail, or Jett, used in working Malt-Liquors, after the old Way. And if there is almost Half the Waste of Wort saved in boiling Malt-Liquors by a Copper-back, there is also a Waste of the Drink prevented that otherwise would happen if work'd in the open Tub or Tun : And to prove the great Benefit of this Method, make but an Experiment even in your small Beer, and you will find that work'd in the Cask, stronger, pleasanter, and will keep longer, than that first work'd in an open Vessel, and afterwards put into the Barrel, which consequently must likewise render it much wholesomer, than Drink fermented in the open Tun, because by this Means it is furnish'd with a great Plenty of its own original Spirits, that otherwise would certainly make their Escape, and the Liquor becomes flat and weak. So that in my humble Opinion (and I hope it will become general in a few Years) no Drink made from Malt will be esteem'd, but what is brewed by infusing or boiling the Hops a little while, according

to these my Directions, and work'd only in the upright Cask, as I have here directed.

To forward Fermentation.

IF you have but little, or if you have bad Yeast, mix a little Sugar, Flour, and Salt with it, and some warm Wort, or Beer, and it will raise it, and make it go a great Way in working Beers and Ales. So it will if mix'd with Grounds of strong Beer, and will make it fit both to bake Bread and work Beers and Ales, and the sooner if you let the Mixture lie by a Fire. But some for a Make-shift will mix only hot Water and Sugar with stale Yeast, and recover it fit for Service.— Others will knead Bean Flour with Water into a Dough, and put it into the Wort.— Or, if you put Wort in a Vessel on its Grounds, it will ferment, provided it is not sour; but the Grounds won't work the Wort if put among it in an open Tub.— Others when Drink is backward in working will put some Lime into it.— Salt, Pepper, and Flour mix'd together will make Drink work that would not before.— Powdered Ginger alone will help.— Or Ginger, Brandy, and Flour mix'd together.— Or a Gallon Stone-Bottle fill'd with hot Water.— Or in Case you can get no Yeast, Honey, Sugar, Leaven, or Treacle, will do it alone.— Or Flour, Salt, and Whites of Eggs mix'd with Treacle.— Or by putting a Chafing-dish of live Coals under the Bottom of a Tub or Tun.— Or by using some Salt of Tartar. But in particular be very careful not to break the young yeasty Head, for this Cover helps the viscid Body of the Wort to keep in the Spirits, for all Fermentation is much promoted by Rest.— Also to supply the Want of common Yeast, in Gentlemens Houses distant from Towns, I have heard, they cut and beat Isinglass small and fine, which being four Ounces in Quantity, they mix with two Quarts of stale Beer; then let it stand in Infusion 'till dissolved, but without stirring it; then draw or pour off the Beer, and keep the thick Part in a Pan before the Fire, so as just to keep it warm, and, in about two or three Hours Time, it will rise, ferment and look like Yeast; and then

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then it is fit to use, either to work Drink with, or to bake Bread.— If your Yeast is sourish, it will be apt to fox your Drink.— If you work your Drink too hot, you may expect to have it quickly fall, and either fox, or be flat, and suddenly stale.— You may make as much Yeast as will lie on a Crown-piece work a thousand Barrels, by first putting it into a Pint, then a Quart, and so on.— All new Drink must be tunn'd before it falls, or else it loses its Spirits.— Some are so ignorantly covetous that they will reserve out some raw Wort, and set it a working in order to save the Waste of it in boiling; the Consequence may likely cause a sweet and bitter disagreeable Taste in the Drink, and afterwards bring it into a prick'd Condition.— Yeast will be good two Months together, if cold Water is put upon such thick Yeast as it is settled at the Bottom of a Tub, and pour'd off once a Week, and fresh immediately put on.— Or, when the Drink is working put into the Vat a Whisk, Hasle-rod, Broom, or a Branch of Juniper, or Furz, and let it lie all the Time it is fermenting; then take it and hang it up in a dry Place, and, though it be six or eight Months before it is used, it will be very sweet and serviceable for the next Brewing.— Or bottle the Yeast after the Manner I have formerly directed.— Or when strong Drink works slowly through the Viscidity or Clamminess of the fermenting Liquor, or Coldness of the Season, a few live Coals or new made Wood-ashes will remedy that Inconvenience, by dissolving the oleaginous Particles and separating them, the alkaline Salt in the Ashes being excellently adapted for this Purpose; the same Effect will be produced by a little Salt of Tartar, or an Onion dipp'd in strong Mustard, or a Ball made of Quick-Lime, Wheat Flour, and the White of an Egg beat up into a Paste, a Piece of which being thrown in will occasion a new Fermentation: But these last are only to be used when you are sure this Defect proceeds solely from the Thickness of the Liquor; for otherwise these volatile and fiery saline Substances will so break and divide the Texture of the Fluid, that with themselves they will make way for all
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the continual spirituous Particles to fly off at the Surface.

To cure new Drink damaged by the Frost.

IF you are necessitated to brew strong Drink in frosty Weather, it is a great Chance but the Frost takes it in the Working-vat, especially if you should let the Wort be ever so little too cold before you put the Yeast to it; there is then no preventing it. You may know when this Misfortune has happened to your Drink by its not working so kindly as others do; for it will ferment a-fresh upon a succeeding Thaw, even if it has been in the Cask for a Month or two, and a Frost should have continued all that Time; however this is a certain Rule to know it by, *viz.* when upon tapping it you find it very sweet, somewhat like a Syrup (though you have allowed the sufficient Quantity of Hops to it as usual) and is commonly foul: Such Liquor will never be well tasted as other Drink, keep it ever so long, without using some Remedy.--- The usual one to a Barrel of such Drink, is to make a little more than a Pail-ful of fresh Wort, into which put a good Quantity of rubbed Hops, and boil it about Half an Hour, so that it may be extraordinary bitter; and when it is cold enough, draw of a Pail-ful of this damaged Drink, and fill up your Cask with the bitter Wort in its stead, and it will work a-new.--- The Fermentation being over, stop it up, and let it stand for a Month, and if upon Trial you find it has come to, well.--- But if it still retains its sugary Taste, then get ready another Barrel sweet and dry, into which rack off this Drink, and put into it Half a Peck of parch'd Wheat, and a Pound of good Hops gently dry'd before the Fire, rubb'd a little and tied up in a fine Net; this hang in your Barrel by a String fastened to the Bung, which drive down tight, leaving only the Vent-hole open for a Day or two in Case any Fermentation should ensue; afterwards stop close, and, in three Weeks or a Month's Time, it will be cur'd and fit to draw.

N. B. THE Pail-ful of damaged Drink may be added to your Table-beer.

To check a forward Fermentation.

IN *Northamptonshire*, and many other Places, they reserve a Piccé of raw Wort for this Purpose, and to prepare it for keeping, they get it off the Lees as fine as they can, and lay it very thin, else it would ferment of itself by the Heat of the Salt and Sulphur contain'd in them. In Summer Time when the Beer or Ale ferments too high, they mix a Parcel of this raw Wort to lower it, and so on in the same Manner for several Days, which every Time adds new Viscidities, that entangle and keep the spirituous Parts from flying off, at the same Time breaking the cohesive Principle into finer Particles, whereby it makes the Drink so much the lighter and fitter for a more easy Digestion : Contrary to that worse Way of beating in the Yeast, and loading the Drink with a heavy, clogging, unwholesome Matter : By which Management, the raw Wort will keep sound more than a Week, and is so serviceable for improving Ale, that it is constantly practis'd throughout the Year ; for in Winter they commonly heat their Parcels to invigorate the new Drink, that it may potently resist the Severity of cold Weather ; and then, as I have several Times observed, the Malt-Liquor will knit and sparkle in a Glass, though drawn out of a Barrel. And I must own I think they brew the best Ale in this County of any other. So in the same Manner they serve their small Beer that drinks extremely pleasant. In Case your Drink works too violently in the Cask (after my new Method) then run a Brass-Cock into the middle Cock-hole of your Butt, and draw out a Parcel, and, in the Room thereof, put as much raw Wort into the Bung-hole in the Head, as will sufficiently check it, or burn Brimstone under or about the Vessel and it will do it directly.--- Also Salt, Allum, Nitre, Spirit of Vitriol, Oil of Sulphur, Spirit of Salt, and all other Acids abate violent Workings of Malt-Liquors. For the rest see my First Part, *Page 51, 5th Edition*. But, before I leave this Topic, I think it necessary to add the following Account, as it was related to me at *Nerwich*, in *September, 1736*, by one

of the same Brew-house. The Tun-man, being ambitious to supplant the Workman Brewer, contrived to bring about his End by dividing a Lump of Grease, and scattering the Bits into several Parts of the Tun, that then had a Guile of Nogg or strong Beer working in it; and though the Brewer left it fermenting in fine Order, yet, when he came again, he found it all fallen flat, and only just covered with a thin creamy Head. Thus this Villain brought the Brewer several Times into Disgrace, 'till at last they suspected and detected him in the Action, on which the Rogue fled.— When Liquor is of a thin Substance, and abounds with many subtile and very fugitive Particles, something of a gross and viscid Consistence must be used to bridle and restrain their too great Activity; to which End, the White of an Egg and Wheat-Flour, old Yeast, and a cool Position, are very serviceable.

C H A P. XV.

Of Brewing Butt-Beer, called Porter.

THE Water just breaks or boils when they let in a Quantity of cold to keep it from scalding, which they let run off by a great Brass-Cock down a wooden Trunk (which is fix'd to the Side of the Mash-tun) and up through a false Bottom into the Malt: Then mash with wooden Oars Half an Hour; by this Time the Water in the Copper is scalding hot, which they likewise let run into the Malt, and mash Half an Hour longer. This they cap or cover with fresh Malt, and let it stand two Hours; then spend away by a Cock-Stream into the Under-back, where it lies a little while 'till a second Liquor is ready to boil, but not boil, with which they mash again to have a sufficient Length of Wort that they boil at once, or twice, according to the Bigness of their Utensils. Others will make a third Mash, and boil a second Copper of Wort. The first Wort is allowed an Hour and a Half's Boiling.

ing with three Pounds of Hops to each Barrel. The second Wort two Hours with the same Hops, and so on. Some calling the first, *Hop-wort*; the second, *Mash-wort*; the third, *Neighbour-wort*, and the fourth, *Blue*. Which last, being a most small Sort, is sometimes allowed six or seven Hours boiling with the same used Hops. When in a right Temper they let down the Worts out of the Backs into the Tun from their grosser Contents, where they coolly ferment it with Yeast, till a fine curl'd Head rises and just falls again, that sometimes requires twenty-four, sometimes forty-eight Hours, as the Weather is hot or cold to perform this Operation. Then they cleanse it off into Barrels one Day, and carry it out the next to their Customers, keeping the Vessels filling up now and then in the *Interim*. For making this Drink with a good Body, they commonly draw off a Barrel and a Firkin, or a Hog-head, from a Quarter of brown Malt, and sell it for twenty-three Shillings *per* Barrel. But this is govern'd by the Price of the Customer; so that two or three Sorts are sometimes carried out from one Brewing, for with the Blue they can lower it at Pleasure; always observing that the higher the Malt is dried the cooler the first Liquor or Water must be taken and used; therefore the first Wort governs the second Liquor either to be hotter or cooler. If that was too hot you may know it by its bearing too great a Head or Froth in the Receiver, and so *è Contrà*; a middling Head shews the first Liquor to have been taken right.

C H A P. XVI.

An Account of the destructive Weevils, with several Ways to destroy them.

IN some Counties they call it *Bood*, others *Pope*, and *W'bool*. It is a Kind of Beetle about the Bigness of a large Flea, and like a small Ant, will crack under the Nail like a Flea, and will not only eat the Malt

Malt Kernel, but also, where they are in Abundance, will bite a Person in Bed, haunt the Cup-board, and even feed on the Plates where Meat has been eat on. These Insects are the Pest of Corn-lofts, and are such Travellers, that, when one is empty, they will presently make their Way to another, unless the Granary stands independent of other Buildings. They do not breed in Winter, only in Summer, and then the Slackness or Dampness of the Malt, which by lying in a Heap heats, contributes to their Increase; so a Wall, that the Grain lies next to, by its giving in wet Weather, will cause a Moisture and sometimes have the same Effect; likewise, when Malt is kept two or three Years together in a Loft, the Dust it acquires may bring on a Heat, and that cause the Breed of this Insect. And, why the great *London* Brewers are not so much troubled with them as the Country, is, because they are always emptying and receiving, that so disturbs them as to hinder their Increase. A Brewer in the Country built a Loft that stood from other Buildings, and though he thought himself secure by this Means, yet was it not long before he had his hated Guests; for being necessitated to buy Malt at another Town, he ignorantly bought some Weevils or Whoools in it, which to get rid of, he would not suffer any Malt to lie in the same six Months together; this answered his Purpose, for it starv'd them quite. But where they are in great Numbers, and have Food enough, they will destroy a great Deal in a little Time, beginning at the End of a Kernal, and so, eating into the Flour, spoil the Malt and deceive the Brewer; for these as they are nourish'd or increas'd by Putrefaction, and often unperceived ground with the Malt, and boil'd in the Drink, fox it, and cause it to grow stale and ropy, and thus are the Beginning of Corruption. which, like Leaven, is continually increasing till it has brought the Whole under a total Damage.

To prevent,—SCREEN the Malt now and then from the Dust, and lay it dry against Boards, and empty your Loft in due Time.

To destroy great Numbers of them, and keep them under.— Is to shovel the Malt up into a Heap, and they'll all make up to the Top, by which you may take off the major Part and sift them out; then stirring and heaping the Malt again, you may repeat the Work.

A Second Way.— LEAVE a Peck or less of Malt or Grains on the Floor, and the Whools will come out to feed on them, when they may be shoveled up. They are most in Lofts at the latter End of the Summer Season.

A third Way.— WHEN the Loft is empty they will be apt to creep up and lodge on the Walls; in this Case, White-wash with a Brush dipped in Water wherein Quick-lime has been just quenched, and it will kill many of them.

A fourth Way.— IF the Room can be inclosed from Air, then you may destroy them by burning Brimstone or Guinea Pepper in the same, but no Person must be in the Reach of it.

A fifth Way.— Is to carry a good Parcel of Horse-Pismires, or the great black Ants, which you may shovel up with some of the Mould of the Hill, and put all into a Sack, which if you scatter in the Loft as soon as the Corn is out, they'll effectually kill the Whools, and afterwards leave the Place.

BUT, for further setting forth the destructive Nature of this poisonous Insect, take the following Account as it was related to me by a Servant who had been brought up under a Person from *Nottingham*, famous for brewing Malt-Liquors. A Victualler, hearing of this valuable Servant, used his strenuous Endeavours to hire him. Accordingly succeeding, he employed him to brew a Quarter of Malt. The hot Water being in the Mash-tun, he opened the Sack to put in the ground Malt, when, to his great Surprise, he saw vast Numbers of Weevils creeping in the same; however, he put in both them and Malt, and mashed away, but in such Pain from the fætid Stink of the Weevils, that he could hardly bear his Nose over the Place, and resolved never to brew there a second Time; which he made good, and

returned to his old Master again: An Example, one would think, sufficient enough to open the Eyes of the ignorant Cit and others; who consequently drink great Quantities of such unwholsome Malt-Liquors made from whoolly Malts; as may be inferr'd from that I am going to say, *viz.* The small Town where this happened lies above Twenty-five Miles from *London*, and furnishes large Quantities of Malt to that Place by the Waggon. Now according to the Opinion of some; all or most of their Malt-Lofts or Granaries in the same are infected by the Weevil; and have been so for many Years past, insomuch that they despair of ever getting rid of this their constant Lodger. If then this horrid Creature breeds in such abundance in one small Town, and accompanies the Malt alive both before and after grinding; even into the Mash-tun; the Drinkers in course must swallow the Quintessence of their nasty Bodies; which before, on Sight of only one being crushed under the Nail, would be apt to turn his Stomach. And therefore it highly concerns all to be assured their Beers and Ales are brewed from sound Malt; clear of that stinking Insect, the Weevil: They likewise infest Ships, and are frequently found in their Bread; which these Insects feed on as long as they can; and then die in it, and afterwards poor Tar is often forced to take up with it; hard Fare; when it won't afford even a Weevil any longer Subsistence.

C H A P. XVII.

Common Purl improved by a famous new cheap Receipt now in Use.

R O M A N Wormwood two Dozen; Gentian-root six Pounds; Calamus Aromaticus (or the sweet Flag-root) two Pounds; Snake-root one Pound; Horse-Radish one Bunch; Orange-peel dried, and Juniper-berries; each, two Pounds; Seeds or Kernels of *Sevil-Oranges* cleaned and dried, two Pounds. These he cuts

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and

and bruises, and puts them into a clean Butt, and starts his mild brown, or pale Beer upon them so as to fill up the Vessel, about the Beginning of *November*, which he lets stand till the next Season. This he does annually, and ought to be follow'd by all of the Business.

N. B. WAS he to add a Pound or two of Galingal-Roots to it, the Composition would be the better. This Victualler is of Opinion that there are scarce six in Twenty of his Fraternity in Town, who do not make their Purl only with their Refuse or Waste-Drink, such as they receive in their Tap-tubs, by throwing into it no other Bitter, but a Parcel of common weedy Worm-wood; which Compound, one would think, more fit for a Puke, than a grateful, cordial, stomachic Bitter.

A Cure for the Gout or Rheumatism.

WHEN I was at the City of *Wells*, the Town of *Bridgewater*, and some other Parts of *Somersetshire*, in 1737, I could not but lament the deplorable Condition of several Publicans whom I saw there miserably afflicted with the *Gout*, which I think was chiefly owing to their stale, Butt, pale Beer, that here is their common strong Drink. To one Inn-keeper, who a long Time was forced to walk with two Sticks, and another Bed-ridden, I gave the following Medicine that restor'd them, *viz.* Take one Ounce of clean Gum Guaiacum finely powdered, and put it into a Quart-bottle of right *Jamaica* Rum. Of this take Half a Quarter of a Pint or less as you go to Bed, and it will cause a small Sweat, and perhaps a Stool or two. If it does not carry off the Pain in one Night, repeat it once or twice more. It is a very safe Remedy, curing both *Gout* and *Rheumatism*; and is now in great Reputation and Use among the Nobility in general; from one of whom I had this famous Receipt; which frequent Experience also warrants to be a most excellent one for any Degree of the Scurvy, and is accordingly now daily taken by many after the following Manner, *viz.* Infuse two Ounces of the Powder in one Pint of old Rum; of this Liquor, put one or two Tea Spoon-fuls into a Glass of cold
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Water, and drink it at Night, or better in a Morning fasting.

Observations on some Country Drinks.

In *Suffolk* and *Norfolk* they run very much upon a light brown, or deep Amber colour'd Butt-Beer, which in the latter Place is called *Nogg*, is commonly sold for Six-pence *per* Quart, and in some Parts is a light, good Drink: But then, like their Cheese where they make mostly Butter, their common Ale is hardly fit to drink, as being generally made from the earthy Goods of the strong Beer and its Hops. About *Recheſter* in *Kent*, they brew a most potent, deep, brown, stout Beer, at four Pence *per* Quart, and which indeed best agrees with their brackish Water and bad Air. In *Somerſetſhire*, and some other Parts of the *West*, they affect a pale Butt-Beer; and at *Bristol*, besides their itale Drink, a mild, cool-work'd common Ale is much in Request for being of a deep Amber or light brown Colour, and so clear that they often bring it in Decanters: A Condition! That I could wish to see the hot work'd *London* common brown Ale always in, that both it and the pale Yeast-beaten Ales, &c. may be free of that *Oidium*, which Strangers are (but too justly) very apt to cast on them. At *Bedminster*, an eminent Quaker, who had got so much by the Distillery as to live on his Estate, told me he had rather brew in a Kettle, than drink the Town-brew'd Malt-Liquors; a Reflection which I think cannot take Place, if the excellent New-River Water, sound Malt, an airy Brew-houte, and a true Art were employed in the brewing of them.

C H A P. XVIII.

The Cellar-Man.

WOFUL Experience shews the Want of this Art in those who are ignorant in a Cellar of Malt-Liquors, by the great Numbers of Vessels of Drink which are annually damaged or spoiled on this very Account. For this Reason, some think that a well qualified

lified Person, who has under his Care great Quantities of Beers and Ales, is no less useful than a skilful Brewer; for though the latter is the prior Workman in preparing and finishing Liquors for the Cellar in a short Time, yet is the former engaged sometimes Years together to preserve and keep in due Order his several Sorts, that their Owner may not sustain any Damage by Leakage, ill scented Casks, Staleness, Ropiness, Foulness, or any other Incident; but that through the Skill and good Management of this Person such Liquors be improved even beyond that natural Order the Brewer left them in. On this Account also may Victuallers, as well as private Persons, become Curers of their own Drinks, which by these Means they may improve after their own Taste, without being confin'd to the Caprice of a Cooper, or the Niggardliness of his Master: For I know some Brewers that are seldom at a greater Expence than Elder-Berries and Isinglass for their brown Drinks, and but little otherwise for their Pale; which brings to my Memoty the Expression of a Person who invited his Friend to a good Pot of Drink; says he, if you'll go to a House I know off, we shall be sure to have right, for this Man never admits a Cooper into his Cellar.—Also at *Reading in Berkshire*, I knew an Inn-keeper there, who is such an Artist as to supply the starting Cooper's Place, and doctors his Beers and Ales so well, that the worthy, eminent Brewer he takes them of declared, when he tasted them, he could hardly believe they were the Drinks he sold him, on Account of their being so much improved beyond those in his own Store-house. So at *Newberry*, where are kept about two Thousand Barrels at a Time of pale or light Amber Beers in Cellars and Store-houses belonging only to one Brew-house, they are so skilful and careful as to improve and preserve them in a right Condition till their Vent at *London*, &c. lessens their Number.

Of *Foxing, Butking, or Charming Malt-Liquors*, Three *Synonymous* Terms for what in *London* they call only by the Name of *Foxing*; but in some Parts of the *West*, by the other two. In my Second Book I thought I had fully

fully laid open this great Evil; however I find myself obliged to enlarge on the same in this Place, and say, that besides the wooden, upright Pins, which fasten down the Planks to the Joists of the cooling Backs, and working Tuns, there lies between them Tow or Wadding drove in mighty close, and is what some call *Corking*, to keep the Water, Worts, and new Beers and Ales from leaking through the Joints, which being of a spongy hollow Nature, especially in hot, dry Seasons, readily imbibe and very tenaciously retain any nasty Acidity that can make a Lodgment in it, and which fails not sometimes to infect the succeeding Worts, before the Yeast is put into them; and sometimes in the working Tun there will appear a whitish Cream on the Top, and then the Drink receives the Damage before the Yeast can get Dominion of the Wort. When it so happens, there is no longer Doubt but that such unnatural, poisonous Fermentation has brought the Fox into your new Wort, Beer or Ale, and then cure it if you can. However as difficult as it appears, by having rendered abortive several Attempts that have been made to this Purpose, I shall endeavour to write such Receipts, as I hope will contribute to its great Service, if not a Cure, and make such damaged Drinks wholesome and pleasant.

First Receipt.—TAKE a large Handful of Hyssop out of a Garden, and cut it small; with this mix a small Handful of Salt, and put all into a Hogshead of ropy Drink, and, in two Weeks, it will be clear, if you stir the Vessel well when it is put in, and let the Ingredients remain to the last, stopping all close directly.

Second Receipt.—I KNEW a Person catch'd in his Brewing with this Disease, by means of a Tub that the Servant had used in washing, and put by without scouring or scalding; for all Soap naturally leaves a white Furr behind it on the Sides of the Tub, which by drying on increases its Acidity, and turns the Wort into what we call a *fox'd*, ropy Condition, in some Measure as Rennet does Milk. Now as Hops are of an active, rigid Nature, they are certainly an Enemy to the

ramous Quality of the corrupted Drink, by piercing and cutting through its cohering Parts. For which, take a Parcel of fresh, strong Hops (according to the Quantity and Property of the Drink in the Vessel) and put them into an earthen, glazed Plot, with a little Salt of Tartar; then pour on them boiling Water enough for the Hops to infuse in like Tea, covering the Pot very close to keep all Steam in. When cold strain the Liquor off, pour it into your Vessel, and stop it close directly.

Third Receipt.—TAKE an Ounce of beaten Allum, with two of Mustard-seed bruised, and an Ounce of ras'd Ginger, likewise well bruised; put all into half a Hoghead of fox'd, ropy Drink, and it will easier cure this Misfortune in the Barrel than in the Tun; because, in the latter, the Efficacy of the Remedy will work off with the Yeast to a great Degree. This Composition will break the ropy Parts of the Drink and fine it well.

Fourth Receipt.—I KNEW a great common Brewer experience a Secret that absolutely cured his fox'd Drink, which was in the following Manner, viz. At every Brewing after he had strained the Sweepings of his Coolers through a Flannel-bag, (as they all do) he run through the same Part of his damaged strong Drink, and put it into a Barrel by itself, and so on, some every Brewing till all was so done, and it proved an intire Cure.

Fifth Receipt.—TAKE Ash, or rather Beechen Billets, and let their Ashes run through a Wire-Sieve fiery hot into the Drink while in the Tun.

Sixth Receipt.—SOME slack Stone-Lime, and sift it into such Drink; but the Bay-Salt is beyond them all to prevent and cure this Disease, by using it as I have, in my Second Part, directed. For Salt of any Kind is an active Substance, said to give all Bodies their Consistence, and preserve them from Corruption. It occasions the great Variety of Tastes that are, and will not suffer any Insect to live in it, but like a Wall keeps the Body safe it is mix'd with against the Putrefaction of hot Airs, Liquids, Earths, or any opposite Contingent.

If you put foxed Drink into a Barrel, and let it remain some Time, the Vessel won't be tainted by it, but will be sweet and good on only washing it, first with cold, and then with scalding Water: The Reason is, the Joints of the Staves are so close by the Force of the Hoops, that the Liquor has not Room to penetrate as in the square Tuns and Coolers. But above all it is the diligent, cleanly Brewer that escapes this Damage, when the indolent Sloven is in for it. Of the first Sort, some are so curious, as I have said, not to suffer a Pail to be dipped in cold Water, but to be scalded before it is used again. Others will allow a good Distance of Time before they can brew again, that the Utensils may be thoroughly clean'd and dried; for all season'd Tuns, Tubs, and Casks are capable even of themselves to excite and bring new Worts into a Fermentation in Time. So likewise Worts that are laid too deep in Coolers in warm Weather will ferment of themselves, in no great Distance of Time, without the Help of Yeast: The same in Winter, though more slow; for this Reason some are so justly nice as to lay them but two or three Inches thick, while others will venture six or eight, to make haste for the next Piece of Wort to succeed, and then often the Fox is bred. It is true, that it is best working Beers and Ales in season'd Tuns and Tubs, because the Powers of the former fermented Liquor that remain'd in the Wood will communicate its Quality to the next Wort, and impregnate it with its fermenting Parts, and so forward the Operations much sooner than any new Back, Tun, or Tub, that will rather drink up its Spirits, work it more slow, and leave the Drink vapid and weak.

A Kilderkin of fox'd Drink cured.—A FORTNIGHT after it had been in the Vessel, it was rack'd off into another, and then two Pounds of *Malaga* Raisins were cut in Bits and hung in a Bag by a String, that at a Month's End were taken out, lest after they had emitted their Sweetness an Acidity should ensue; besides which, a Mixture of Treacle, Bean-flour, Mustard-seed bruised, and Allum powder'd, were added; which not on-

ly cured the fox Part, but also a burnt Tang that the Malt gave the Liquor.

A new Method of seasoning new Casks.----Put the Staves, just cut and shaped, before they are work'd into Vessels, loose in a Copper of cold Water, and let them heat gradually so that they must be well boiled, and in boiling take out a Hand-bowl of Water at a Time, putting in fresh till all the Redness is out of the Liquor, and it become clear from a Scum of Filth that will arise from the Sap so boiled out: Also take Care to turn the Staves upside down, that all their Parts may equally have the Benefit of the hot Water, Observe also that in a dry, sultry Summer the Sap is more strongly retained in the Wood, than in a cool and moist one, and therefore must have the more boiling. Then when the Vessel is made, scald it twice with Water and Salt boiled together, and you may boldly fill it with strong Beer without fearing any Tang from the Wood,

Keeping empty Vessels sweet.----I KNEW a Person that brews his Drink for public Sale, so curious in this Affair, that though he has red Clay before his Door in Plenty, yet will never use it for stopping or bunging his Vessels, saying it will make the Bung-hole stink in a little Time, even though it is mixed with Bay-Salt; and therefore makes Use of the wooden Bung I have described in my First Book, which as soon as he has put into the Vessel with some brown Paper, he directly mixes some Wood-ashes with Water and puts it all about the same, with as much Care as if the Cask had been full of strong Drink, though it is done only to keep the Grounds sweet while they are so. And thus a Vessel may be preserved in sound Order near Half a Year; for it is the Air that makes them stink; but if the Grounds are stale or sour before this is done, then it won't answer.

To sweeten very stinking or musty Casks.----IN my Second Part, Page 106, Third Edition, I have shewed the best Way of all others to cure foxed or tainted Coolers, Tuns, or Tubs, and here I shall do it for the Cask, and that by several Ways. First, I make a strong Lee or Lye of Ash, Beech, or other hard Wood-ashes,

and pour it boiling-hot into the Bung-hole, and repeat the same if there is Occasion. This is a most searching Thing that will penetrate into the Pores and minutest Crevices, and overcome this horrid Misfortune. The second is done by Malt-dust boiled in Water, and immediately poured off into the stinking or musty Cask, where it must be well bung'd for some Time.--- The third and best of all is, what I have thoroughly experienced to answer the full End of sweetening a stinking or musty Cask, even beyond the Cooper's Firing; and that is to fill your Vessel with boiling Water, near, but not quite to the Brim, and then directly put in Pieces of unslacked Stone-lime, which will presently set the Water a boiling, that must still be fed on with more Pieces till the Ebullition has continued Half an Hour at least, but if very bad, longer: And after you have so done, bung all down, and let it remain till it is almost cold and no longer, lest the Lime at Bottom harden too much, and it be difficult to wash out. In this Manner you may make the Water boil in the Cask as in a Copper, and by the subtile Salts of the Lime, it will make its Way into the Pores and Chinks of the Wood, so as to extirpate all ill Scent and Taste, provided the Taint has not quite got through the whole Wood.--- A fourth Way is to mix Bay-Salt with boiling Water, and pour it into the stinking or musty Cask, which must be bunged down directly, and let remain some Time to soak.--- A fifth Way is to take the Head out of the Cask, and burn some Pitch on a Chafing-dish of Coals, clapping the loose Head on again while the Fire burns: When this is done, burn some Frankincense in the same Manner to sweeten the Vessel, though Pitch of itself is not bad.

To preserve brewing Tubs clean and sweet.--- A Nottingham Woman-Brewer is always so careful to keep her cooling Tubs sweet and clean, that she never fails, as soon as she done brewing, to rub the Inside of them with a Brush and scalding Water; then sets them by, and never fears the Fox. But if there is any Yeast or Furr left on their Sides, it is a Chance if the next Wort does not ferment into a creamy Head, and fox.

To

To fine, relish, and preserve a Butt of strong Beer.—

TAKE a Gallon of Wheat-flour, six Pounds of Molasses, four Pounds of *Malaga* Raisins, one Handful of Salt; make it into Dumplins, and put them into the Bung-hole in the Head as soon as you have rack'd the Drink into another Butt.

To recover a Butt of flat brown Beer, and to fine and mellow stale, prick'd, and foul Drinks.— TAKE a Handful of Salt, and as much Chalk scraped down fine and well dried on a Plate before the Fire; then take Icing-glass and dissolve it in stale Beer 'till it is about the Consistence of a Syrup; which strain, and add a Quart of it to the Salt and Chalk, and also to two Quarts of Molasses mix'd first all together with a Gallon of the Drink, and put it into the Butt. Then with a Staff slit into four at the lower End, stir the rack'd Beer well about till it ferments, on which immediately stop up very close, and in eight and forty Hours you may draw it.

To fine, preserve, and relish a Hogshhead of pale Drink. TAKE one Quart of Oyster-shells dried twice or thrice in an Oven, and then beaten to Powder; the pure, white Side is much the best; mix a Quart of it with one Ounce of beaten Grains of Paradise, and some Lemon-peel sliced or shred small, put all into a Hogshhead.

Another for the same Purpose.— TAKE Alabaster, burn it, and beat it to a Powder; when cold mix it with about an Ounce of burnt Allum, and a Quarter of a Pint of dulcified Spirit of Wine; put all into a Kilderkin of strong Drink just before it is bung'd down.

To preserve pale Malt-Liquors.— TAKE calcined Oyster-shells and Crab's Claws beaten well, and boil in a Gallon of the same Drink, which when cold put into the Vessel.

To fine and keep Malt-Drinks.— IT has been many Years a Custom with some to do this by boiling, either Ivory, or Hartshorn Shavings in the Wort; about one Pound to a Hogshhead I think will do. Most of it will dissolve in the Liquor, for, after it is well boiled, there will be but little perceived. This not only fines the Drink by its glutinous Dissolution, which by its Gravity drives

drives down the lighter *Fæces*, but it also preserves it sound and healthy by Reason of its alcalious Nature. However you must take care not to use it in too great a Quantity, because it will certainly give the Beer or Ale an urinous Taste, and also make it ropy.

To stop the Fretting of Drink.--- BOIL three or four Ounces of fresh Hops in a Bag a few Minutes, then dry them in the Sun, or otherwise, put them into the Cask in which the Drink frets and it will cure it.

To fine, keep sound, and add a Flavour to pale Drinks. TAKE white Pebble-stones and bake in an Oven 'till they crack, then beat them to a Powder, therewith mix a good Parcel of Syrup of white Elderberries, which are now pretty common (or Honey, but this is apt to turn acid) or Treacle : To this add Lemon-peel, and a few Sprigs of Clary if you think fit, while it is in Seed. Put these into a Butt of pale strong Beer or Ale as soon as it is rack'd off, and stir all together well with a Paddle.

To fine and keep pale Drink from Fretting.--- TAKE a Pound of Rice, dry it and beat it very small with a Pennyworth of powdered Allum, and a Handful of powdered fat Chalk ; for Chalk is a great Absorbent, and with other Ingredients carries down the *Fæces*, and keeps them from damaging the strong Drink. But in Time the Salt and Sulphur of such *Fæces* will tincture the whole Mass to its Prejudice ; therefore when the Drink is fine, rack it off, and feed it with Rice, Allum, and Chalk as abovesaid.

To renew and fine the Bottoms of Casks, or any flat Drink.--- TAKE one Pound and a Half of Sugar, and boil it in Water ; when cold add a little Yeast, when fermented put it into a Firkin of such Liquor, and it will set the whole a working, and make it drink brisk and pleasant.

To recover ropy, flat, or prick'd Drink without putting any Ingredients into the Vessel.--- THEY roll and tumble the Barrel backwards and forwards up and down on a Stilling, 'till they thoroughly break the cake hard *Fæces*, and thus bring the Liquor under a fresh Fermentation,

mentation, so strong as almost to endanger the Head or Hoops flying off, if kept stopped. Then after it has stood a while and settled, they peg and try it. If once serving it thus does not answer, it must be repeated 'till it does. Once performing this Operation recovered a large Cellar full of strong Beer in *Norwich*, which, though it was roped after an extraordinary Manner, and not saleable (but well tasted) yet by this Management they were courted for it, even by another Brewer who bought most of it.

To fine any Sort of Drink.--- TAKE the best staple Isinglass, cut it small with Scissars and boil one Ounce in three Quarts of Beer; let it lie all Night to cool; thus dissolved, put it into your Hogshead next Morning, perfectly cold; for if it is but as warm as new Milk, it will jelly all the Drink. The Beer or Ale in a Week after should be tapt, else it is apt to flat, for this Ingredient flats as well as fines, and therefore is now more in Difuse than formerly; but remember to stir it thoroughly well with a wooden Paddle, when the Isinglass is put into the Cask.

A second Way.--- PUT two or three Handfuls of small red Gravel, or, better, scouring Sand into a Barrel, stir it well about and it will answer.

A third Way.--- BOIL a Pint of Wheat in two Quarts of Water, then squeeze out the liquid Part through a fine Linnen Cloth. Put a Pint of it into a Kilderkin, it not only fines but preserves.

To fine pale Drinks, A fourth Way.--- GET a Powder from the Sculptors or Image-makers, and mix it with a Dissolution of Isinglass. This Dissolution is made after the Proportion of one Pound of Isinglass dissolved in three Gallons of stale Beer, by stirring it well now and then with a Whisk in the cold Drink; and, which is an Allowance for fining three Butts, with a sufficient Quantity of the Powder.

A fifth Way.--- SOME Brewers put, for fining and heightening the Colour of brown Beer, five or six Quarts of pick'd Elder-berries into a Pail of Isinglass Beer, In Time they will dissolve in the Beer, or you may squeeze

squeeze and strain them through a Sieve, and then it is fit for Use.

To fine and feed Drink, A Sixth Way.—TAKE the Whites of three Eggs and their Shells, and mix with Flour of Horse-beans made fine (that have been split and dried on the Kiln) but none of the Husk, and some clean Brandy, make it all up with some Treacle, and put it into a Kilderkin.

A seventh Way.---THEY will take Hops that have been boiled twenty or thirty Minutes in a first Wort, and dry them again; then put Half a Pound into a Kilderkin, and it will fine it very well; and are better than fresh unboiled Hops; because these will gather, some into a Head and some settle, and so are apt to foul the Drink in Draught. Others have used green Hops off the Vine, when they have been near ripe, and put into a Vessel, that answered very well.

An eighth Way.---IT is the Practice of a certain Man whenever he happens to have any Drink too stale, to put some scalding Water on Hops under Cover; where after having infused some Time, he puts all into the Bung-hole to fine, recover, and preserve the same.

To keep small Beer without Hops.---ANOTHER uses no Hops in making his small Beer, all the Winter especially, but instead thereof, mixes a Penny-worth of Treacle with a Handful of Wheat and Bean-flour, to which he adds a Penny-worth of beaten Ginger, and kneads it into a due Consistence, which he puts into a Hog-head and bungs up.

The Method of a private Family to improve their Drink.---- THEY never tun without putting a little Salt and powder'd Ginger mix'd together into it.

Musty Drink, Is occasioned by musty Vessels; it is cured by running it through the Grains.

To preserve Drink that is to be sent abroad.--- DRAW off the Ale, or Beer, into a clean Cask; then pound some slit, dried Horse-beans, free of their Hulls, till they are well powder'd, or made so by grinding them in a Mill: With this mix a little Yeast and knead it; then dry it by a Fire; but not in an Oven, because it
may

may be too hot for this Use. The Quantity of a small Dumplin will serve a Hoghead.

To recover prick'd stalè Drinks.--- FOR this see my Second Part, Page 115. *Third Edition.*

To help decayed Drink.--- SOME will put the Ashes of Beech into a Bag which they will let hang in the Liquor by a String, and bung close; some put Horse-beans into the Drink to preserve it mellow, but too many will give it a disagreeable bitter Tang.

To recover thick, mummy Drink that is acid.--- MAKE a strong Hop-tea with boiling Water and Salt of Tartar, and it will do by adding it to the rest; or rack a Vessel of mummy Beer into two Casks, and fill them up with new Beer brewed not so strong and it is a Cure.

Vamping Malt-Liquors.--- IS of late much in Practice for its excellent Service in recovering, preserving, and fining strong *October* and *March* Beers in particular; because by a new Fermentation the whole Body of the old Drink is renewed and brought under a fresh Nature; and thus a Butt of such Liquor need never suffer damage or be spoiled by Staleness or Age, since you may alter the Case at Pleasure. The Way to do it is thus: Divide your Butt into two by racking it off, then fill both up with new Drink of the same Sort, and in three Weeks or a Month you may draw it off fine.

The new Way of managing strong Drinks, from the Tunning to the Drawing.--- To do this there is more than one Way used. One Person I know never stops the Cork-hole of the upright Butt, but lets it alone a Month, two, or three, till he perceives the Drink well settled, and then racks it off into another Butt, with two Pounds of new Hops, which he immediately stops up at both Bung and Cork-hole.

ANOTHER leaves his Cork-hole open only a Month, and then stops it up; then about a Month before he draws for good, he takes out a little of the same Beer, and puts it on two Pounds of rubbed new Hops, which he pours into the Cask, and stops all close and secure.

ANOTHER lets his large Cask of three Hogheads stand, with an open Vent, six Months, only with a

Piece of brown Paper pasted before the Cork-hole ; and then he puts in two Pound of Hops that had been boiled but twenty Minutes in a first Wort, and dried, and one good Handful of Salt ; then directly stops all up very close, and in about a Month's Time it will be fit to draw fine and be brisk to the last. But others are so nice in this Point, that, instead of keeping these boiled Hops dried by them, they so contrive to brew, that they may have them directly, to put into the Cask of Beer which they want to fine down, just as they are done with ; and say, that for this Purpose an used Hop boiled but a little while, is better than an intire dry one, because the former will sink and drive down the *Faces* presently, when the fresh ones are apt to remain on the Top. On these Accounts People differ ; some will fine without Racking, others will rack before they fine ; some will use Salt, others none but Hops. But when they intend to tap their Butt-Beer at four Months old, they always use Salt with the Hops : For Salt stales Malt-Liquors in four Months, as much as twelve Months Age will do without it. And as for the leaving open the Cork-hole Vent, I am of Opinion, that Malt-Liquors digest and maturate in the Cask in some Measure as Food does in the Stomach, and thus become more fitted for the animal Secretions by a due Age, which must be more or less according to the Strength of them. Therefore it is the Practice of some not to stop up the Cork-hole for six Months together, on Purpose to expose the Drink all that Time to the free Admission of the Air, which will rush in, and, by its Elasticity and Pressure, throw down the gross Particles, keep it from fretting, and thereby fine and ripen it the sooner.

Racking off Malt-Liquors.---DREGS (in my Opinion) consist of the earthy and farinaceous Parts, mix'd with the acrid Salts of the Compound the Liquor is made up of, and intrinsically contain no Spirit but what they absorb from it ; which Salts not being fixed are capable by sundry Causes to be incited into Motion, and so cause extra Fermentations, which, when frequent, so exhaust
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the Spirit of the Drink as to get the Ascendant, and render it vapid, sour and ill tasted. But I remember the Assertion of a certain Person to be otherwise, who said that the Lee of any Liquor is the strongest Part of it, but most and soonest subject to spoil and corrupt, and so long as that holds good the Liquor feeds on it; but after such a critical Time it will spoil the Drink, and this he says is the Cause for Racking; but how reasonable this is I leave others to determine. Some are so curious in the Observation of this, that they won't draw off their Drink into another Cask, before it has passed a second Fermentation in the first Butt, and this happens sooner or later, as the Quantity of *Fæces*, the Temper of the Air, and the Place it stands in are; the Crown of Yeast that lies just below the Cork-hole (while it remains on) securing it from taking Damage several Months together; and when they don't rack it, such Beer is accounted in best Order when it is drawn after the middle Hole is stopped up, because it has the greater Feed from the remaining *Fæces*. Observe also that the Cask you intend to receive your rack'd off Liquor in, should always be first seasoned by the Steam of a Brim-stone Rag, which will effectually stop its Fermentation and fine it. I must likewise hint that it is too common a Way with some to drive the Brass Cock with a Hammer or Mallet into the middle Hole of the Butt; and then very likely the Crown of Yeast falls down, and the Drink grows vapid, flat, and thick; so also are those liable to the same Inconveniences who thus inconsiderately peg a Cask.

A general Mixture for preserving, fining, and relishing Malt-Liquors.--- TAKE one Penny-worth of Treacle; Powder of fat dried Chalk, Bean-flour, Wheat-flour, Oyster-shell-powder, Pebble-stone-powder, of each a Handful; one Quartern of *French Brandy*; and two Ounces of powdered Ginger; knead all together into four or five Dumplins and put all into a Butt of rack'd strong brown Beer; and to relish it, you may hang a Penny-worth of Orrice-root, and six Pounds of chopped Raisins

Raisins in a Bag fastened by the Bung: But these two last should be taken out at a Month's End. If for a Butt of pale Beer, instead of the Treacle, you may use a Syrup made with white Sugar.

To correct any predominant Acidity in Malt-Liquors.
THE best Thing is to buy of the Druggist, Mr. *Walmsey* on *Snow-hill*, or others, some of the Oyster-shells which have been collected from the Sea-Shore, and there, by the Sun, calcined to a Whiteness. Break these in a Mortar into Pieces of the Bigness of Six-pence or a Shilling, and put them into the Liquor; for, if you powder them, the least Motion will be apt to make them rise and foul the Liquor, which by this Means is prevented and the Work done full as well. Chalk and other *Testacea* will answer the same, but not so well, because they all more or less will give the Drink a disagreeable Taste.

Cloudy Beer accounted for, and its Cure.— THIS is a Misfortune attending both pale and brown strong Malt-Liquors, more of late Years than in Time past, and that in many Places in *England*; but most of all in *London*, where it causes frequent Returns from the Customer to the great Prejudice of the Brewer, and is occasion'd by the Hop and Malt. First by the Hop, which contributes to it by emitting its oily Body in long boiling to the Wort, and the longer the Ebullition is continued, the more you draw out its heavy oleaginous Body, that consequently fouls the Drink, and hinders its Fining; for though it may deposite its grosser Part, yet will this oily one always be in Motion, not only to retard the *Fæces* from subsiding by enveloping them in its tenacious Body, but is afterwards also endeavouring to gain the Ascent (as the Nature of Oil is) but this it cannot thoroughly do, because of its intimate Union with that of the Malt in the Percussions that the igneous Particles produce in Boiling. This I take also to be the Reason, why Grains of Paradise have puzzled some Brewers to account for their constantly fouling the Malt-Liquor they are boiled in, to increase its Strength,

and that such Drink always remains so, notwithstanding their most accurate Attempts to the contrary. So that, if these are to be used, the only Way will be only to infuse them as well as the Hop, as I have before observed.

N. B. THE aforesaid oily Matter not being rightly managed and digested I take to be the Cause of, and Cause of cloudy Beer, and therefore resists and will not incorporate with the Forcing of Isinglafs.

Seccondly, WHEN this Evil proceeds from pale Malt, it is occasion'd by its being too slack dried, or rather by its being crusted without-side by the Violence of the Fire, when the Inside is full slack or almost raw; and as thus the Malt-Kernel is in two several Conditions, so is the Liquor made from the same in two different Orders, as is plain from the View of such cloudy Beer in a Glafs, known by holding it up, and then it will appear bright and clear, but hold it down, and it will seem fouler and of a grey, wheyish Colour. So the brown Malt, that of late Years, since the Invention of the Plate-kilns in particular, the Kernels are made to crack, bounce, and fly up by the Vehemency of the Heat, whereby they dry two or three Kilns in the Time they used to do one, which makes some Part of the Malt parch'd or burnt, and the other Part raw or under dried, and which very probably may be the Cause of cloudy Drink, that by many is thought incurable.

To cure cloudy Beer.— RACK off your Butt; then boil two Pounds of new Hops in a sufficient Quantity of Water with a due Proportion of coarse Sugar, and put all together into the Cask when cold; and it is far better than a Pap made with Rye-flour and Malt-spirits as some are for. Others have attempted this Cure by only soaking new Hops in Beer, which, when squeezed, they put into a Cask of cloudy Beer.

Another Way to cure a Butt of cloudy Beer.— TAKE twenty Pounds Weight of baked Pebble-stone Powder beaten very fine, with the Whites of twelve Eggs, and Bay-salt powder'd to the Quantity of a Handful; beat
and

and mix these very well with two Gallons of the Beer, and pour all into the Butt of Drink stirring it foundly; and after three or four Days at most it will be fine, then draw it off its Lee: Thus you'll have a clean, fine, well relished Drink, free of that flying disagreeable Lee that before possess'd the whole Body of the Liquor, and which otherways would have remained in the same to the last.— I have several more useful Curiosities in the Art of Brewing to communicate when I have tried some, and got the compleat Knowledge of others.

Cautions relating to Malt-Liquors.

First, *Of the Sediments or Fæces of Malt-Liquors.*— As these abound with the acrid Salts of the Malt, whenever the Drink is in too stale a Condition, it should be rack'd off before any of the aforesaid preserving, fining Ingredients are put into the Cask: Because, in this Case, it is a Chance if such corrupted *Fæces* do not get the Ascendant of the designed Antidote, and help to corrupt that, as it has before done the Beer. For not only the *Fæces*, but the whole Body of the Drink will consequently oppose the Remedy, and if they be Major, the Attempt will prove abortive.

Secondly, SALT and Allum must be used with great Precaution, because they potently induce Staleness in Malt-Liquors in a little Time, if mixed in too great a Quantity with other Ingredients that are to be put into the Cask, and so are apt to overcome their alcalious Parts. Therefore some will use no common Salt this Way, but throw a Handful or two of it into the Mash-tub among the Malt, to preserve the Liquor sound while it lies with the Grains; and thus the Salt is thought to lose Part of its sharp Nature by its being strained through the oily Part of the broken Kernels; but even this has its Inconveniency, as it is apt to retard Fermentation.

Thirdly, Of Stone Powder.— THIS by some of the Brew-house Coopers is made use of for fining down their Butt-beers, and is very good when it is a little burnt, because then it becomes a Sort of Lime, and its

fixed Salts are thereby made to yield their Vertue to the Drink. But when the Powder of a soft Stone unburnt is used (as too commonly is done with a Mixture of Isinglass) then it gives the Liquor an earthy, raw, unpleasant Taste, and unwholesome Quality, which will spoil other good Ingredients it is incorporated with; as I knew once done by a Person who had made a Compound of several in good Order, that were all damaged by this, to the great Prejudice of the Beer.

Fourthly, *White of Eggs*. THESE certainly will clear, feed, and preserve Drink, it mixed with Wheat-flour, &c. but then it ought to be considered that the Whites are apt to corrupt in Time and do Damage, where the Drink is not very strong and able to preserve them sound; besides if in this Case too many of them are used, they may bring the Beer into a ropy Condition, or give it too raw a Taste: Some therefore when these are to be used will boil them up in Water and Sugar to a fine Syrup, and then such Syrup of Sugar will be advantageous in preserving as well as clearing the Drink when mix'd with other Ingredients.

Fifthly, *Egg-shells, and Crab-claws*.— THESE like all the other *Testacea* are of an alcalious Nature, but more especially so when the crude Part of them is taken away. Therefore to cure these and make them fit to be put into the Cask of Drink, bake them a little, and then you may either mix them with other Ingredients, or use them alone, by Way of preserving Beers or Ales against Staleness.

Lastly, *Oyster-shells*.— THESE are likewise a great Alkali or Absorbent, and are of particular Service in the Management of Malt-Liquors, especially if used in the Manner aforesaid; but should by no Means be used crude or unprepar'd: Therefore as many are not capable of purchasing them from the Druggists, let such first wash and wipe them dry, then bake them two or the Times in an Oven after Bread is drawn, beat off their brown Part and break the White into small Pieces for Use.

Bottling Malt-Liquors.— THIS is certainly a great Improvement if performed in a right Time and Manner, because Drink thus confin'd is more free from Air, Heat, and *Fæces*, than in a Barrel, which often exposes its Spirits to Loss by Vent and frequent Drawings out. But the greatest Improvement of all is, when Drink becomes flat and deaden'd by the Casks absorbing its Spirits, or that the Sediments have attracted them, &c. In all which Cases Bottling often recovers the Liquor and re-establishes it in a greater Fineness, Purity, and Briskness than ever, and especially if an additional proper Food be allowed it, that will give it a long Duration in a safe, mellow, and cool Condition, and the surer if kept from Heat and cork'd well. In this Œconomy particular Regard ought to be had to the Age of the Liquor, that it be full ripe and not too young when it is bottled; if it is, very likely it will throw out the Cork or burst the Bottles; which to prevent, cork loose at first, and afterwards firm; and if after this a Ferment is perceived, loosen again. Stone Bottles are not so good as Glass, because of their rough Inside, that is sooner apt to furr, taint and leak, their Mouths uneven to Cork, and their Sides not to be seen through. Some are so curious as to use the Glass Stopple instead of the Cork, which, if rightly fitted, admits of no Penetration, as is well known to the Chymist, who by this Means retains the Spirits of his fiery Liquors in the best Manner. You may for a Day or two after bottling keep the Bottles in cold Water or in a cold Place, or have some cold Water now and then throwing over them, to prevent any Ferment coming on, lest the Air, by being thus closely confin'd, should break the Bottles, when a Cork in the Room of a Glass Stopple would save them, as being of a porous Nature. Glass Bottles are sweetened and clean'd either by hot or cold Water; if stinking, put them in a Kettle of cold and boil them, but do not put them down while hot on a cold Place, lest they crack; then lay them on dry Boards, Straw, or Cloth; if dirty, wash with hard Sand, small Stones, or better
with

with Shot, Some steep Corks in scalding Water to make them more pliable to the Mouths of the Bottles and to fill up their Pores, and for a further Security fasten them in with small iron Wire twisted about, after the *Herefordshire* Fashion, that they practise in bottling their Styre Cyder. Weak Drink sooner breaks Bottles than Strong, because the Liquor has not Strength enough to detain the Spirits. To preserve Drink in Bottles lay them Side-ways, it keeps the Cork moist, the Air out, and confines it to the Side, where it cannot escape; a Way much better than putting the Mouth downwards in a Frame; for then, if there be any *Fæces*, they will come out at first. Putting Bottles in Sand in some measure keeps them from the Power of the Air, but this is not quite so good as if they were kept in Water, which prevents Fretting or Fermentation, and adds a Strength to the Drink by its intense Coldness, which likewise checks the Activity of its Spirits, and by its close Body keeps out Air, especially if it is Spring-Water. For this Purpose, in many Cellars there may be Tanks or Cisterns made to hold Water either with Stone or Brick by the Help of Plaister of *Paris*, or with a cementing Composition made with Oil, new slacked Lime, and a little Cotton-wool, that will harden the more, the longer the Water lies in them: Or lay such Stone or Brick in a Bed of Clay beaten and trod very fine before, so that it may be a Foot thick at least on all the Sides and Bottom, as the Brewers order their Tuns; and to empty them at Pleasure, a Hand-pump of a small Size may be made use of; or in Cellars there may be large Holes made in the Side-Walls that will contain a Number of Bottles, as is commonly done in the Country, and the nearer these are to the Ground the better the Liquor will keep. But if this Way is too troublesome, little Vaults may be built in the Cellar, arch'd over, that may be made so close as to keep out much Air, and so prevent the Damage that Drinks are subject to from their changeable Nature: On the con-

trary,

trary, if you have a Mind to have your Bottle-drink soon ripe, keep it above Ground.

WHEN Malt-Liquors are to be bottled off, observe the following Directions. Common, strong, brown Beer of eight or nine Bushels to the Hogshead, brewed in *October*, may, if free and clear of Ferment, be bottled off at *Midsummer*; pale strong Beer, brewed in *March*, may be bottled off at *Christmas*, under the same Proviso: But always forbear this Work when it is muddy by Change of Weather, or the Falling down of the Crown of Yeast, because then the Drink goes through some Alterations that thicken and work it in a small Degree, which causes the Lees at last to receive the Spirits, that are hereby made smaller by the Transaction, and from hence the Liquor is fed till it is ripe for Bottling. To feed bottled Beer or Ale there are several Ways. First, put three Horse-beans into each Bottle of strong Beer, and it will preserve it mellow a long Time. Secondly, put into a Quart of Spring Water Half a Pound of Sugar (the finer the better) and a Penny-worth of Cloves; boil all together moderately Half an Hour, and scum it well in that Time; when cold, put two Spoonfuls into each Bottle that is to be kept long, and three to be drank soon; it is such a great Improvement that it is generally made use of by some Publicans to recover their Tap-droppings, which it will do in two or three Days, if the Bottle is kept in a warm Place. I know a Person that puts a little Oil on the Top of the Drink in Bottles, in Imitation of the *Florence Wine-flask*, without any Cork, and it keeps it from Wind in a very lively Order. To keep Bottles from bursting, make a Hole in the middle of the Cork with a Nail or Awl, and the Bottle will never burst, yet will keep out the Wind, because the Moisture of the Drink will swell it: Or put into each Bottle one or two Pepper-corns, and it will never fly. The common Way of making Drink ripe presently is to boil some coarse Sugar in Water, and when cold, work it with a little Yeast; of this put two, three, or four

Spoonfuls into a Bottle with two Cloves over Night, and if it stands in a warm Place, it will be ready next Day, and be very apt to swell the Belly of the Drinkers with its windy, unwholesome, yeasty Quality. Others will do this Feat more quick, even in the Time a Mug of Liquor is bringing out of the Cellar, though it be Tap-droppings; they will put a Piece of Diaper or Damask over the Pot or Mug, and with a Jerk turn it Topsey-turvy and back again, which, with a Jolt or two more, will cause a frothy Head in Imitation of bottled Drink. Or if Drink is a little prick'd or fading, put to it a little Syrup of Clary, and let it ferment with a little Barm, and it will recover it; and when it is well settled bottle it up, putting in a Clove or two with a little Lump of Sugar into each Bottle.

A PRIVATE Person used to bottle off a clear Ale, by boiling a Bag of Wheat in the Wort. Another would put a Spoonful of sugar'd Water into each Bottle. Another would have clear Drink to bottle off, by putting two or three Chalk-stones into the Barrel, or Powder of Chalk.

THUS by trying frequent Experiments, of adding more or less to any of the foregoing Receipts, according to your Palate, you will arrive to the Knowledge of discerning at first View what every particular Subject requires or will bear: And remember that all Liquors must be fine before they are bottled, else they'll grow sharp and ferment in the Bottles, and will never be good.

The End of the Third Part.



S U P P L E M E N T

T O T H E

L O N D O N *and* C O U N T R Y

B R E W E R.

C O N T A I N I N G,

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| <p>I. An Account of BARLEY and MALT, and the Method of destroying that mischievous Insect the WEVIL.</p> <p>II. The Method of Brewing ALE and BEER, as practised throughout <i>England</i>.</p> <p>III. A Receipt for making BALLS for fining, relishing, colouring, and preserving MALT LIQUORS.</p> <p>IV. The Business of the CELLAR-MAN, and the Method of preserving Vessels sweet, and improving them in the Cask.</p> <p>V. Of colouring PALE-DRINK BROWN, and BROWN PALE.</p> <p>VI. OF WATER and its PROPERTIES in Brewing.</p> | <p>VII. Of curing ROPY, FOXED, MUSTY, PRICKED BEER.</p> <p>VIII. Two Ways of Brewing OCTOBER BEER.</p> <p>IX. Of ELDER TREES, and the Method of procuring LARGE BERRIES.</p> <p>X. Of SCURVY-GRASS ALE, and SHIP-BEER.</p> <p>XI. Of Brewing MALT LIQUORS by private Persons.</p> <p>XII. Of the WIRE MALT-KILN.</p> <p>XIII. Of WATER.</p> <p>XIV. Of MISCELLANEOUS MATTERS relating to the BREWING, WORKING, and ADULTERATING MALT LIQUORS.</p> |
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W I T H

Several curious **OBSERVATIONS** taken upon the Spot, by the **AUTHOR**, in his four Years Travels through the several Counties in *England*: Likewise a curious Letter from a Physician discovering some **ABUSES** in the **BREWERY**, explaining the Nature of **Yeasts**, and the unwholesome Effects of it, when beat up with **MALT LIQUORS**.

P A R T the Fourth and last.

By the **AUTHOR** of the three former Parts.

The **THIRD EDITION**, with large **ADDITIONS**.

L O N D O N:

Printed for **THOMAS ASTLEY**, at the *Rose* in *St. Paul's Church-Yard*. MDCCXLIV.

[Price One Shilling.]

STIPPLED

London and Country

B. H. W. E. M.

<p>1. The first part of the book is devoted to a description of the various species of plants which are cultivated in the garden.</p> <p>2. The second part contains a list of the names of the plants, with their respective uses.</p> <p>3. The third part is a collection of recipes for the preparation of the various medicines.</p> <p>4. The fourth part is a treatise on the diseases of the garden, and the methods of preventing and curing them.</p> <p>5. The fifth part is a collection of observations on the nature and properties of the various soils, and the best methods of cultivating them.</p> <p>6. The sixth part is a collection of observations on the nature and properties of the various climates, and the best methods of cultivating them.</p> <p>7. The seventh part is a collection of observations on the nature and properties of the various seasons, and the best methods of cultivating them.</p> <p>8. The eighth part is a collection of observations on the nature and properties of the various winds, and the best methods of cultivating them.</p> <p>9. The ninth part is a collection of observations on the nature and properties of the various rains, and the best methods of cultivating them.</p> <p>10. The tenth part is a collection of observations on the nature and properties of the various dews, and the best methods of cultivating them.</p>	<p>1. The first part of the book is devoted to a description of the various species of plants which are cultivated in the garden.</p> <p>2. The second part contains a list of the names of the plants, with their respective uses.</p> <p>3. The third part is a collection of recipes for the preparation of the various medicines.</p> <p>4. The fourth part is a treatise on the diseases of the garden, and the methods of preventing and curing them.</p> <p>5. The fifth part is a collection of observations on the nature and properties of the various soils, and the best methods of cultivating them.</p> <p>6. The sixth part is a collection of observations on the nature and properties of the various climates, and the best methods of cultivating them.</p> <p>7. The seventh part is a collection of observations on the nature and properties of the various seasons, and the best methods of cultivating them.</p> <p>8. The eighth part is a collection of observations on the nature and properties of the various winds, and the best methods of cultivating them.</p> <p>9. The ninth part is a collection of observations on the nature and properties of the various rains, and the best methods of cultivating them.</p> <p>10. The tenth part is a collection of observations on the nature and properties of the various dews, and the best methods of cultivating them.</p>
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C H A P. I.

Of Barley in General.

IF it is carried in as soon as mowed, it will be steely and not make good Malt; because it should lie in the Field 'till it has had a small Fermentation, which will cause the Kernel to bite mellow; therefore all Barley should have two, three, or more Nights Dew while it lies in Swarths or Cocks: For then the Ground draws it, and the Dew moistens it, and both impregnate the Kernel with a nitrous Quality, which fits it for a kind Sprouting, and causes it to yield a greater Increase of delicate Malt, than if cut one Day and carried in a Day or two after. After this it requires a due Sweat in the Mow before it is fit for Malting. A judicious Maltster said, he would not give so much, by five Shillings a Quarter, for raw Barley, as he would for that which had laid long enough in the Field to meliorate, before it was housed; nor is such crude Barley so fit for Seed, though it may grow, but it will not improve like the other. This makes the *Fulham* Farmer cõck his Barley in the Dew, to make it white, mellow, and soft, and improves it by a gentle Fermentation. White Ground returns the best Barley for pale Malt; gravelly for a thin-skinned Corn, that will yield well, and make right Amber Malt; Clay, for a big Kernel, thick Skin, and poor Increase. Barley begins to sweat in the Mow in a Week or two, and holds it three, or four, as the Grain is moist or dry, and the Mow bigger or

less; when it is over, the Top that was so wet, that Water might be wrung out of it, will be all dry, and change sometimes in forty eight Hours Time, from wet to dry; for Sweating begins at Bottom, and ends at Top. If you disturb the Mow, while it is sweating, you do Harm; because you then check it, and prevent the Kernel's due Melioration; but if you thresh it out before it sweats, and lay the Barley in a considerable Body in a Bin, it will perform its Sweating there; but if it has not its regular Sweat, in one Place or the other, the Corns will be steely, and make but a bad Sort of Malt: Of this many are so wary, that, to be sure of the Barley's passing through a regular Sweating or Fermentation in the Mow, they will not buy any 'till near *Allbollan-Tide*.

- THAT Barley, which had no Rain fell on it in the Field, and has been got in intirely dry, requires a Water more, and a longer Soaking in it, than that which was got in damp. An ignorant Maltster having a Sample of Barley brought to him, that was got in exceeding dry, refused to give the best Price for it, saying, it was too hard to make good Malt; when another more skilful bought it, and said he never had more Increase, nor better Malt, than from the same Barley; because he allowed it a longer Time, and a Water or two more in the Cistern than usual. Where Turneps have been eaten off, the Barley sown on the same is commonly attended with a high Colour, and not esteemed so good, as that from off a pure Tilth.

In some wettish Seasons, Barley has been so badly got in, that it would not work kindly 'till about *Christmas*; and though this has been often the Case, yet because it seldom happens, or because there is some extraordinary Necessity for the Use of new Malt, too many begin at *Michaelmas*: As it happened in 1739, when a great Deal of Barley, in the West and North Countries, lay in the Fields 'till about that Time; but then

then the Consequence was, that it came very irregularly, and never made worse Malt.

To know good Barley.---EXAMINE the Root End with your Nails, part it, and, if it be good, the Flour will look of a whitish blue Cast, and be a little moist, tho' the major Part of the Kernel is dry. If it be bad Barley, the same Place will look reddish, be steely, and seem deadish. When Barley is inn'd wet, it will heat or burn in the Mow to that Degree, that if such Barley is broke at the Root End, it will be blackish, and when so, it is unfit to make good Malt. Ground Barley, if used in the distilling Way, will ferment so well in temperate Weather, as to produce a sixth Part more of Spirit, than if worked in the greatest Extrems of Heat and Cold.

Of Malts in General.---GREAT Quantities of brown Malt are dried on the Plate Kiln for a wholesale Trade, without a Hair-Cloth, and that in four Hours Time, with only one Turn, which, in a regular Way, should not be less than eight or more: Thus, by the Fierceness of Fire, the Plate, Tyle, and Wire Kilns so distend the Kernel, as to shake the Skin of it ready to burst, which is called *Blowing*; and then such Malt seldom fails of having many Corns, with a bitterish, brown, burnt Flour. Whereas good brown Malt, that some Maltsters make for their neighbouring Country Customers, is twelve Hours in drying, and turned once in three. A Person told me, that he gave thirty Shillings a Quarter for Barley, and sold the Malt made with the same at twenty-five, and got more by it than any he ever had sold, so great was the Increase caused by thus hollowing the Barley Corn. This made a great Vender of Malt Liquors say, there has been but little good Drink brewed since these Plate and Wire Kilns have been invented. Contrary to this too quick Way is the slow Cockle-Oast Kiln, which dries Hops or Malt with hot Air, the sweetest of any Way; and that by Means of the four cast Irons, I wrote of in my last Book, in which they burn common Sea-Coal, whose

foul, offensive Smoke is conveyed away by a Chimney over their Mouth, through Flews of Brick-Work, fastened to the Sides of the Walls, which encompass the Hair-Cloth-Wooden-Kiln: The only Objection is, that this is too tedious a Way, and therefore more chargeable than others, and the rather, because the Flews must be opened to be cleared of their Soot once a Month; but what is this five or ten Shillings Charge, perhaps, six Times a Year, and somewhat a slower drying than the common Way, in Comparison of making some hundred Quarters of Malt, in one Season, in an excellent sweet Condition. An eminent curious Gentleman said, if he could enjoy a wholesome, fine, pleasant Malt Liquor, he would not grudge the Charge of having his Barley picked Kernel by Kernel, and his Malt dried in the most costly Manner. He also was a nice Person, that had his Malt dried on Leads, thro' Glass Windows, by the Sun only; as it was performed by one in *Suffex*. Another in *Warwickshire* did it openly on the Leads of a Church; yet Malt may be too slack, as well as too high dried, and then neither have their Cure; therefore, to be at the greater Certainty, the Amber Malt is in the greater Esteem with some. The best Pale Malt is dried with Coak, Charcoal, or *Welch* Coal, or with Coak and *Welch* Coal together, and the best Brown with Wheat Straw. The best Coak is made at the Pits, because there the Coal is biggest, and so the largest *Welch* Coal exceeds the smaller Sort; some think the finest Sort of the latter comes from *Laurana-Creek*, in *Milford-Haven*, out of the Lord *Cornwallis's* Estate there, and is the heaviest, by being loaden with Block-Tin, with which it abounds, will heat quicker, and last longer than any other Sort. Some Maltsters, to improve the small Sort of *Welch* Coal, sift it thro' an Oat-Ridder, then work it up with Water, in Shape of a Brick, and dry it in an Oven. So in *Nottinghamshire* they sift their smallest Pit Coal, and work it up with Cow-Dung, in Form of Bricks, in the Summer Time; and in Winter they dry
their

their Malt with them, but these are inferior Fuels to the large Coal or Coak. Wood Fuel is made use of in some Kilns, which though it yields a bad Smoke, that gives an unpleasant Tang to the Malt, and its Drink, yet, by Skill in the Management of it, its unpleasant Quality may be much lessen'd. At *Beaconsfield* I have tasted a tolerable good common Ale, brewed with a Mixture of six Bushels of pale Malt, dried with Coak; and seven Bushels of brown, dried with Beech Wood. Others again, will dry a light Amber Malt, with some Coak, and some Beechen Billet-Wood burnt together, and of this I have drank good Butt-Beer at *Newbury*; others burn *Welch* Coal and Wood together. When Wood is employed this Way, the sooner it is cleaved, the sooner the Sap will dry out, and the less it will smoke; for which Reason, some prefer the small Brush Wood. A great Maltster, near *Southampton*, assured me, that he found two Year old Haste make as good pale Malt as any Fuel, because the Bark is thin; next to this, he said, is two Year old Beechen Billet, and the next Ash; but this, having a thicker Rind, is apt to burn blacker, and so is Oak. In some Parts of *Kent*, the Asp is in great Esteem, for this Purpose, because it does not split or crack like Oak, and some others. Charcoal makes the whitest Malt, but has the strongest Sulphur, and therefore gives a Tang; *Welch* Coal is better, and Coak best of all, but are both liable to the same Objection. Wheat-Straw under a Hair-Cloth is reckoned the best Fuel by most, Rye-Straw next, and Wheat-Haulm worse, because it is often got in damp, with Weeds, Moss, and Dirt; Fern indifferent; Furz not so good; Oat-Straw burns away presently; Barley-Straw does the same, and smothers too much; Fern is almost as good as Wheat-Straw, provided it is mowed the Beginning of *August*, when it is brown-headed and full ripe; then it must be turned once or twice, and housed, and used the first Year; but if it is two Year old, and well preserved, few can know the Difference, if it is managed

right in burning. Wheat-Straw, indeed, must be allowed the sweetest of all soft Fuels, and exceeds its Stubble, because that grows nearest the Ground, and has the largest Knots, and the more Knots the more Sap, and consequently the more Smoke; and, when it lodges Dirt, Wets, and Weeds, it becomes still worse, but if well got in, it is good Fuel. In the Isle of *Thanet* they leave it the longest I ever saw any, and that on Purpose to enjoy the more Barn-Room for their Grain, and make it more serviceable for drying Malt, thatching Houses; and Stacks of Corn. Rye-Straw is near the Nature of Wheat-Straw, and makes a strong Fire. Some account Barley-Straw a good Fuel, because it is a weak one; and the weaker the Fuel, they say, the sweeter it dries; but one Load of Wheat-Straw will go further than two or three Loads of this. Furz is too fierce a Fire, and its Stalks, being large, retain a considerable Deal of Sap, which renders it of ill Consequence to the Malt. Beechen Billet, if laid abroad in a Stack, the first Year, and housed the second, will burn with little Smoke. Oaken Wood smokes and blacks the Malt, but by several Years lying abroad in a Stack, the Sap will be wasted, and do less Damage. In some Places they dry Malt with Peat, and, at a certain Town, a Person had a Contrivance to dry with burnt Clay, without Smoke. Coak and *Welch* Coal give a fine Coat to Malt, or else many would not make Use of them, because of their Sulphur. Some out of a curious Fancy have made a Reed of their Wheat-Straw for drying Malt, because the Ears, being full of Chaff, would else burn with a little offensive Smoke; but Threshing it first soundly supplies that, and softens the Knots. In *Kent* and *Surrey*, it is common to put the decayed Hop poles under Shelter for two Years, and then burn them to dry Malt, and these they call a good Fuel, and likewise old dried Crab, Apple, and Beech Wood. At a certain great Town in *Suffex*, a common Brewer and Maltster dries his pale or light Amber Malt on a bare Tin-plate Kiln,

with

with Charcoal. and now and then an old Beechen Billet with it: for this Person refuses a Hair-Cloth, alledging, he is of Opinion, that it gives the Malt a Fox'd Tang. But, as I have before hinted, the finest Way of drying Malts (the pale Sort especially) is to do it in a Cockle-Oast-Kiln, with Sea Coal burnt in a Chest of four Irons, which heats the Air, and dries the Malt; to which, to make a quicker Dispatch, some will add other Fuel near the Chest, and I must needs say, that this excellent sweet Way ought to be so far encouraged as to make it more common, that we may enjoy more healthful and pleasant Liquors, than at this Time we do; not but that the Drying Malt by only the Sun is certainly the cleanest Way of all others; but then the same hot Season will not admit of its being prepared for such Drying. I have heard, that the last Making of a Floor of Malt has been dried on the same Place, by turning it often, and laying it very thin, so that it has bore Grinding; this was told me by a Gentleman, who drank of the Drink made from the same Malt. The Stone-Kiln is now much in Use in some Parts of *Wiltshire*, for Drying Malt on that, and a Hair-Cloth over it, as performing the Work with less Fire; but some object, that they can't check it so soon as others. There is such a disagreeable Sulphur in Elm, that the Smoke of it is very pernicious, if employ'd in drying Malt, and therefore it is every where rejected. In some Parts of the East, they light their Fire in an Oven with Broom and Sticks, 'till it is hot enough, when they throw in their *Newcastle* Coal into an open Oven, and burn it twelve Hours, into a Coak, in which Time it will become a perfect Cinder, fit to take out, and will then be all in a Cake, which they break and divide into pretty large Pieces with an Iron-Peal for their Use; when one Oven-ful is drawn, they charge it again, and so on; with this Cinder on Iron Bars they dry their pale Malt, and their Brown with *Newcastle* Coal in a Cockle-Oast. Pale Malt especially will be damaged, if the Fire is made too hot

at first, for then it enters into the Body of the Kernel too soon; but by drying it about half the Time with a gentle Heat, and then increasing it gradually the rest of the Time, the Fire cannot hurt the Malt; and it is a general Rule, among the best Artists, for the Improvement of this Sort, as well as the rest, to give it a brisker Fire, the last Hour, in order to mellow it, make it keep, give the Drink a good Relish, and cause it to be fine the sooner: On the contrary, if pale, amber, and brown Malts have only one Sort of Heat to the last, the Drink will be flat and deadish. And now being on the Subject of Malts, I shall here take Notice of a Make-shift Way, as it is practis'd in some Parts of *Wales*. They wet the Barley at Home, and in several Tubs, with a Stick or Plug in the Middle of each, and a wicker Basket about that, as in a Mash-Tub, to let the Liquor out at Pleasure; when they have changed the Water once or twice, and it is soak'd enough, they draw the Water from it, and leave it a Night to drain; then they take it out and let it lie in an Heap, on a Floor, over a Kitchen to spire; next they spread and turn it several Times, then ridge it up: Thus if the Weather is warm they turn it three or four Times a Day, at last they send it to be dried at the Kiln; if the Weather is moderate, they are three Weeks about it in all. This Way an Innkeeper followed at *Llansawell*, in *Caermarthenshire*, who thus has made ten Bushels of Malt at a Time. In buying Malts take Care the Acre-Spire be not run out too much, for then the Spire will fill the Bushel too soon, and drink up the Wort instead of increasing it; for this has been kept on for that Purpose by some, who, to do it the more effectually, have sprinkled Water on the Malt, to make it hold on 'till it was put into Sacks: The Root-spire likewise will be so many Tails to increase the Measure, but this last being coarser than the other it is easier perceiv'd. Right Malt should only just sprout up with the Acre-spire, but when 'tis run out too far, and then broke off, the Kernel will be

bunchy at the End; yet it is necessary that the Root-spire first, and then the Acre-spire should shoot from the Middle of the Barley Corn, each a contrary Way, and in a true Degree, else it can't be made into good Malt; but, above all, take Care you are not imposed with wevilly Malt.

A further Account of the Wevil or Whool, its Mischief and Remedy.---At Winchester, they call this Insect, *Pope*, *Black-bob*, or *Creeper*; about twenty Years ago, when they had none other than brown Malt here, if they had a Wevil in it, and it was known, no Body would drink the Beer that was made of it; but now they have got into the Use of pale Malt in General, they are much infested with them, from the Moisture and Heat that accompany its slack Drying. By taking off the Top of the Heap to grind first, the Breed of the Wevil is much prevented, because all Sweat rises most to the Top; and if they have taken the Malt Heap, another and better Way is, to let such Malt run out of a Loft on a Wire-screen, standing somewhat sloping, which will let the Dust and Wevils through it, and, as they fall upon the Floor, they must be carefully swept up and killed, and, if any should escape and creep up the Walls, they must be served in like Manner, and, if Occasion requires, this Method must be repeated; and by this you may destroy them all, as a great Maltster of my Acquaintance does, and who thinks this the best Way of all others: And indeed all Malts, that are kept in large Quantities, should be thus served at least twice in a Year, if it were only to preserve it from the Heat of Dust, and from the Breed of the Wevil: For their Destruction ought to be endeavoured with the utmost Diligence, since, as Dr. *Cromwell Mortimer*, Secretary to the Royal Society, told me, the Wevil is somewhat of the Nature of *Cantharides*, for, if applied Poullice-wise, they will raise a Blister like them, and cause a Strangury, from the great Plenty of Animal Salts these small poison-

ous Insects abound with ; but of these I have wrote more largely in my three former Books.

A PERSON sent a Parcel of Malt out of the Country that was very much eaten by the Wevil, and refusing a low Price for it by the Factor in *London*, it was kept so long, that it was sold for four Shillings a Quarter to give the Hogs, for the Wevil had eaten out most of its Flour. At a certain Town about 28 Miles from *London*, an Innkeeper had twenty Sacks of Malt sent in from the Maltster for his Brewing ; but not using it presently, the Wevil became so predominant, that they appeared in vast Numbers on the Outside of the Sacks, which put the People into such a Concern, that they had all the Malt new screen'd, and got a Bushel of Wevils from it, which they carried into a Field and burned. They said, the Malt look'd white to the Eye, though most of the Flour of the Kernel was eaten out by the Wevil ; and that, where the Wevils are in considerable Numbers among Malt, both strong and small Drink, made of the same, will very much intoxicate, cause a most violent Head-Ach, and make the Person grievously sick, as many of the Inhabitants in this Town find, by woeful Experience ; for here is little other Malt to be had but what is damaged more or less by the poisonous Wevil. A Maltster, who kept his Malt two Years by him in hopes of a rising Market, had the Misfortune this wet Summer, 1739, to have a little Rain come through the Thatch on the Malt-Heap ; but it was not long before the Moisture bred the Wevil, that he could not prevent increasing, but by often screening it, and laying it very shallow on the Floor to keep it cool.

C H A P. II.

Water, its Properties in Brewing.

NEAR and below *Kingston*, in the River of *Thames*, there are several Rushy, Willow, and Ozier Plantations, or *Eights* as they there call them, which about *Lammas* Time rot and shed their Seed, and in Time their Leaves. It is then this River Water, in these Parts, is so faint and sickish, that, if it is not skimmed, boiled, hopped, and worked well, the Drink will presently sour.

AT *Coffum* near *Portsmouth*, they have a brackish Water, caused by the Ouzing of the Sea-water. A Barber, coming here to live, heated it in cold Weather, to make it lather as usual, but to his Surprize he found it would not, till he boiled it half an Hour, and then it lathered well; yet at *Petersfield*, which is an Inland Town, they are of Opinion, the more they boil their soft Water, the harder it becomes, because they say, the soft Parts fly away in Vapour, and the saline hard Parts settle, and are the same that crust the Pot and Kettle: Nor is any Water without some Share of Salt in it, though Rain Water has the least of all; and even this has been found by Experience (as Dr. *Godfrey* observes) to keep forty Years, that was at first catched in a Glass Vessel, and never suffered to stand near any Vegetable, and it was believed would have kept longer. So distilled Water has kept good ten Years in Glass, and this was thought likewise would have kept longer, had it been tried. It has been further observ'd, that all Water naturally breeds a Must, which is a Sort of Mushroom, and is cured by Boiling. Of this Element we ought in short to be most careful, because it is the only Catholick Nourishment of all Vegetables, Animals, and Minerals; therefore at *Kingston*, at this Time of the Year, they refuse the *Thames* Water, though it comes up to
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their Town, and brew with another small River Water, that comes to them out of the adjacent Country. So, at *Ipswich*, their Well-water, in the lower Part of that Town, is tinctured, about *Michaelmas* and *Allhallantide*, from the Sea-water and muddy Shore which lies near it, that unless they first boil it very well, and their Worts soundly afterwards, their Drink will neither work kindly nor taste pleasant; and some on this Account have been forced to brew their Worts over again with fresh Malt, to make their Sixpenny brown Butt Beer thoroughly cured, otherwise it would not keep a Month together sweet, and yet with such good Management I have drank excellent Sixpenny Butt Beer here. To soften such Water, put Wheat Bran with it into the Copper and it will soften it beyond any Thing. At another Place near the Salt-water, their common brewing Water is so brackish and sharp, that they are obliged to boil their Wort several Hours, else it will stink in a Week's Time. The *Thames* Water at *London* is fattened by the Washings of Hills and the Sullidge of Streets, which give it a thick Body and muddy Taste, and therefore it fines well, and makes most Drink with less Malt. At *Chard* in *Somerjeshire*, at the upper Part of this Town, there arises out of a stinty Rock so soft and spirituous a Water, that it will presently raise a Lather over the Tub; And therefore they allow but eight Bushels of Malt to make one Hogshead of their Butt pale Beer, which they sell at 4 *d.* a Quart, when at *Elminster*, three Miles distant, their Water is so much the worse, that they allow nine Bushels to a Hogshead, and sell it for 5 *d.* a Quart, though not so good as the *Chard* Beer, in my Opinion.

Degrees of Heat in Water used for the first Mashing.
 —HOT Water or Liquor, for Amber or brown Malt, by many is taken three Degrees this Side boiling: That is, when the Water is very hot and the Fire stirred; if then there arise a white Cloud, it is Time to let it run on the Malt, or better, first
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into the false Bottom. And for pale Malt the Water is heated into the next higher Degree of Heat, which is when the Water appears in small globular Particles or little Bubbles which arise on the Top, and then it is just Time to let it run into the false Bottom, or on the Malt, for on this first Liquor depends the chiefest Part of Brewing. Old Malt requires the Liquor to be taken sharper than for new, because the Old is more resinous and of a closer Texture than the New. In some Places in the North, they are apt to blink or give a little sourish Taste to their Drink, by taking their Water in too low a Heat, especially in cold Weather. In some Places in the East, they generally heat their first Water just fit to scald a Hog, and then let it run into the false Bottom, and, after stirring the first Mash half an Hour, they let it stand three Hours; the next Liquor they take boiling hot, the third the same for brewing their Butt light brown Beer, or what they there call *Nog*, which they sell at Fivepence and Sixpence a Quart; for it is a Maxim amongst them, that, if they can take their first Liquor right, they don't fear missing any of the rest. A Country common Brewer, of my Acquaintance, never uses above three Liquors for his Strong Beer; but there are several of the great Brewers who use no less than five.

The Norfolk Brewing.—HERE it is common to brew Forty-two Bushels of Malt at a Time by Inn-keepers, for making three Barrels of Sixpenny brown Butt Beer or *Nog*, and upon the same Goods three Barrels of Ale, and three of Small Beer; twelve Pounds of Hops are allowed for boiling with the First, the same Hops serve again for the Ale, and the same again for Small Beer; the strongest Wort some boil four Hours, the Ale two, and the Small Beer one; here they lay a great Stress on the Hop, as believing its Strength not only preserves the Beer, but saves Malt. Some are such Votaries for Wheat-malt, that they say, four of this will go as far as six of Barley-malt, because it contains much more Flour, and is of a finer
Nature

Nature than the other: Smutty Wheat is also sometimes used, because it is cheap, and, after it is divested of its Smuttiness in Malting, makes good Drink. At *Saxmundham, Norwich, Attleborough, &c.* I have drank a fine, light, brown excellent Nog or Butt Beer; but as to their Ale, I think it is the worst I ever met with; and no Wonder, since it is made from the dirty, pnegmatic, refuse Malt and Hops, for so are the Natures of these Vegetables after their first Spirit is extracted or drawn out of them, and which consequently renders them very unwholesome to the Body of Man; hard Case then it is, where no other Sort than such Ale can be bought by the weary Traveller: Oh! what Advantage accrues to many Publicans, merely through the Necessity or Ignorance of their Customers, whereby they are licensed, as it were, to brew and vend all the Year great Quantities of unhealthy, dirty, insipid or Yeast-beaten Ale and Small-Beer, to the Shortening of many Lives. This Case is somewhat parallel to that of the *Suffolk* Dairy, where they make the best Butter, there they make the worst Cheese.

Bristol Ale and Beer.—HERE they are under the Inconveniency of an indifferent Spring-water, occasioned by its lying near the Salt-water, and yet they brew a good Sort of Ale and Beer. In many Places of this City they draw their common brown Ale in Decanters, at Fourpence a Quart, and it is a pretty clear mild Drink; and some of their best Beer is exceeding light and pleasant. These People, I must say in their Praise, are generally very industrious, and willing to be inform'd of any Thing that may tend to the Improvement of useful Arts and Sciences.

Rocheſter Beer.—HERE they have rather a better Water, which they use in brewing a heavy strong Butt brown Beer, which is potent enough, if that would do, to keep off the Seizure of an Ague: But Woe be to the Patient, if he can get no other than such Drink in the hot Fit!

A certain Welch Woman's Way of Brewing a Hog-shead of Beer. SHE has two Coppers, that will hold a Barrel or more each, and two Mash-Tubs; when the Water is just ready to boil, she takes out a Pailful and throws it into the Tubs to season them; next she slackens the Fire and puts over a Pailful of cold into the Copper to temper it, for, if it goes over too hot, it will bind instead of opening the Pores of the Malt, and spoil the Drink; then she puts a Pailful or two of this hot Water into a Tub and a Bushel of the best pale-Malt on that, which she stirs well and then puts it into the Mash-Tub, and so on till all is thus mixed, except Half a Bushel; this Method is to keep the Malt from balling, and get as much Goodness out of it as she well can in a short Time, for, if one Ball of dry Malt is left in it, it will sour all the rest: Then she mashes altogether, which when done, she puts over the reserved Half Bushel as a Mantle or Cap, and then she lets it stand three Hours with a Covering over the Tubs. Now here are six Bushels of Malt in the first Mashing-Tub and eight in the other; and it is so order'd that the eight Bushels are mashed an Hour later than the first, because, as soon as the first Wort is ready to boil or just boiled, she lades it over the eight Bushels a little at a Time, and lets it run off on about twelve Pounds of Hops till she has her whole Quantity, which, when boiled with the Hops about a Quarter of an Hour, she puts in a Bowl of cold Wort, and in a little Time after another; these Parcels of cold Wort will soon make all of it break, and that sometimes in less than Half an Hour; and then the Flakes arise, which is the oily Part of the Malt caused by the igneous and sharp Particles of the Fire and Hop, for no Wort will break so soon without Hops as with them; thus she proceeds by alternate Heatings and Boilings of Water and Wort and Mashings till she has her Quantity, without being hinder'd of having her Water and Wort ready in due Time, as is commonly wanting where there is but one Copper to one Mash-Tun. This Drink she keeps one Year before it is tapped.

A small Brewer's Method to free his Hops from the boiling Wort at Pleasure. AT Darking in Surry, a Person makes use of a thick iron Hoop about two Feet wide, and a Net fastened to the same two Feet deep, with four small Cords tied to a larger one, by which with the Help of a Pulley he draws the Net and Hops out of the Wort at Pleasure, in order to boil his Wort longer alone, till it is curdled and broke enough.

The Bridgwater Way of Brewing. SOME boil their Wort and Hops an Hour, others till the Hops are all sunk, for longer they say thickens and gives a high Colour to their pale Butt Beer, and, the thicker it is, the longer it is fining in the Cask; after the Hops have been used in their Strong Drink, they throw them away, as every one should do. and use their next small Wort instead of the first Water for brewing Ale or more Strong Beer from fresh Malt, which they call *Doubling*.

The Elminster Way of Brewing. HERE they brew all their *October* Butt-Beer with pale Malt, and here the Publican, who brews his own Drink, allows nine or ten Bushels to the Hogshead, and five Pounds of Hops; to a Hogshead of Ale eight Bushels of Malt, Half pale and Half brown, and two Pounds of Hops in Winter, and three in Summer. Here they work their strong Drink altogether in the Cask during the Summer Season, and not first in the Tun, as believing such open Working loses too much of the Spirit of the Liquor, and makes it poor and flat; but in Winter they ferment a little first in the Kive or Tun to put to the Wort in the Barrel, from whence most of the Yeast will work out. Here they lodge the hully Part of a Bushel of Malt about the Plug or Basket in the Middle of their Mash-Tub, and the floury Part of the same Bushel they use in Capping, and lay it all over the Top; otherwise, when they brew with some Sort of new Malt, they say they cannot make the hot Water run fine enough through the same, and because the
Flour

Flour of all Malt, especially if it is ground very small, is apt to wash to the Plug-Basket, and thereby cause a foul Wort to run off. Here they believe that Boiling Worts and Hops too long makes the Drink thick, flat, and heavy; because, in such Boiling, the mucilaginous Parts may become predominant and fixed.

C H A P. III.

To brew a Barrel of Family-Ale with four Busbels of Malt, as it was performed at a Gentleman's House, with only one Copper and one Mash-Tub and Cooler, in August 1739.

IF your Mash-Tub holds two Barrels, it is better than a lesser one, that there may be Room enough for Mashing; in such a one fix a Brals Cock of three Quarters of an Inch Bore in a Tapwhips, or do it by Plug and Basket; but I prefer the first, if there be no false Bottom, which certainly is the best Way of all others. Let it be soft Water to brown or amber Malt, covered with three or four Handfuls of Malt or Bran, if the Water is thorough clear; if not, put as much Salt, and Nothing else, as will lie on a Crown-Piece, into a Copper that holds at least one Barrel, containing thirty six Gallons, and as it heats and the Scum rises, take it off before it boils in; then, when it has had a Wallop or two, lade two Pailfuls first into the Mash-Tub, and put two Pailfuls of cold Water into the Copper in their Room, and just boil all again; then convey all the hot Water into the Mash-Tub, and, when you can see your Face in it, mix the Malt a little at a Time. Wash, and let all stand two Hours under a Cover of Cloths; at the End of which, run a drizzling Stream and faster by Degrees on a few Hops, to secure it. While the first Wort is standing and running off, another Copper must boil to clean Vessels, and what is

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used,

used, this Way, is to be supplied by adding more cold Water and boiling it again; two Pailfuls of which are to be thrown on the Goods as the first Wort runs off; these four Pailfuls of hot Water are allowed for the Malt to drink up never to be returned, being a Bucket to each Bushel; and thus the Brewer had near a full Barrel of first Wort come off, which he boiled with Half a Pound of Hops till it broke first into very small Particles, and then into bigger, till the Flakes were as large as Half a Silver Penny. Now as soon as the first Wort had run off from the Mash-Tub, the second Copper of boiling Water was put over the Goods and mashed, which stood one Hour before it began to be discharged; and, while this was standing and running off, the first Wort was boiled and put into Coolers, and a third Copper of only heated Water was thrown over the Grains, as soon as the second Wort was spent off, which also was mashed; and, while this was standing one Hour and then run off, he boiled his second Wort with Half a Pound of fresh Hops, till it broke into small Particles, and immediately after his third Copper, with four Ounces of fresh Hops during one Hour, for this last Wort was too small to shew its Time by breaking. So that, in this Barrel-Copper, he boiled off thirty-one Gallons of neat first Wort that was cooled, worked, and then put into two Kilderkins, one of intire Drink, but the second had five Gallons of the second Wort put into it to fill it up; besides which, he had a Hoghead of good Small Beer, made with the second and third Coppers of After-worts.

Remarks on this Receipt, whereby several new Improvements in the Art of Brewing are discovered. THE afore-said quick Way of brewing has its good and bad Properties belonging to it, which I shall observe in particular: *First*, I must then object against a Copper, which holds only a neat Barrel of Liquor, for brewing four Bushels of Malt, because I have not Room to boil and bring off thirty-six Gallons of neat Wort, but must be obliged to supply the Defect in a great Measure,

by putting in additional fresh Wort, as the Body of Liquor wastes, whereby the Ebullition is check'd, which should be carried forward as high as possible, that the Wort may break the sooner, the Vertue of the Hop be got out the better, and the Wort in less Danger of boiling over the Sides of the Copper.

Secondly, By putting Salt into fowl Water, to cause a Scum to rise, is the Way to have a pure Liquor freed from all Corruption, make it better penetrate the Body of the Malt and Hops, force the Wort to break in a little Time, and bring the same under a kind Working, and that very quickly, because it frets and heats the Wort; it likewise gives a good Relish to the Drink, and obliges it to make its Sediments and fine in a little Time; but then due Care must be taken, that all Scum be skimmed clean off before it boils, lest the Ebullition so mix it with the Water, that it cannot be cleared from it afterwards. There are others, that think it best to put the Salt in just before it is set a Working, or while it works.

Thirdly, WHY the hot Water is suffered to stand no longer than two Hours, before the Cock is turned, is, first, to prevent any Sourness, or other Damage that may accrue from the Water and Malt's lying too long together, before an Evacuation. *Secondly*, because, if it remains longer, the After-worts will, perhaps, be weaker than you would have them. This is a Consideration, which is pass'd over by many of those who are so attached to an old Custom, that right, or wrong, the Liquor and Malt must lie three or four Hours together; as is very common among Country small Brewers.

Fourthly, THE Observation of the Worts breaking in the particular Manner I have just mentioned it, is a very nice Point, and of such considerable Importance, that all Brewers whatsoever ought exactly to observe it; for by so doing, and if it is work'd right in the Tun, the Drink will be fine very quickly, after it has clear'd itself of the Yeast at the Bung-hole; and thus become

much better, than if it had been boiled two, three, or four Hours; but, if it wants its due Curdling or Breaking in the Copper, it seldom or never fines kindly in the Barrel. For, when Wort is discharged out of the Cōpper, before it is boiled into a curdling Condition, or if the Ebullition is continued too long afterward, then the farinaceous, or mealy Part of the Wort will not so soon subside, or become fine, as when boiled till the Liquor curdles or breaks into proper Particles; for, by this, it shews the Wort is then ready to deposit its grosser Particles.

Fifthly, By turning the Cock, and spending the second and third Worts off, rather before an Hour is elapsed, is likewise of great Moment: For, by so doing, the hot Bulk of the Wort's Body is diminished and cooled in due Time, whereby the Souring of the Grains, or what some call *Blinking* or *Charing*, is prevented. In this Case, those Grains, nearest the Cock-hole, are in most Danger of being tainted, if these Worts are suffered to continue a whole Hour or more in the Mash-Tub, before they are discharged, at first by a small Stream, and then faster by Degrees; and of this many are ignorantly guilty, and spoil the Drink; for it is here the greatest Heat is discharged, which in Course will sour that Part first; and, if the Grains are once tainted, they will affect all the Worts that are afterwards made by the same, and give the Drink a sickish Taste, which very probably may be incurable.

Sixthly, SOME, though the Copper be never so big, will keep out a Pailful or two of Wort, to be put in afterward, by degrees, on Purpose to cause the Wort to break the sooner, which is certainly a very good Way; though there are others, who think it of no Importance, provided they have Room enough to boil the Wort fiercely.

Seventhly, A COUNTRY Gentleman was so curious in brewing his *October* Beer, that he would have the Malt-Kernel only just broke, that he might have the

Wort run off the finer ; and, to improve it further, his Way was to cause two Beechen Billets to be burnt almost to a Coal, and, while they were in full Fire, to put them into the Wort, and boiled them in it all the Time the Ebullition continued, believing, that these Firebrands fined, mellowed, and added a Strength to the Drink, and it answered his Purpose well. But, in another Case, that was recommended to the same Gentleman's Trial, a Piece of raw Deal was used instead of the two Billets, as the best Thing to improve the Liquor, but this proved so disagreeable that the Beer could hardly be drank.

Lastly, ANOTHER who used to brew his strong Drink by only one Mashing, and afterwards by Ladings over of scalding Water, observ'd to thrust down a good Handful of fresh Hops just over the Tapwhips, wherein a brass Cock was placed. By this, his Intention was to secure the Wort from receiving any Damage, 'till it went into the Copper, for where only one Copper, and only one Mash-Tun are used, the First and Second Worts are obliged to lie out of the Copper some Time, while the Water is heating to put over the Goods.

To brew strong Beer, by a late printed Réceipt, with Remarks on the same.—To a Barrel of Beer, take two Bushels of Malt, and Half a Bushel of Wheat just cracked in the Mill, and some of the Flour sifted out of it ; when your Water is scalding hot, put it into your Mashing-Vat, there let it stand till you can see your Face in it ; then put your Malt upon it ; then put your Wheat upon that, and do not stir it ; but let it stand two Hours and a Half ; then let it run into a Tub, that has two Pounds of Hops in it, and a Handful of Rosemary-Flowers ; and, when it is all run, put it into your Copper, and boil it two Hours ; then strain it off, setting it a Cooling very thin, and set it a Working very cool ; clear it very well, before you put it a Working ; put a little Yeast to it ; when the Yeast begins to fall, put it in-

to your Vessel; and, when it has done working in the Vessel, put in a Pint of whole Wheat, and six Eggs; then stop it up: Let it stand a Year, and then bottle it. Then mash again: Stir the Malt very well in, and let it stand two Hours, and let that run, and mash again, and stir it as before; be sure you cover your Mashing-Vat very well; mix the first and second Running together, and it will make good Household Beer.

Remarks on this Receipt.—It is easy to perceive, whether the Scholar or Practitioner had the Compiling of this Receipt; for, had it been one of the latter Sort, he would have known better, than to allow only two Bushels of Malt, and less than Half a Bushel of raw Wheat, to make a Barrel of strong Beer, which contains Thirty-two, or Thirty-four Gallons, to be tapped at a Year's End, and kept in Bottles afterward, before it be drank; for every one of Judgment knows, that nine or ten Bushels are the least that can be allowed to a Hoghead of strong Beer, in Proportion to which, there must be somewhat above six Bushels and a Half to a Barrel: And to make this erroneous Method the more compleat, another gross Mistake is added; the second Wort must stand two Hours on the Grains: A fine, old, wrong Way of Brewing indeed! However, I could tell him how to make up the Deficiency of Malt in the Cask, and give it such a Body, in Time, as to bring it justly under the Denomination of a good, strong, pleasant, cheap Beer, as it was practised by a certain Victualler, who in great Measure got an Estate by it; for the Charge of curing a whole Butt is no more than about Half a Crown, and it was by this Piece of Cunning, that the same Victualler so improved his common brown Two-penny, that, after it had a Year's Maturation in the Butt, he always sold it for the best stout Beer, which he artfully called *Coal-Hole*, at Sixpence a Quart.

To brew Ale or Beer by Mr. Nott's Receipt, with Remarks on the same.—Put Half a Hoghead of Water into your Copper, cover it with Bran, when it is scalding

ing hot, put a third Part into the Mashing-Tub, and let it stand 'till it is so far spent, that you may see your Face in the Liquor: Then put in two Bushels of Malt; stir the Malt and Liquor well together: In the mean Time, let the rest of the Water boil in the Copper, then put out the Fire, that the Heat of the Liquor may be allayed; then put the other Part off it into the Mash-Tub, and stir it well again; put in also a Shovel or two of hot Coals, to take off any ill Taint of the Malt, and so let it stand for two Hours. In the mean Time, heat Half a Hogshead more of Liquor, and, when you have drawn off your first Wort, put Part of it on the Grains, and stir in a Bushel and a Half more of fresh Malt; then put in the rest of the Liquor, and stir it as before; then put your first Wort into the Copper again, making it scalding hot, and put Part of it into a second Mashing-Tub; and, when the Stream is gone, stir in it a Bushel and a Half more of fresh Malt; then put in the rest of the Wort, and stir it well, and let it stand two Hours; then heat another Half Hogshead of Water, and, when what was put into the first Mashing-Tub has stood two Hours, draw it off, and also that Wort in the second Mashing-Tub, and take the Grains out of the second Mashing-Tub, and put them into the first; then put the Liquor in the Copper into it, and let it stand an Hour and a Half. In the mean Time, heat another Half Hogshead of Water, and put it on the Grains, and let it stand as before. Boil the first Wort with a Pound of Hops for two Hours, or till it looks curdly, for Beer; and the second Wort with six Ounces of Hops, for Ale, an Hour and a Half; then boil the Hops of both Worts in your other Liquor, for Table-Beer, an Hour and a Half.

THIS Receipt, it is plain, has had a great deal of Pains taken in the Invention of it, and a great deal of it is very good; but, instead of having two Mash-Tubs and one Copper, I am of Opinion, that two Coppers and one Mash-Tub would be much better; because,

because, while a great deal of Time is spent in heating the Worts and Waters, the Grains will be in Danger of souring, and then our Charge and Labour will be lost in a great Degree. He is also very wrong in advising to boil the first Wort two Hours, with the Hops in it all that Time, but right till it looks curdled. Also, the second Wort to boil an Hour and a Half is rather too much; but the last no Matter how long, so that fresh Hops are boiled in it but thirty Minutes. As to the Cinder Account, it is an old Fashion now much in Disuse, because it is inconvenient to let them lie among the Goods, as hindering their Mashing, or stirring, and spoiling the Grains; and the rather, because the good Service, they may do, can be supplied by boiling parched Wheat, or quenching Firebrands, or burning Cinders in the Worts; but there is no Occasion for any of this, if the Malt is good.

Sir Jonas Moor's Way of brewing Ale, with Remarks.—ALLOW five Bushels and a Half of Malt, to Half a Hogshead of Ale; put into your Mash-Tub forty-five Gallons of Liquor, because one third Part of the Liquor will be soaked up by the Malt, and a sixth Part will waste by Boiling. For the second Wort, put but little more Liquor, than you intend to make Drink; and, because you have a large Quantity of Malt, you may make a third Wort, putting in Liquor, according to the Quantity you would have.

THIS old public printed Receipt is well calculated to make a humming Cask of strong Ale; but the Liquor or hot Water, in my humble Opinion, should be forty-eight Gallons, to make an entire half Hogshead of Ale, because, allowing sixteen Gallons, or a third Part of that to be drank up by the Malt, never to be returned, there will be thirty-two Gallons of Wort come neat off; and then, giving a further Allowance for five Gallons, or near a sixth Part to be boiled away,

way, there will be just twenty-five Gallons or Half a Hoghead remaining.

A new Way to brew strong Drink.—BREW a strong Wort, and let it run off on a good Quantity of Hops, then cool thin, and let it run very fine into a Barrel, where some Yeast is before-hand put in, mixed with a little of the Wort. When worked, put in a sufficient Infusion of Hops, and also one or more Dump-lins made with Rye-Flour, Bean-Flour, and Flour of Malt; let it stand to a proper Age.—The Rye and Beans must be first dried, before they can be well ground into Flour, and then sifted. Here the Wort has no Boiling or Heating after it is out of the Mash-Tub, and, where a good Body of Malt is allowed, it may prove excellent Drink, as great Quantities have done that have been brewed no other Way. But this Method, in its full Particulars, I have wrote of in my Second Part, where you have it, as it was first invented by a Physician, for Health, Pleasantness, and Cheapness, and it is now practised by many. Some boil their Wort but a Quarter of an Hour, others not at all, as believing both Ways right, where a sufficient Quantity of Hops are allowed. This Method of Brewing, without boiling the Wort, is now so commonly practised in and about a certain Town in *Bedfordshire*, that a labouring Man, who goes about to brew for People, constantly infuses his Hops in hot Water, under a Cover, and puts the Liquor, when cold and strain'd off, into the Wort, for *October Beer*. For his Notion is, that it is the Spirit that keeps any Liquor, and the Boiling evaporates it, and loses its volatile and better Part.

To brew a Family Table-Beer, without boiling the Wort. AT *Eaton* in *Bedfordshire*, lived a Person who got a considerable Estate, by buying and selling Straw Hats: This Man would never brew any strong Drink, but made use of a Family Malt Liquor, which he called small Beer, thus: He boiled a large Kettle of Water and Hops, and put both together over a Bushel and a

Half

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Half of Malt, which he mash'd, and at an Hour's End drew off the Wort into Coolers; then he put over a second Kettle of boiling Water and fresh Hops, and did the same as the first, and so a third, excepting that, for this last, he made use of no Hops, as believing the first two Parcels made the Drink bitter enough. Thus he always made Half a Hogshhead of Beer, and allowed six Ounces of Hops in Summer, and four in Winter, and tapped at a Fortnight or Month's End.

To make Porter, or give a Butt of Beer a fine Tang. THIS of late has been improved two Ways: First, by mixing two Bushels of pale Malt with six of brown, which will preserve Butt Beer in a mellow Condition, and cause it to have a pleasant sweet Farewel on the Tongue: And *Secondly*, to further improve and render it more palatable, they boil it two Hours and a Half, and work it two Days as cold as possible in the Tun; at last, they stir it, and put a good Handful of common Salt into the Quantity of a Butt; then, when the Yeast has had one Rising more, they tun it,

BUT I am sure that that common Brewer is wrong, who boils his Hops above thirty Minutes; for, by how much the longer he boils them, so much the more is the Beer made worse.

C H A P. IV.

To save the Waste of boiling Wort, as it is practised at Chilham in Kent.

THE Landlord of the *Woolpack*-Inn here has a Copper, that boils off two Hogshheads of Wort at a Time; and, close over this Copper, he has a shallow wooden Back, larger than the Copper, fixed with a square rising Hole in its Center eighteen Inches wide, which serves to let a Man through to scour the Copper, and sometimes to let out the Steam, &c. and which sometimes

sometimes has a Cover fastened very tight over it to confine the Steam. In this Back is also a round Plug-hole two Inches Diameter, for letting out the Steam, and designed, by its Narrowness, to prevent the Escape of much Vapour; but then, at the same Time, the large square Hole is all the while safely secured. By this a considerable Deal of Liquor is saved; also, while the Wort is boiling, he may fill the Back with Water, which gets a good Heat against the Wort is run off, but then he fastens the Plug-hole and opens the square one. It may likewise serve to hold the next Wort that is to succeed the boiling one, and thereby save much Fuel, Time, and Waste. To this Copper a Copper Arm is joined, with a large Brass-Cock at the End of the same, which gives him an Opportunity of seeing what Condition his Wort is in at Pleasure; and it is by this Means, that he boils his Hops always loose in the Copper, because he easily lets them out by the Cock-hole with the Wort, and receives them at the End of a long Spout in a Sieve; and, if a Stoppage happens, he pokes a little at the Hole and they come away. This he reckons a cheaper and better Invention than to have a Copper Back built higher with a Curb and Door, as is done in the great *London* Brew-house, because in this he can boil his Wort well, and yet confine the Steam to a narrow Passage; for it is his Opinion, that the Vapour cannot be intirely confin'd in either; at least, that it would not defray the Charge of Works to perform the same, as being of a spirituous and very potent Nature: And even the Steam of only boiling Water is so strong, that it will drive out vast Quantities of Water in a little Time through long and great Ascents, as was experienc'd in that late Water-work at *York* Buildings, whose Fire-Engine was first invented by that famous Artist Captain *Savory*, whom I had the Pleasure to know. Wort may be boiled into Air, for Liquor will rarefy into eight Hundred Times its Particles. Wort loses some Spirit, as may be perceived by the Steam's so strongly affecting the Nose; and even

Water has a Spirit, as may be discovered by that directly from the Spring, which drinks brisk, when that, which has been some Time out of it, is vapid. When Liquor is distilled, the Steam is very much confined, though not totally, because there is a Vent, in a small Degree, through the Worm; but the closest Invention for confining the Steam, that I ever saw, is that of *Chatbam Dock*, first put in Practice there in 1737, being a long Trough, or hollow Square, made with three Inch thick oaken Planks, thirty-two Feet long, five Feet high and four broad, bound about with three Inch broad iron Bars, at four Feet Distance each. In this oaken Planks are laid for the confin'd Steam of hot Water (supplied by three Barrel Coppers) to impregnate and reduce them to a Limberness, which in six Hours Time the Steam will do, and so rarefy and weaken the Sap of the Plank, that, while it is hot, it is carried and made pliable to the crooked Side of a Ship, without that Waste which hot Sand used to cause; for the Sand stuck so fast to the Timber and extracted so much of its Sap, as to cause it to rot in less than ten Years Time by the Dampness that accompanied it, besides damaging the Tools that were employed in working them; whereas the Steam preserves the Sap, gives free Room to the Tool, and thereby strengthens the Plank, and makes it more durable.

To prevent Wort Foxing in the Coolers, or in the Vat or Tun.—To do this, in the Backs or Coolers of the great Brewer, is inconsistent with his Conveniency, because, if he stirs the Wort here, the Sediments will rise and get into a foul Body; for it is here he has the best Opportunity to fine his Worts: But the smaller Brewer may more likely have the greater Room and more Coolers to draw off and shift, or stir them about in due Time, whereby he may prevent any creamy Head gathering on the Top of the Wort, which too thick, or too long lying undisturbed in one Cooler, especially in hot Weather, very often causes. Also in the working Vat or Tun, when the Wort is let into it too
warm,

warm, or when it lies here in a deep thick Body too long before the Yeast is put into it, or if it is not stirred or tossed up now and then by a Hand-Bowl or Scoop, to cool and break its Body, it is very apt to get this creamy Head, and Fox or Taint. But this sometimes likewise happens after the Yeast is stirred into the Wort, that is, before the Wort and Yeast are rightly incorporated, the creamy Head will gather and the Damage ensue. Now, when there is Reason to apprehend any such Danger, you must either draw your Wort finely off into fresh Coolers, or stir or toss it about them, or the Tun or Vat it is in, to give the Liquor a cooling Motion; for, by such an Agitation, the Heat of it is lessened, and Cohesions prevented, whereby any such spewy, creamy Head, or Ferment, is intirely kept off. The Want of this Knowledge in all former Authors, on this Subject, and in Thousands of Brewers, have occasioned the Loss of vast Quantities of Malt Liquors; which might have been easily prevented, had they known the Benefit of thus shifting or stirring the Wort in due Time.

Of Whipping, Beating, or Stirring Yeast into Butt Beer and Ale.—IT was in that Part of *Kent* which borders on *Suffex*, where, in a hot Day, I and my Company were glad to see a Public-House, after riding some Miles without any Refreshment; here we called for some Drink, and being dry, I drank heartily, and it presently affected my Head, by which, and the yeasty Tang it had, I soon discovered the common Bite, of its having passed through the whipping Discipline; on this I asked the Landlord, whether he brewed it? He answered, he did not, but it was a fine Butt Beer, which he was served with by a common Brewer, who lived in such a Town some Miles off. Wondering that the Northern Art had got so far into the South, and being, about three Years after, in the same Town, I remembered this yeasty Butt Beer, which made me curious enough to enquire after its Brewer;

Brewer; and I was told, he had employed a *Yorkshire* Man for his Servant, who taught him this Way, which he had followed ever since, to his great Profit. Now, though Yeast naturally tends to the fowering of all Drink it is beat into, yet by a tolerable Body of Malt, a large Parcel of Hops, and perhaps some Alcalous Feed besides, such Butt Beer will keep a considerable Time, in a mild mellow Condition, as this was in when I drank it. A certain *Yorkshire* Woman, who kept an Inn in *Suffolk*, said, she thought none could out-brew her, or, to be more plain, no Way of Brewing was so cheap and profitable as her's, which was chiefly by often beating Yeast into her working Ale, even for a Week together in Winter, but somewhat less in warmer Weather; it was this Woman, that said, It was a Pity but all Brewing Books were burnt, but presently replied, and pleased herself with saying, It is no Matter, for few will mind what they read, and fewer will put it in Practice; fearing that the many valuable Secrets, contained in them, would, in Time, prejudice the Sale of her's, and such like unwholesome Legerdemain intoxicating Ales and Beers. Another Town Brewer was so careful to have his Ale thoroughly tinctured with a sulphureous Quality of the Yeast, that he would work the Strainings of the first Wort (as it was saved after the Sediments were freed from it) so much, that he would every now and then throw some fresh Supply of it into the rest, as it was working or fermenting, and beat it the oftener in, as it was the nearer going into the Barrel; by which he caused six Bushels of Malt to make as strong Drink as eight Bushels would, if the Yeast was not beat into it.

Harvest-men intoxicated with yeasty Ale.— I HAVE only one Case or Item more to add under this Head, which is, that, a Farmer, with one of his Men, being engaged in brewing his Harvest-Ale, the Fellow seemed to be displeas'd with the Quantity of Water employed, and told the other Servants, that they might expect

expect small instead of strong Drink; upon which the Master (who was my Acquaintance, and sensible of the yeasty Imposition) took the Opportunity of stirring in the yeasty Head three several Times; about a Week after it was put into the Barrel, he sends for one of the greatest Gossips in the Neighbourhood, and treated her with only one Pint of this Ale, which he knew would affect her Head; and accordingly the sulphureous Spirit, contained in the Yeast, had such an Effect on it, as to make our Novelist soon publish its Power, and declare she was never so intoxicated with a Pint of Drink before: Likewise the labouring Men all declared, they never had such strong, good Harvest-Ale in their Lives. But, how unwholesome such yeasty, strong Ale is to the Body of Man, I have clearly shewn by the Example of its poisonous Nature, which brought a young Person into a Lunatic Condition for several Months, as I have related it in my second Part of the *London and Country Brewer*.

The Nature and Mischief of strong Liquors. HAVING under the last Head exposed one of the most common, though abominable Methods of rendering our Malt-Liquors extremely unwholesome, I shall here, by Way of further Contrast, or exciting the greater Regard for such Malt Liquor as is truly brew'd and managed, and is neither too strong nor too small, whereby it may justly be called, as a certain Author observes, a true *Vinum Britannicum*, or *British Wine*, and which moderately used is undoubtedly the most homogeneous and proper Cordial for the *Englishman's* Constitution; I say, though it may seem a Digression, yet as it will likewise expose the too common and fatal, though often unsuspected, Effects of distilled spirituous Liquors, and I hope, be a Means to further the Legislature's good Intention of bringing them more and more into Disuse. I shall here also briefly observe, that there is a latent or hidden Acid in ardent or burning Spirits, besides a fiery Part, which is the merry-making or intoxicating Quality in all strong Liquors, and which,

as Dr. *Godfrey* writes, is a bitter Enemy to the Spring of Life.

THIS Acid is evident from the following Experiment, *viz.* Put one Ounce of Spirit of Wine into a Quart of pure Water, shake it, set it by for a few Days, and you have a four Liquor or Vinegar. *Secondly*, let a Piece of Lead be laid in Spirit of Wine, which after some Time will have its Surface eaten or corroded, and a Cerufs or white Lead will be formed; which Power of corroding comes from the acid Salt, one of the component Parts of the said Spirit. Strong Liquors of all Kinds hinder Digestion, they being just of a reverse Nature to what is necessary to it: They introduce a Lenton or Coagulum into the Blood, and impede or spoil its due Circulation: They subject the Drinkers to Cholics, and beget Polypusses with many more Mischiefs that might be enumerated that are brought on by the Use of strong Liquors. In a Gallon of Brandy there are about two Quarts and a Pint of Spirit. In five Quarts of a made Dram, there are but two Quarts of Spirit: And *Geneva*, so much esteemed by the Vulgar, is indeed a vulgar Compound, being the Produce of thirty Gallons of Water, and ten Gallons of Spirit, such as we burn in Lamps, with a Quart of Oil of Turpentine distilled together.

The Pleasure and Profit of good Beer and Ale. As a clear, wholesome, pleasant Malt Drink is justly esteemed the best universal Liquor this Island affords, and, where it may be the best brewed of any Place in the whole World, it is of the utmost Importance to make it answer this great End; because, by this, Health is preserved, both Master and Servant kept at Home, or near it, Business more diligently and expeditiously carried on, the great Expence of high priced Wines and unwholesome Spirits lessened, the Publican enriched, and the Excise Revenue increased: On the Contrary, where there is no other Drink to be had than thick, groutish, sickish, fulsome Ale, or sharp, harsh, stale or ill-tasted Beer, then Home and its Neighbourhood become

become irksome and forsaken by both Master and Servant, who think their Time well spent in roving perhaps a Mile or two, in Search of what is right good; and then, if it pleases them, they so indulge their rare Opportunity, as to miss no Time nor think of any Loss, and thus bring themselves under a thousand Calamities; which a Vessel of true Nappy at Home, or at the next Public-House, would in a great Measure prevent, by their having an Opportunity to enjoy it after an easier and cheaper Manner. To this Purpose I know a Gentleman, who allows a Quarter of Malt, brew'd in a pure Manner, to make only four Barrels of Beer for his Servants common Drinking, as believing it a good Piece of Husbandry so to do. A certain Nobleman, who keeps a great Quantity of Grass Ground, &c. in his Hands, acted so generously as to brew above thirty Hogsheads of potent Drink for his Hay-makers and Harvest People, which so spirited them that every one thought himself happy if he could work for such a Master, and vie who should do him the best Service: An Example worthy of Imitation! And it even raised my Surprize in this uncharitable Age, to our Shame be it mentioned; to see an excellent hospitable Lady; at her charming Seat, about thirty Miles from London, in Surry, allow her Servants to treat a meer Stranger with a two Quart Tankard of fine Home-brew'd Ale at a Time, and a plentiful Dinner of Half a dozen Dishes of Meat; an Instance I never met with besides, or any Thing like it, in all my Travels, tho' it is common here for the very *Scotch* Pedlar to meet with a regaling Refreshment of good Nappy, if he does but quit his Pack; and make known his Profession. Nor have I heard of any that exceeds this generous, noble Lady, except that admirable *Staffordshire* Lord, who makes the Country about him happy, by keeping open House every Day throughout the Year: May their Tables always be furnished with Plenty of the best Viands, and their Cellars still continue to be stored with the best Liquor in the World, viz. true brew'd

British Ale, and Beer, made from a right Barley Corn, duly cured and sweetly dried into Malt. A Victualler having such bad Beer sent him, that he almost lost all his Trade, the Master Brewer, unknown, called for a Pint of it, and said it was poor Drink: Hye, says the Victualler, I believe I shall never stand it, if I have not better. The next Time he went to the Brew-house to speak for more, the Brewer took Care to order that he should have the best; some Time after the same Brewer, still unknown, calls again, and, on Tasting his Drink, said it was good; the Victualler replied, it is so, and I shall now be able to stand it and pay my Brewer: On this, Master Cog declares himself, and said, I am your Brewer, and you shall always have good Drink for the Time to come. I happened to be at a Public-House, in a certain City, where a Countryman came to enquire for his Brother, who was there drinking; on this one of the Company drank to him out of a silver Tankard of Intire, but the Countryman refused, and his Brother made this Apology for him saying, he can never drink any of our Town Malt-Liquor: To this City my Business sometimes calls me, and though famous for its Malt-Liquors, yet I do hereby solemnly declare, if I was to give a Guinea, for a Quart of such Malt Drink, that I like, I know not where to buy it. In one Part of the Country, for above a hundred Miles together, I met with, for their best Drink, a pale, harsh, stale Butt Beer; in another Part, for near that Length, a brown, sharp, stale Butt-Beer; and in both which I have seen several miserable Spectacles, some with their Fingers standing a strut, others with their Feet in Flannels, others walking with two Sticks, and occasioned by the Gout, bred by constantly drinking these crabbed Liquors. In another Part, nothing but an ill tasted Ale, made by Malt, dried with Wood. In another, a strong, gorging, intoxicating Yeast-beaten Ale, as fine as Sack in the Glass, but of a sickish, fiery Nature in the Belly.

C H A P. V.

Drink made thick and cloudy, by the Ignorance of the Brewer.

THIS is often done by drawing off the Wort too near, and then putting over a great Quantity of hot Water on the Grains, which by its Weight causes such a Pressure, as to force down the Flour of the Malt to the Bottom of the hollow Goods, and thus makes the Wort run foul, and the Drink oftentimes become cloudy in the Barrel.

To make brown Malt run off a pale Wort. PUT a pretty deal of Wheat Flour or Bran upon the Mash.

To cause a high Colour in Drink made from pale Malt. PUT a Pottle of dried ground Horse-Beans, Hulls and all, into a Quarter of such Malt.

The Vertues of Salt of Tartar, as it relates to brewing Malt Drinks. THIS is a great Alkali, and opens Bodies prodigiously. If you put as much as will lie on Half a Crown into a Barrel Copper of Water, it will not only extract the Vertue of the Malt very expeditiously and effectually, but also add a brown Colour to the Liquor; so that instead of rubbing Hops with common Salt to make them emit their Vertue to the Beer, you may do it with a little of this Salt of Tartar which is much better: This Salt is made from the Tartar which white Wines afford, but what is commonly vendd for it is made from the Lee drawn from what we call *Pearl* or *Wood-Ashes*; and though it be of an Urinal Taste, yet a little, which goes a great Way, is so far from being prejudicial, that it is a great Antiscorbutic; it makes Malt go the further, fines the Liquor, by separating the foul Particles of it, and throwing them down sooner than in the natural Way, softens the Water, and makes it the fitter for extracting the Powers of the Malt and Hops; a Quarter of an Ounce is enough to four Pounds of Hops to be thus used,

Put it into the hot Water that is to be poured on the Hops to make an Infusion of them. With this great Drawer you may extract a good Wort from whole Malt, but then the Malt should be made true, *i. e.* it must be leisurely dry'd on a Kiln, so that it be mellow enough to mark while it is in a whole Body, if pressed against a Board; for, if it is hard and steely, you cannot extract the Quintessence of its Flour; with this Ingredient and the Help of repeated hot Waters, you may get the Goodness out of such whole, soft, mellow Malt, and thereby draw off a fine transparent Wort, and enjoy a pure vinous Beer or Ale; but there is another Way to do this, as follows:

To make a fine transparent Drink from Malt, without grinding it.—THIS is done by only bruising a mellow Malt between two wooden Rollers, one whereof is to be turned about by a Handle; and by this Way you may extract its Quintessence exquisitely fine, without the Danger of having too gross a Mixture of the Malt's Flour.

How Drinks become ropy and foxed.—SOME ignorantly boil raw whole Wheat in their Wort, to make it get a clear Body in the Barrel; but instead thereof, when this is put into the Copper in too great a Quantity, or boiled too long, it will cause the Drink to remain in a thick Condition, and very likely rope and fox; and so will Ivory or Hartshorn Shavings, if they are thus imprudently managed. On the Contrary; when whole Wheat is first parched, and a Couple of Handfuls of it are boiled thirty or forty Minutes in a Barrel or Hogshead Copper of Wort, it may improve the Drink. Thus the Shavings may do the like Service, if used in a little Quantity; for, in many Things, what is designed, as an Antidote, becomes a Poison on wrong Application, as in the Case of Isinglass, which by most is allowed to flatten Drink as well as fine it: But a certain Wine-cooper declared it to be a wrong Notion, alledging that, if this was true, they durst not make so free with it in their Wines, which receive

no Hurt by it; and that it is only the too great Quantity of it that does the Mischief.

To keep Backs and Tuns sweet. To do this, in the best Manner, is to follow the Example of the great London common Brewer, who now and then, chiefly in hot Weather, throws some Stone Lime into a little Water left on Purpose in the Bottom of the Back or Tun, and as soon as it has slack'd and lain a little while, they pour more Water in and scrub it over the Bottom and Sides; then they wash all off with clear Water. It is likewise done with Bay Salt, which they strew all over the Bottom and Sides of the Back or Tun, that had Water just taken out of it; when dissolved and lain a small Time, they scrub well about and discharge it.

The different Nature of pale and brown Hops. THE pale unripe Hop is fittest for pale Drink and will keep some Time, but they are apt to fail at once, and then the Drink stales or fours. The brown full ripe Hop is best to depend on, and, in this Case, some think one Pound of them better than two of the pale Sort. But there is a true natural pale Vine and pale Hop that grows about *Farnham* in *Surry*, and are as excellent for pale Drinks, as the right brown *Kentish* Hop which grows on the purple Vine, is for the brown Sorts.

To prevent Wort boiling over in an open Copper.— BOILING WORT fast loses less than Boiling it softly, and stirring the Wort round on the Outsides with a Stick, while it is boiling; the middle Part may be boiled six or more Inches high, and yet none will run over the Outsides.

To prove the Goodness of Malt by the Wort. WHEN a Person uses more than one Sort of Malt, he may prove the Goodness of it by the Wort, as a certain common Brewer of my Acquaintance does; his Method is to weigh a Quart of the Wort of each Brewing, and that, which is heaviest, is the best.

Of the sweet Flag, Grains of Paradise, &c. how they are used in Brewing. THE former of these is called by

Apothecaries *Calamus Aromaticus*, which by slicing it thin, and boiling it a little Time in Wort with the Hops, will save more than one Pound of Hops in six; therefore some in a dear Hop Season will use it as a *Succedaneum* to this Vegetable; besides which, it will give a fine Flavour to the Drink, if used in a due Proportion, and is very wholesome. At a great Market Town where I lodged, and so in many others of late, it is become too common a Practice to draw their worst Drink on Market Days, and the best at other Times; for here the Publican takes an Advantage of Necessity, because as this is the Seat of Business on these Days, if there is any bad Beer, or Ale, it must now go off to those who are obliged to spend their Market Shilling or Six-pence, for selling five or more Bushels of Grain, according to the Custom of the Place, which is now got so common that the Buyer stops it, as if due by Law; and thus the Farmer is forced either to drink their horrid Hodge-Podge, or else to leave his Money behind him, which I and many more have done, as believing it to be the least Evil. At one of these Markets, about eighty Miles from *London*, I perceiv'd they had so doctor'd their common Two-penny Drink, as to make it go down smooth; but, when I found it left a hot Tang behind it, it gave me just Reason to believe they had used Grains of Paradise, or long Pepper, both which will save Malt; by Reason these, like Ginger, will add a considerable Spirit to the Malt Liquor, especially if the sweet Flag is mixed with it. Also in *Wales*, some of the poor People use a little black Seed, that contains a very white Flour, which we call *Cockle*, that is a Weed, and commonly grows among our Grain: This they use in Brewing, and like Grains of Paradise will strengthen the Drink, and make the Malt and Hops go the further; but, if much of this is ground among Wheat, it will cause the Bread to be inflammatory.

Of *Sediments*, their mischievous Nature and Remedy.—
 SEDIMENTS, in Time, cause all Beers, Ales, and Wines to grow rough and acid; therefore Rackings are absolutely

lutely necessary, else what Occasion is there for so many Wine-coopers, whose Art is chiefly to do this, and apply, on Occasion, a new and richer Sediment, than was in the Cask before, to maintain their original Sweetness, or cure any Sickness the Liquor may have acquired from such its natural separated Impurities, which consist of Salt, Sulphur, and much Earth. How wrong then must they be, who brew large Vessels of strong brown Beer, for keeping them to a great Age out of a Bravo, and now and then add to the same new Drinks, with their Sediments, and call it *Old-boy*, *Stout*, or *Nog*, and when mixed, *Coke upon Littleton*, &c. By which, the Quantity of pernicious *Fæces* are increased, and the Drinks loaded with more of the saline, or acid Quality, which consequently do the greater Mischief to its Tipplers. An Innkeeper of *Winchester*, who justly had the Reputation of having the best Malt Drink in that City, was so careful to avoid every Thing of this Nature, that, even after his Ale had gone through a cold leisurely Working in the Vat or Tun, he drew it off as fine as possible by a Cock out of a Tun, whose Bottom was about eighteen Inches higher than the Ground, and left the Head of the Yeast with its Bottom all behind; so that by this Method he never fail'd of having a clear, pure, wholesome, silky Ale, which pleased all his Customers: But for his keeping strong Beer he took another Method. Some others are so curious in avoiding the Damage of Sediments, that they rack off even their Bottle-keeping Beer into fresh ones every Year, with a Lump of Sugar in each Bottle. By this Management all *Fæces* will be taken away, which otherwise cause Tartness. How wrong also must they be, who brew no other than intire Guiles of brown Butt-Beer for furnishing whole Cities, Towns, and I may say almost a whole County with the same? This by woeful Experience I know to be one of the greatest Inconveniencies on the Road; for, in the most sultry Day and dusty Road, there is no other Drink to be had than such hard, stale, strong fiery Beer, which, instead

stead of quenching a Man's Drought, adds Fuel to the Fire, and makes him drier and more miserable, so that he has no Remedy but Wine and Water at their Public-Houses; for small Beer in many of them is not to be had for Money, and if it is, at some of the great Inns, they will reckon four Pence a Quart for it, as I have paid; and the two first mentioned Liquors are not to be made use of, the one on Account of its Dearness, and the other because it is too cold and weak. In a certain Capital Town, about forty-five Miles from London, I would fain have got some mild Ale, but I was told, there was no such Liquor sold in all the Place; because, as to pale Ale, they looked on it as a sickish Drink, and the brown Ale no one would buy, as being an insipid Liquor, and what they were not used to; so that here was none, but a harsh brown Butt Beer, almost Half Vinegar, to be had. Near this Place a Gentleman lived, who was so averse to their common hard Butt brown Beer, that he never would drink any of it, without scraping a little Chalk into it. And a Gentlewoman, who formerly lived in the West Country, but now resided here, brewed a light, soft Amber Liquor, of which she was obliged to carry a Bottle with her, to drink when she dined abroad, because where she went they had none but this stale Sort of strong Beer. Here the common Brewer brews a Guile at a Time, containing eight Butts, at three Pound twelve Shillings each, which, when started in, he gives the Victualler Orders to put two Quarts of whole raw Wheat into each Butt, and bung it up, which is to remain so to the last; and this lying sometimes a Year, or longer, on its Sediments before it is tapp'd, and being made from a sulphureous, wood-dry'd, smoaky Malt, strikes the Palate most severely with its acid Quality, racks the Stomach, and breeds the Cholic, Gout, Gravel, Stone, Scurvy, and many other Diseases. A fine pernicious *Nostrum* indeed to reign in a Country, the most famous for Malt Liquors; for the Experience of several Ages past confirms to us the deadly

ly Effects of such stale, brown, strong Beers, by its bringing many brave, lusty, healthy young Men into Consumptions and their Graves; and so it must be 'till the Eyes of People are more opened, which in the Town I last mentioned is the Case of many; for here of late the better Sort have fell into making a small Raisin Wine, which delivers them with Pleasure, Safety, and Profit, from drinking chargeable, unpleasant, stale, and crabbed Beers at the public Houses; so that such strong Beer Brewers and Victuallers must go on in wrong Politics, if they do not brew and sell a clear, pleasant, silky Beer, and an Ale made intirely from all fresh Malt and Hops in a true Method; which that they may the better do, and preserve the same in a healthy, fine, pure Order a long Time, I have wrote these four Treatises, and at last been prevail'd on, contrary to my former Intentions, to publish the following Receipts of those most excellent Balls, mentioned in my *Second Part*, whose transcendent Qualities, for fining, relishing, and preserving Malt Drinks, &c. in a true, healthful, clear, pleasant State and Condition a long Time, exceeds all other Inventions that were ever yet published; whereby the Charge of dear bad Wines, yeasty unwholesome Ales, sharp and unpleasant Beers, or other thick diseased Malt Liquors may be avoided, the Revenue of Excise increased, and every one enjoy himself in drinking a sound, fine Ale, or Beer, in a most agreeable Manner, both at Home and in the public Houses abroad.

C H A P. VI.

The genuine Receipt of the aforesaid excellent Balls, for fining, feeding, preserving, relishing, and colouring Malt Drinks, Wines, and Cyders.

Brown Balls.

A Labaster, or Marble calcined into a Powder, two Pounds. Oyster-shells a little calcined and freed from their brown, or dirt-coloured Outside, one Pound. Pure fat Chalk, well dried, one Pound. Horse-bean Flour, first freed from the Hulls, one Pound. Red Saunders, four Ounces. Grains of Paradise, Half an Ounce. Florentine Orice-root, Half an Ounce. Coriander-seed, a Quarter of an Ounce. Cloves, in Number, six. Hops, Half an Ounce. The best Staple incised Isinglass, two Ounces. The first Runnings of the Molosses, or Treacle, two Pounds.

Pale Balls.

ARE made in the same Manner, and with the like Quantity of every Thing, except a Pound or two of fine Sugar made into a Syrup, instead of the Molosses, and omitting the Saunders.

N. B. THE Powders are to be pretty fine, and the Balls dried very gradually without Heat for the first three or four Days upon brown Paper laid over a large Sieve Bottom and turned often. Afterwards they may be put into the Sun, or at a proper Distance from the Fire, in order to dry them thoroughly; and the Quantity of the Hops may be augmented or wholly omitted at Discretion, according as the Liquor requires.

PUT as much Water to your Glass as will just cover it, in order to open its Body, letting it stand so twelve Hours; then add the following Infusion to it, and gradually dissolve the Whole over a gentle Fire. Then strain it off hot among some of the Powder, adding the rest by a little at a Time, with some of the Treacle or Syrup likewise alternately, 'till you beat the Whole
into

into a stiff Mass, out of which form Balls, weighing four Ounces each.

The Infusion. POUR a Pint of boiling Water upon the Coriander-seed and Cloves bruised, and the Hops well rubbed. Cover them close, and let it stand twelve Hours, then strain for the Use aforesaid.

The Number of Balls for each Cask. POWDER one of the Balls and put it into a Pin or Half a Firkin; into a Firkin, two; into a Kilderkin, three; into a Barrel, six; and so on in Proportion as the Cask is bigger or lesser, stirring them well in; and, if the Liquor has Age enough, so that it will bear Racking, it should be first served so, and then they will answer much better.

To cure a cloudy Beer. THIS has been attempted for many Years past, but in vain; 'till lately a Chymical Preparation has been discovered, that effectually answers the Purpose; but, as to the Wholesomeness of the Antidote, the Drinker must run the Risque of, as being very probably unknown to him. An Inn-keeper, who brews his own Drink in the Country, applies this: He boils as much Lump or coarse Loaf-Sugar in Water, 'till it is strong enough that an Egg will swim in it, and, after the Beer has made its due Sediment in the Cask, he puts the Syrup in to clear it. Another, after the Butt of Beer is racked off, puts the following Decoction into it when cold, *viz.* with a little Salt of Tartar, boil Hyssop and Vervain together in stale Beer, so as to make it pretty strong of the Herbs, which are both great Finers of Drink, especially when they are in Flower; the Vervain also prevents any Tang that the Hyssop may give the Liquor, for, if there is too much of this Herb, it is very apt to do it. It is reported, that a Gill of the Chymical Oyl of Sulphur has been put into a Butt of Drink to preserve it clear and sound; for this is said to attenuate and divide those gross and viscid Parts, or flying Lee, wherewith some Liquors abound; but, of *cloudy Drink*, I have wrote more largely in my *Third Part*.

A new Way of Bunging Drink. A PUBLICAN at *Godalmin* in *Surry* bungs with a Piece of Bladder, and says it is beyond every Thing. This they do by passing the Piece about an Inch or more round the Bung-hole.

To forward the Working of Malt Liquors. BOIL some Water and Treacle, or Water and Sugar together; when cold, add some new Yeast. This Composition will ripen Bottle-Beer, in twenty-four Hours Time, or make Drink work in the Tun or Tub that before was backward.

To cure bad Yeast. ADD to it a little Flour, Sugar, Salt, Brandy, and Beer, and it will bring it into a Fermentation ready to work new Beer or Ale Wort with. This Mixture will also improve strong Drink Grounds, and make it fit to brew or bake with, instead of good Yeast.

To turn Ale into stale Beer presently. IN *Shropshire* a Woman, when she intended to have stale Drink, would put a Bushel of Malt into the Mash-Tub and use a Pound of Hops the more, and brewed it as she did for common Ale. This she let stand in a Hogshead a Month; at the End of which she opened the Bung, and put in a Handful of pickled Cucumbers; if some were too big, she would cut them into two or three Pieces, and stop all down again: In a Week or two's Time afterwards she would draw a fine Beer, that always had a pleasant Taste and Smell, like old *October* Beer staled through Time, and which gave a general Satisfaction to all her Customers. A Sevil Orange cut in four Slices, one or more of them will answer the very same Purpose.

To keep Drink from being prick'd in the Cask. IT is the Practice of a certain Victualler, who lives in *Hertfordshire*, to put an Iron Pad over the Bung-Hole of a Cask of Beer or Ale, to keep the Liquor from growing too stale or being prick'd; and which it will do, if upon the Pad you work a Piece of Clay, big enough to cover all, so as to keep out the Air. This valuable

Way

Way is also most serviceable to preserve Malt Drinks in the Cask, in a sound Condition, in the Time of Thunder; but particularly in a Vault or Cellar which lies exposed to the Drift of Coaches, Carts, or Waggon over the same: And most of all where there is no other Conveniency to set Drink, but in a Chamber, or other Place above Ground.

HAVING received the following Letter from a Friend, an ingenious Gentleman of the Faculty, since I had committed the foregoing Sheets to the Press, it could not therefore be inserted in its proper Place; but, as it is too material to be omitted, I shall oblige my Readers with it here, *viz.*

SIR. As you were pleased, when I saw you last, to inform me, that you intended, as soon as you conveniently could, to publish a fourth Part or Supplement to your *London and Country Brewer*; and as those Treatise have given me no small Satisfaction, especially in exposing that horrid Practice of indefatigably beating in of, and loading our Malt Drinks with the Yeast; which, as you rightly observed, is become, through Ignorance and Avarice, universally practised throughout *England*, especially in the Management of pale and Amber Ales, so as to render them extremely unwholesome: I therefore, being very desirous of assisting, as much as in me lies, in the detecting and exposing any such pernicious Ways, which have and do daily so manifestly ruin the Health of Multitudes; and judging it a Point of Duty, for the general Good of my Fellow-Creatures so to do, I know not how I can better effect it, than by desiring the Favour of you, if you have Room and it is not too late, to insert the following in your new Treatise aforesaid.

THE Thing is this: At a certain great Inn in *C—d*, a Market Town in this County, they brew and sell great Quantities of a very heady Malt Liquor, which, for that very Reason, carries the Bell, by having the Name of the best Drink far and near, for the Price; this made me somewhat curious to enquire, and, as far

as I could, inspect into this Woman's Method of Brewing and Management, but found it was all kept a profound Secret; 'till, at last, I prevailed upon a certain Person to divulge it, whose Wife is related to the Mistress of the House, and has frequently assisted her in Brewing: He told me that the only Thing, which makes her Ale so extraordinary fine, strong, and heady, is because that, when the Wort is put into the Copper with the Hops, she never fails to add the Sediments, provided they be not sour or prick'd, of all her Casks, emptied since the last Brewing; this rare cleanly Mixture she boils for a considerable Time, in order, as she says, to get out all the Goodness of the Grounds; afterwards, when fit, she very modestly loads it well with the Yeast, by industriously thwacking it into the Drink for several Days together: This Receipt cost her five Pounds, and thus, she has declared, she saves twenty Pounds, or upwards, every Year in Malt, besides improving, as she calls it, her Drink so as greatly to please her Customers, by its extraordinary Fineness and Potency: But this, methinks, is such a filthy, abominable, mischievous, and out of the Way Improvement in the Brewery, that can be exceeded by nothing, but that nasty, horrid, and detestable Piece of Cunning and Knavery, which, as I am credibly informed by a worthy Gentleman, a Fellow of the Royal Society, and who assured me he had it himself from a Brewer, is commonly practised in a certain famous *Metropolis*, of putting Chamberlye, or human Urine, into their pale or Amber Two-penny Malt Drink.

AND here, Sir, I apprehend it may not be improper to communicate to you my Thoughts, as briefly as I can, on the Nature of Yeast, and how it affects the Malt Liquor it is whipp'd into, so as to render it of such deadly Consequence to the Drinkers; and this I thought of the greater Moment, because there are many Persons, who, although of tolerable good Judgment in most other Matters, yet, when I have talked

to them on this Subject, have seem'd to be wholly in the dark, and could hardly be persuad'd of its Reality.

I MUST confess, Sir, that, as you have already been pretty copious in treating on this Manner, one would think there could not be much Occasion for enlarging on it; but as this horrid Practice does, notwithstanding, so notoriously prevail among us, I am induc'd to believe, that the following, if it were published, might have some further Influence to deter and undeceive those whom it may concern, unless they be wholly hardened and besotted in Wickedness and Ignorance.

I SHALL not here enter upon a needless Disquisition of the Production of this stoury Part of the Malt Liquor, nor do I propose to entertain you with a nice philosophical Analysis of all its component Parts; but shall only observe, that I take it to consist of a great Plenty of a very subtile and penetrating, essential, acid Salt, or Sulphur, closely enveloped, or wrapped up in a very tenacious, slimy, or mucilaginous, alkaline Body, which being of such contrary Principles, and influenced by the Air, is the Cause of its common intestine Motion, or Effervescence: Now, when these Particles become distended and diffus'd throughout the new Malt Liquor it is to put into, there immediately ensues an occult Commotion upon first mixing it (tho' apparent enough soon after) from a particular Contact their similar Parts undergo, which, gradually increasing, does thereby so heat and rarefy the whole Body of the Liquor, as to cause it both to emerge and subside its grosser Contents: And this it will sufficiently do, when the Predominancy of the Acid is somewhat restrained, check'd, or intangled by its viscous alkaline Part; then all lies quiet, and the Fermentation, Hising, or Commotion, in a great Measure, ceases; and this is likewise easily known upon Sight, for then the frothy, curling Head of the Drink begins to flatten and fall, which is a plain and natural Indication of its being then fit to tun or put up into the Vessel, by first skimming

ming off the floating Yeast, and then letting it run (by a Cock conveniently fixed above the Sediment) as clear as may be into the Cask.

Now, instead of this true, natural, and light Way of working or fermenting our Malt Liquors, it is become too customary among many, not only, in the first Place, to put into them six or eight Times as much more Yeast as is necessary, but likewise to carry on the Fermentation in a furious and unnatural Manner, by violent beating, or whipping into the Liquor the Head of Yeast with a Staff, Broom, or such like Instrument, as often as it rises, which is generally once in three or four Hours, continuing the Agitation in large Quantities, for an Hour, or more, at a Time; and this is held on commonly for three, or four Days, or a Week together (according to the Season of the Year) it being in many Places the sole Business of one Man to attend this Work Day and Night, rather than this their beloved, profitable (no Matter how unwholesome!) Artifice should be neglected.

AND that such Drink, thus loaded and tintured with the Yeast, is very prejudicial to the human Body, is not only evident from daily Experience and Observation, but likewise from the Reason of the Thing; for, by such long Working and violent repeated Concussions, the Liquor is so heated, and the Particles of the Yeast become so communicated and rarefied, that the saline, or sulphureous acid Part of it is, at length, very much divested of its grosser, viscous Part, and almost wholly absorbed, or dissolved in the Drink: Or in other Words, as the saccharine, spirituous, or acid Part of the Liquor becomes predominant, which such long and violent Fermentation naturally excites, so does it increase the Contact, or Attraction, of such like acid, strong Particles from the Yeast, 'till the Drink has thoroughly imbibed, and is well saturated with them.

Now what remains is to enquire into the Nature and Effects of the aforesaid strong, acid Particles of the Yeast, which the Drink, by such violent Means, becomes

so extraordinarily saturated and impregnated with; and this will appear from the following Experiment, *viz.* Take strong Beer Yeast, mix it well with hot Water, and let them stand four or five Days, or more, close covered over, in the mean Time, when it is well settled, pouring of the Liquor, heating it again, and adding fresh Parcels of Yeast to the same, and frequently whisking them briskly together, 'till the Water is well tintured by the Yeast; then, when the Liquor is well settled, if you pour it off from the Sediment and filter and evaporate it, you will find at the Bottom of the Vessel a hot pungent, acrid Matter, of a cathartic Nature, insomuch that, if applied Plaster-wise to the Skin, it will raise a Blister.

A FINE Thing indeed to be admitted into such a sensible and nervous Part as the Stomach is, by Way of a Cordial, and that in such profuse Quantities as it usually is! No Wonder then that such Liquor is so very intoxicating, since it cannot fail of wounding and damaging the whole nervous System; for altho' the acrimonious, fiery, and stimulating Properties of this yeasty Matter be not readily discoverable upon the Palate, any other Ways than by a little rough, biting Twang, and are likewise restrained from immediately taking Effect upon the Body, by the soft, sheathing, balsamic or oleaginous Quality of the Ale; yet it is certain, that, by their being thus intimately incorporated and diluted in so pleasant a Vehicle, they become thereby, as they pass the Circulation, so much the more capable of doing their Mischief to the inmost and finest nervous Recesses, even to the Brain itself; so that we need not be surpris'd to see such Numbers of brave, lusty, young Men cut off, almost on the Spot, by it; others in high Fevers, delirious or raving mad; some in violent Fits of the Cholic or Gravel; others labouring under the Torture of the Stone, Gout, or Rheumatism; some afflicted with Dropsies or Jaundice, whilst others again fall into Consumptions, Asthmas, Paralytic and other Disorders; and thus frequently cut the

Thread of Life short, by indulging themselves in the Use of such poisonous Drinks; and to think that Age or Maturation in the Vessel will free it from such a pernicious, yeasty Tincture, is all a Jest, any more than if one had loaded it with as much Salts of Quick-Lime; for the one will fine as well as the other, but every Drop of the Liquor will always partake of them; and it is obvious, that, were we only to put common Salt into Drink, it would retain it even to the last.

BUT when I consider that, to all this heterogeneous Procedure in the Management of our Malt Liquors, there is still superadded the very Quintessence of the refuse and excrementitious, dirty Part of other former brewed Drinks, as in the Case above-mentioned, it fills me at once with Astonishment and Abhorrence, that People can be guilty of such detestable Practices against their Fellow Creatures; but so it is, that most of our Brewers and Ale-Drapers care not what horrid Stuff they prepare and vend, so that they can but fill their Pockets by it: Methinks it calls almost as loudly for a Law to prohibit the Making and Selling such pernicious Malt Liquors, as it did for that of distilled spirituous ones; but, lest I prove tedious on a Subject you are already so well acquainted with, I must beg Leave, Sir, to subscribe, &c.

Darby, Jan. 31, 1739-40.

The Yorkshire Way of Brewing a Barrel of Oat-Ale.

AT a certain Market-Town, twelve Miles from *Oasley-Bay*, in this County, they make this wholesome and pleasant Liquor in its utmost Perfection, by grinding a Quarter of Oat-Malt, made with the white Sort and dried with Coak (any other Fuel will not suit it so well) and mashing it with forty-four Gallons of cold, soft Water; they let it stand twelve Hours, then spend away in a fine, small Stream and put two Pounds of fine pale Hops, well rubbed between the Hands, into it; let it infuse cold for three Hours, then strain and tun it, putting Yeast to it, and it will work briskly for about two Days; then stop it up, and in ten Days
Time

Time it will be fit to bottle. It drinks very smooth, brisk, and pleasant, and looks like white Wine, but will not keep sound longer than five or six Weeks: But, for longer Keeping, they sometimes brew it as other Malt. They supply some of the great Taverns and Eating Houses in *London* with it, who commonly charge Six-Pence or Eight-Pence a Bottle for it, but in the Country it is sold for Four-Pence.

The Nottingham Way of giving a Hogshead of Ale an agreeable Relish, and causing it to sparkle and knit in the Glass like bottled Cyder. At this Place they usually allow eight Bushels of pale Malt to the Hogshead for their common Draught Ale, which they sell for Three-Pence a Quart; and twelve Bushels to the same Quantity for their *October*, or Four-Penny Beer. To the former, as soon as it has done working, they constantly put in the following Composition, *viz.* Work up as much Wheat Flour as three or four Yolks of Eggs will take up, with an Ounce of Ginger in Powder, into a stiff Paste, out of which form two or three Balls: In about three Weeks Time they tap it, when it will have all the Properties aforesaid, and hold it to the last; and this is so much in Request here, that they won't drink any Ale, unless it stand this Test.

To forward the Working of a Guile of strong Drink, of three Barrels or more, when checked by Cold. FIRST, try what Effect the putting a Firkin, filled with boiling Water and well bunged, into it will have; if this does not succeed, then take Quick-Lime powdered one Pound, of *Lisbon* Sugar one Pound, made into a Syrup with some of the same new Drink: Wheat Flour and Bean Flour (both malted, if you can) of each half a Pound: Salt of Tartar one Ounce: Ginger and Grains of Paradise each half an Ounce, with the Whites of five or six Eggs well whisked, and the Syrup. Make the Whole up into a Paste, which immediately dissolve in a Pailful or two of the same Drink, adding a little fresh Yeast to this Quantity, and stirring it well together; let it stand covered, pretty near

the Fire in a Vessel that will hold as much again, for about five or six Hours; then mix it thoroughly with the Whole 'till it froths high; cover it up warm, and, I am told, it will answer your Expectation, even in the severest Frost.

How a certain Innkeeper brewed and managed his Butt Beer. THIS Person in a City, a considerable Distance from *London*, sold great Quantities of a Butt brown Beer, which had such a Name, that, on a Stranger's asking where the best Beer was sold, he was directed to his House. He used two Coppers and two Mash-Tuns at a Time, always mixed a little pale Malt with his brown, and was brewing from *Monday* to *Friday* only two Butts of Beer; because he must have Time to perform the grand Operation of beating in the Yeast to the Drink; and, as often as it worked too rank, he skimmed it. Yet he was not so guilty of this male Practice, as I knew a certain petty pale Ale Brewer, who, to work and beat the Yeast into his pale Ale enough, had high Side-Boards fix'd round his Tun, to prevent, in case the Man was surpris'd by Sleep, the yeasty Head from working over: At last he skim'd so much off, that, when the Drink was put into the Cask, the Ale could but just work enough to save itself. However this brown Beer Brewer was in the End brought to believe, that boiling Hops only thirty Minutes gave the Drink a vast Improvement, and therefore he was resolv'd to have an Iron Hoop made, the Breadth of the Inside of his Copper, for a Net with very small Meshes to be fastened to it, in order to take the Hops out at Pleasure, though each of his Coppers would hold four Barrels. But there was no persuading him to leave off beating in the Yeast, because this dearly beloved Way was too gainful to be laid aside. And as to the Management of his Butt Beer in the Cellar, he left the Bung open most of the first Summer to keep the Drink from fretting, 'till it had a second Working in the Cask and then would cover or bung with a Piece of brown Paper

Paper pasted down, and so let it remain 'till he tapped it, and then he bung'd down with a Cork or wooden Stopple.

To fine Drink, and preserve it sound in the Cask. If you would secure a Butt of Beer from staling too soon, and give it a fine Flavour and Body, take a very small meshed Net, and put into it such a Quantity of new Hops, as you think proper; in this put in likewise a Stone to sink it to the Bottom of the Cask, and at six Months End tap it. But if you would tap a Butt of Beer quickly, and secure the Drink sound to the last, then put a Parcel of used Hops into, or without a Net, in the Vessel; that is, such Hops as have been only boiled a little while in a first Wort.

A Way to have Liquor little inferior to Claret, and yet pay but the common Excise of Beer or Ale. THIS Liquor was for many Years brewed by the late Doctor Brabbin, Minister of St. Mary Ax, London, at his House at Barkhamstead, where it has often been preferred to Claret by his great Visitors, the first Sort of Gentry: To this Purpose he always got the largest Sort of Berries, by intirely lopping the Heads of several of his Elder Trees in one Year; which would shoot again the first Summer, and the second Summer would bear a very large Berry: Or, when he did not take this Method, he made use of another that was but little Inferior to it, which was; that about *Christmas* he would prune every Year the old Wood out of a Tree, and leave in it only the last Year's Shoots for bearing, and top to four Buds. Then for his Manner of brewing this excellent Liquor, and managing it afterwards in the Cellar, he did as follows, *viz.* He took twenty Bushels of the best brown Malt he could buy, with which his constant Way was, to make one Hogshead of stout Beer, one of Ale, and two of small Beer. Out of this he took half a Hogshead of the first Wort or Running, and boiled half a Bushel of pick'd red Elder Berries, full ripe; and boiled them with fresh Hops: Or else work'd the new

Drink with Hops in it. This he would let stand a Year in the Cask, and then he bottled it off with a little Loaf Sugar in each Bottle; and many have declared, they esteemed it better than Claret.

To brew a Liquor in Imitation of true Brunswick Mum, according to Mr. Nott's Way, viz. TAKE thirty-two Gallons of Water, boil it 'till a third Part is wasted, which with more brew according to Art, with three Bushels and a half of brown Malt, half a Bushel of dried ground Beans, and half a Bushel of Oatmeal: When the Whole is done, put it into your Cask, but do not fill it too full; and when it begins to work, put in a Pound and a half of the inner Rind of Fir, and half a Pound of the Tops of Fir and Birch. Instead of these, in *England*, they use Cardamum, Saffafras, and Ginger, and the Rind of Walnut Tree, Elecampane Root, and red Saunders. Others use different Ingredients from these; however, they are to be put in when the Liquor has worked a while, and, after they are in, let the Liquor work over as little as you can; when the Ferment is over, fill up the Cask and put into it five whole new laid Eggs, not broken or cracked, and in two Years Time it will be fit to drink.

To make Scurvy-Grafs Ale. TAKE four Ounces of *Alexandrian* Sena freed from the Stalks; Rhubarb sliced one Ounce; *Winter's* Cinnamon three Ounces; Polypody of the Oak one Ounce and a half; Bay and Juniper Berries, Anise and Fennel Seeds bruised, of each one Ounce; Liquorice and Horse-Radish sliced, of each one Ounce and a half; and half a Dozen Sevil Oranges. Cut the Oranges in Pieces, and put all the Ingredients into a Bag, with a Stone in it to make it sink, into three Gallons of Ale; take a Pint and Half of the Juice of Garden-Scurvy-Grafs, set it over the Fire and clarify it, let it stand 'till cold, and then put it into the Ale: After it has worked altogether for a Day and a Night, stop up the Vessel close, and when it has stood six Days, drink a Pint warm fasting: When the Vessel is out, if you put in more Juice of

Scurvy-Grafs and more Oranges, you may fill it up with Ale a second Time.

For Fining, Relishing, and Increasing the Strength of Amber Butt Beer. TAKE one Gallon of Wheat Flour, six Pound of Moloffes, four Pound of Malaga Raisins, one Gallon of Malt Spirit, free of any burnt or other ill Tang, and two small Handfuls of Salt. Make all up into Dumplins, and put them into the Bung-Hole of the Cask or Butt. It will cause a Fermentation, therefore do not stop up too soon.

To cure a Butt of ropy Beer. MIX two Handfuls of Bean Flour with one Handful of Salt, and it will cut and cure a Butt of ropy Beer.

To feed a Butt of Beer. BAKE a Rye Loaf, well nutmegg'd, of Two Pence Price, and put this in Pieces into a Bag of Hops, with some Wheat, into the Cask.

Musty Drink cured. RUN it through some Hops that have been boiling in strong Wort, and afterwards work it with two Parts new Drink, to one of the musty old; this is called *Vamping*, and is a good Cure for musty, fox'd, or stinking Beer.

To feed and give a fine Flavour to a Barrel of Beer. PUT six Sea-Biskets into a Bag of Hops, and put all into the Cask.

To fine Drink in twenty-four Hours Time. AN Inn-keeper to do this used to put in a Piece of Lime, made from soft not hard Chalk, about the Bigness of two Hen Eggs, which will disturb the Liquor, and cause it afterwards to be fine, and draw off brisk to the last, though flat before; this will do for a Kilderkin.

Another to cure ropy Beer. TAKE those Hops that have been well infused, or stewed on Purpose in a blind Head two Hours, and mix them with the Wort they were stew'd in, and some Settling of strong Wort, stirring the Whole well together, and it will answer.

A third Way to cure a Butt of fox'd, or ropy Drink.

BEAT

BEAT an Ounce of Allum very fine and mix it with two Handfuls of Horse-Bean Flour.

To fine and feed Butt Beer. CUT Ifinglafs into small Pieces and soak it in some stale Beer, then boil Sugar in small, or Ale, to a thin Syrup, and mix it with some of the Ifinglafs Beer, which put into a Butt of Beer, stirring it briskly together, and it will fine and preserve the Drink well.

To fine a Butt of Beer. TAKE a sufficient Quantity of River Sand washed clean, and not dry Pit Sand, and put it into the Butt of Beer; but if you use the dry Sort in Summer, it will make the Drink fret and fume at the Bung, and endanger the Head of the Cask.

To recover a Kilderkin of stale small Beer. A PERSON had a Kilderkin of Table Beer got so stale in a Fortnight's Time that it became a little crabbed; I advised him to put two Ounces of good Hops and one Pound of mellow, fat Chalk, broke into about six Pieces, into the Bung-Hole, and immediately stop up close. In three Days Time after he tapped it, and it proved a sound, pleasant Drink to the last.

To fine a Kilderkin of Ale or Beer in a little Time, and preserve the same sound and pleasant a long Time. THE following Receipt I came by from the common Practice of a Country Victualler, who used it for many Years with Success to fine, recover, and preserve his Ale and Beer in a clear, sound, and pleasant Condition to the last: And which Receipt may serve to supply the Want of Time, Skill, Conveniency, and Ability for making the fore-mentioned Balls. Take a large Handful of Hops, boiled in a first Wort, only half an Hour, and dried; half a Pound of Loaf Sugar, dissolved in the Ale or Beer; one Pound of Chalk broke into six Pieces, the white Part of Oyster Shells, calcined in a clear Charcoal Fire to a Whiteness, and the Stems of Tobacco Pipes, that have been used and burnt again, of each, in Powder, four Ounces. Put in your Hops first, with the Pieces of Chalk, and then

then mix your two Powders and Loaf Sugar, in some of the Ale or Beer, and pour all in immediately after the Hops and Chalk, stirring them well about with a Staff, and bung down. Some will put these into Ale quickly after it has done working: Others will rack off their *October* or *March* Beer into another Cask, and then put in these Ingredients, stirring all well in with a Staff: Or, if you can fix a wooden Bung well in, give the Vessel a Roll or two on the Stilling, that the Bottom may just be turned upwards, and tap it at a Week's End, if you please. By this you will have a clear, wholesome Ale or Beer. Others, that are in Hastē, will only make use of two Ounces of fresh, dry Hops, the Chalk, Tobacco-pipe-powder, and no Sugar, and it will prove serviceable; but, if it be done with fresh Hops, they must be put into a Net or Bag, with a small Stone in it to sink them; otherwise, if they are put in loose, they will swim at Top, and do little, or no Good.

C H A P. VII.

Of Brewing Malt Liquors by private Persons.

THE Character of a Gentleman's private Brew-house, and his Management in the same.— THIS Gentleman, an intire Stranger, by a Letter desired me to call on him, when next in Town; for that he had bought several of my *Brewing* Books, compleated a little Brew-house, and got good Store of Liquors by him, but was at a Loss to make the Balls I had prescribed in my *Supplement*; therefore would have a Parcel made to keep by him ready for Use: Accordingly I waited on him, and must own I was never better pleased with the Sight of ingenious Contrivances under Ground for Brewing and Preserving Malt Liquors, than I was with those of his which I am going to describe as follows, *viz*,

His

His Liquor or Water.— Is of two Sorts, Spring and New River. The first is raised by a Pump of Lead erected in the Cellar-Room, where his Copper stands; and though it comes from a Spring in a Gravel, it is soft enough to serve alone in many Cafes; but that he might be compleatly furnished with this principal Ingredient, he has the New River Water laid in so convenient that it runs through a leaden Pipe into the Copper. By these, he can use a Liquor according to the Nature of his Malt with very little Trouble; for the Spring Water is pumped into his Copper by a Gutter, and the other runs into it by the Turn of a brass Cock; so that, if he brews a brown Malt, here is a soft River Water, proper to blunt its fiery Particles, melt its hard burnt Meal, and wash it out into an oily wholesome Wort, as the best Sort for the phlegmatic Constitution. Or according to Dr. Quincy: He says that Rain or River soft Waters seem most suited to draw out the Substance of high dried Malts, which retain many igneous Particles in their Contexture, and are therefore best lost in a smooth Vehicle. If he brews a pale Malt, he can use his Spring harder Water, proper to melt and wash out the tough oily Meal from such a slack dried Body, because the mineral Particles, with which this Water is impregnated, will help to prevent the Cohesions of those drawn from the Grain, and enable them to pass, as the Doctor says, the proper Secretions the better; as the viscid Particles of the Grain will likewise defend them from doing the Mischief, which otherwise they might occasion. But as both brown and pale Malts are dried in Extrems, this Gentleman very prudently, for the most Part, makes use of only the Amber Sort, as that which retains a Mediocrity Quality, and is therefore the most agreeable to the Constitutions and Palates of Mankind in general. And it is for this Reason that he mixes Half Spring and Half New River Water together throughout all his Brewing.

His Malt,— As I said, is of the Amber Sort, par-
taking

taking both of the Nature of the brown and the pale Sort, by being leisurely dried all alike and crisped with that excellent Fuel Coak, into a true Temper; and, if afterwards rightly made use of, it renders it the very best Sort of any, for making either *October* or *March* Beer, or a fine Straw-colour'd smooth pleasant Ale. For this Purpose, it is, that all Buyers of this Malt ought to be very nice in their Inspection and Trial of it, as, *First*, Whether it smells free of all Sulphur and Smoke. *Secondly*, If it has been kept clear from the venomous Bite of the poisonous Wevil, which always begins his Eating Mischief at one End of the Corn's Body. *Thirdly*, If of a right Colour, which may be easily known by chewing a little of it, and afterwards by squeezing out its Juice between the Thumb and two Fingers. *Fourthly*, Whether its Grains are all near of a Bigness and bite alike in the Mouth, for then they are most likely to prove good Malt; for when Barley comes up together and is near all of a Ripeness at Mowing Time, it is then a right Sort. But when either several Crops of Barley are mixed by the Maltster, or when a Crop of Barley is of different Ripenesses at Harvest, it commonly makes a bad Malt; for then some Kernels will be soft and some hard, some all Malt and some Half Malt and Half Barley to the Deceiving of the Brewer's and Customers Expectation. Most or all of these Items were never published by any Author hitherto, though they are the most necessary Articles belonging to all Brewers to know: For if they have not a right Malt, I am sure they can't have good Drink. But this is not so much to be wonder'd at, because not only Brewers, but even Maltsters and Farmers in general are ignorant of this important Matter, nor when they would be sensible of it I know not, had not Mr. *Ellis*, a Farmer of *Little Gaddesden* near *Hempstead*, in *Hertfordshire*, publish'd the Secret in one of his Books of Husbandry how to prevent the Misfortune, by making known a cheap Ingredient of but Six-pence Value, that is first to be dissolved in a Tub of Water,

wherein

wherein three or four Bushels of Barley-feed are to be soaked a Day and Night, and then taken out and limed as they do Wheat for sowing this Quantity on one Acre, which causes the Seed to shoot in a little Time, in the driest Season, fertilises the Crop, keeps off the Worm, and only by the Help of Dews carries it forward and causes it to grow in an even Crop. Whereas in the common Way of sowing Barley dry and naked, if a dry Summer succeeds its Sowing, there commonly are two or three Ripenesses of the Barley at Harvest. That, which the Harrows laid deepest in the Earth, comes up first; that which lies next follows, and the uppermost Seed latest of all; so that at Mowing Time, one Part of the Barley Crop is ripe, another half ripe, and the other green. It is true indeed that such Barley will make a Sort of Hodge-podge Malt that may take in an ignorant Buyer, but if it was put to a righter Use, it should be given to Hogs instead of Brewing Drink with it. I could much enlarge upon this Subject; but I hope what I have here wrote will be sufficient to all my Readers, to warn them against being imposed on by such bad Malt.

His Copper— Is placed at one Corner of a Room in a Cellar about thirty Feet square, so near the main Chimney that the Smoke of the Copper Fire ascends through it; and as it is paved with Free-stone in a small Descent, it carries off all Waters into the common Shore. His Copper holds a Hogshead, but without a Copper Arm fixed in it, because there is not Room to fix it high enough, to let out hot Water or Wort by it into the Mash-Tun or Coolers. To supply this Defect, he has a very small Copper Pump fastened to the Inside of the Copper, that conveys first the hot Water to the Malt, and afterwards the Wort by a higher Nossel through a Gutter into the Backs or Coolers, for which Purpose he burns *Newcastle* Coal in an Iron Grate.

His Mash-Tun— Is made of the round Form, and roomly enough to mash a Quarter of Malt, which is
his

his common Quantity for making a Barrel of strong Beer containing thirty two or thirty six Gallons. This he the more conveniently performs by having a false Bottom lying on a fixed one, which serves as a Strainer to the Wort from the Malt, when it is let out into the Receivoir or under Back by a Cock, and from thence thrown up by a small Pump into the Copper.

His under Back or Receivoir.— THIS moveable Utensil is placed under his Mash-Tun, to give the Brewer the better Opportunity to move about Half Way round it with his Mashing Oar; for as this stands under the Mash-Tun and one Part of it close to a Wall, he cannot have more Room. This under Back is lined with mill'd Sheet Lead of I suppose about four Pound to the Foot all over its Bottom and Sides, which causes it to cool the Wort with Expedition, defend it far better than bare Wood against Taints and Foxing, and is easily cleaned and kept from Furr and Dirt; a Conveniency that all private Brewers, especially, should never be without, if their Pockets can afford it.

His conveying Gutter.— THIS serves for two Uses, one to convey Water into his Copper from his Spring Pump, and the other to convey his Wort out of the Copper into his Coolers or Backs; is about five Inches square, lined throughout its Inside with mill'd Sheet Lead, and stands fixed close to a Wall six Inches under a Cieling, and is covered with a loose thin Slip of Board, when in Disuse, to keep out all Dust and Sullidge.

His cooling Backs— ARE two in Number, placed close to a Wall, are made both of a Size, containing ten Feet in Length and five in Breadth. The lowermost stands two Feet from the Ground, and the other exactly over that at two Feet Distance, both lined with mill'd Sheet Lead all over their Insides, to give them the great Benefits of a quick Cooling, constant Sweetness, and an easy Cleaning. Now into these Coolers the Wort runs always fine, because the Hops are boiled in a Bag made of Straining-cloth, such as Dairy Women use to pass their Milk through.

His working Tun.— THIS stands at a Distance from his Coolers, but so that the Wort may run out of them by a Cock into a square wooden Tun, that is all lin'd with Sheet mill'd Lead. For as this Gentleman has Cellars and Vaults one deeper than another, his working Tun is so placed, that it stands lower than the Floor of his Brewing Cellar, where, by a Cock fixed in it, he lets out his new Drink, clear of the main *Faces* or Sediments, and yet enough of them is conveyed with the Liquor by the pretty Contrivance of a leaden Pipe into his Cask as they stand on a Stilling in a lower Vault, according to the *London Brewer's Method*, that is performed by a starting Tub and leather Pipe, which carries the Beer out of it into a Butt in the Cellar.

His Casks.— ARE of three Sorts, *viz.* the Half Hoghead, the Kilderkin, and the Firkin, which he has made in the most exact Manner that ever I saw. They are all Heart of *Norway* Oak and spoke-shaved within Side, which leaves the Staves so smooth, that Furr cannot make a Lodgment here as in common Vessels, that are left rough in their inside Joints, for what the Eye never sees, according to the old Saying, the Heart never rues. But this Gentleman is so nice a Person as to be at the Cost of ornamenting the very Chines of his Cask by a moulding Instrument, and secures all by strong Iron Hoops, which with the Vessels are painted all over with a bluish Colour; and, being kept in a dry Vault, will last many Years longer than in damp or clayey Cellars.

His Bungs.— ARE made of a turned Piece of Sallar, Ash, or other light Wood, just fitted to the Bung-hole, about an Inch and a Half within the Cask and two without. In the Middle of this a small Hole is bored for a Peg to remain in it, to give Vent at Discretion; and after the Bung is forced down by a Hammer with brown Paper, he causes some Clay mixed with Bay Salt to be work'd round it, to secure the Liquor the better against the Admission of Air, to keep it cool, and
better

better prevent prejudicial Fermentations by Change of Weather.

The Age of his Malt Liquor.—His strong Amber Beer he keeps a Year in the Cask, then bottles it off, and begins to drink it at a Year's End afterwards, when he racks it off into a Decanter, which gives him an Opportunity to shew as fine a Glass of Beer as ever I saw or tasted.

The Improvement of my Balls to Malt Liquors.—But, notwithstanding the Fineness and Palatableness of such strong old Beer, yet it is not free of some Acidity from the Nature of the Hop, Yeast, and the Age of it; which, if drank in Excess, will be apt to breed Gout, Rheumatism, Gravel, Stone, or other Disorders in the Body. Therefore, to enjoy the Blessing without the Curse, it will be great Prudence in all Lovers of *October*, to make Use of some Alkali, that may effectually sheath the acrimonious Particles of such sharp Drink; which my Balls will do, and at the same Time fine, preserve, and give such Beer a pleasant Farewell, if they are skilfully made according to my Receipt.

His Œconomy in other Liquors.—But this Gentleman is so compleat an Artist, in the Management of Home-Brewed Liquors, that he furnishes his several little Vaults and Chests, with great Numbers of glass Bottles full of *English* Wines. I never drank so good Orange and white Currant Wines in all my Travels, for Strength, true Taste of Fruit, and Pleasantness. In short, they were fully impregnated with the genuine dulco acid Taste of the Ingredients in so high a Manner that, in my humble Opinion, nothing can exceed them of the Kind: And that they may suit each Constitution, he has them made both strong and small; so that they must be most agreeable Liquors to both Sexes. And, as I am writing two Treatises on *Cyder*, I shall insert the Making of several Sorts of rich *British* Wines, that they, who are desirous, may know how to enjoy them in the cheapest, wholesomest, and most pleasant Manner.

Mr. Weller at the Sign of the Castle at Ashford in Kent, his Method of Brewing nine Hogsheads of strong pale Beer, which he sells for four Pence a Quart, and two Hogsheads of small. — He had the thinnest, lightest, and most palatable pale Beer that I met with at any public House in Kent. Before he set up for himself, he used to get his Bread by Brewing for Gentlemen and others, and was much esteemed. He used, for his pale Malt, that which was dried with Coak and *Welch* Coal mixed. As to his brown, it was straw-dried. He brews three Days together, and wets about thirty Bushels of Malt each Time. The first Day he puts over four Hogsheads of Water, which though it is from a Well, yet readily lathers with Soap, just before it boils, upon thirty Bushels through a Trunk set upon a false Bottom full of Holes, allowing a Third for Waste; then he mashes and lets it stand only two Hours, spends away by a Stream about the Bigness of a Tobacco Pipe Bowl, which takes about Half an Hour in running off, pumps up this first Wort into the Copper, puts five Pounds of Hops, not rubbed, into it, and boils two Hours or an Hour and a Half at least, straining off his Hops through a Basket which he hoists up with a Pulley over his cooling Back to drain; then, directly he puts them into the Copper to his second Wort, which was made by putting three Hogsheads, or hardly so much, upon the same Goods, and lets it stand the same Time; he boils this two or three Hours, by which Time, the first Wort is cooled, and lets this down fine into the working Tun, and his second Wort in its Stead; then puts up three Hogsheads more of cold Liquor over his Goods, and lets it stand an Hour or an Hour and a Half, draws it off, puts it into the Copper, makes it boil, and throws the Basket of Hops to lie in it all Night. The second Day in the Morning, he boils it again and returns it on the twenty seven Bushels of fresh Malt, allowing three Bushels for the Return, heating another Copper-ful of Liquor, of which he puts over the same Goods one Hogshead to compleat his Mash;

Mash; and for his second Wort, &c. as he did the Day before.

Third Day.—HE proceeds as before, and for small Beer, at last, he does as for the returned Worts, only making what Quantity he pleases, and using as many of the last Hops as he thinks fit.

HE cleanses every other Day, by a leaden Pipe affixed to the Bottom of his working Tun, which passes all under Ground into his Vessels in the Cellar, by the Help of three leaden Pipes, with brass Screws to fix to the End of it.

HE lets the second Wort lie in the Coolers all Night, and lets it down the next Morning to the first, which he had set to work the Night before, as soon as ever it was cool enough.

IT works in the Vessels for three Days, and he keeps filling up with what work'd out, for he says it is the Bitter of the Beer that works out.

HIS Copper holds three Hogsheads. He lets off his Wort so fine from his Mash Tun, that you may read a pretty large Print, looking through a Glass of it.

HE strains his Settlings from the Coolers through a Canvas, because it strains more expeditiously and washes better than Flannel; though I have been inform'd since by an ingenious Man, that a Sort of Cloth called *Drill* is far better than any Thing else, particularly Flannel, because this last is oily, the other not, and it will run through much sooner than Flannel, and as fine, by returning it once or twice.

HE had but two Cool Backs, and no Cock or Arm to his Copper. Here they lay their Under Backs or Receivoirs of the Wort from the Mash-Tun, and their leaden Pipes in this Town, with an Earth called *Duff*, which is a Sort of blue Clay or Marle, dug two Miles from hence at *Kennington Lees*, and preserves them for a hundred Years or more.

THIS Account was sent to me, and contains some serviceable Matters in the Brewery, and some as bad :

But as I have taken Notice of several Errors committed in Brewing Malt Liquors, the Readers may judge of the right and the wrong.

A Chare-woman's Summer Way of Brewing.--- SHE put a Barrel Copper full of boiling Water into the Mash-Tub, and added three Pails of cold. When clear she stirred in the Malt by a Hand-bowl-full at a Time out of a Sack, while another mash'd all the Time; then she capped with about a Bushel of dry Malt, and let all stand covered two Hours. During this, she heated a full Copper of Water, and, while the first Wort was running off, she put three Pails of boiling Water over the Goods to increase her Length of first Wort, and put as much cold into her Copper to supply their Place. Then she drew off a full Copper of first Wort into Tubs, put all over her hot Water on her Goods to mash up for a second Wort, and her first Wort immediately after into the Copper with Half a Pound of rubbed Hops, that she boiled till the Wort broke into large Flakes, and then strain'd all into Coolers.

WHEN this was done, she boiled a Copper of Water that she put up, and mashed with, on the Goods as soon as she had drawn off her second Wort, which she boiled with only a Quarter of a Pound more of fresh Hops till it broke into small Particles.

WHEN the second Wort was strain'd off into Tubs, she put in her third Wort and boiled it with the refuse Hops one Hour.

WHILE this was doing, she mash'd her Grains up with a Killerkin of cold Water, and boiled it to make up her Length; and thus she made three Firkins of her first Wort, three Firkins of a second Wort, and a Barrel of five Firkins of small Beer from four Bushels of Malt; to which she used three Quarters of a Pound of Hops and no more, because the Ale and small Beer were to be tapt in a Week's Time, and all proved good, except her making Use of the Hops a second Time. In this Management there was an absolute Necessity to enjoy a quick Fire, because, by this, the Malt, Goods,
and

and Grains were so quick employed, that they had not Time to sour; for if it so happens, as it often does even in some great Brew-houses, the Drink is incurable. Here her Fuel was dry small Wood, which soon runs into a brisk Fire; and with this she could keep a steady Heat, which enabled her to boil her Wort exactly right.

Some very nice Observations relating to the Running off Worts in the Mash Tub.--- As to the first Wort, it is better let alone, than doing any Thing to it, while it is in the Mash-Tub, for this will take no Harm, if the Liquor lies with the Malt two or three Hours. But, after the second Mashing, be sure, at Half an Hour's End, to turn the Cock so that the Wort may run off as small as a Straw for Half an Hour, and then turn it faster till all is run off. By this, the second Wort is secured from souring on the Grains, which is such a Misfortune, when it happens, as can never, as I said before, be cured; and this it is very apt to do in the Summer Time, because the main or chief Heat of all the hot Liquor lies about the Cock-hole, as being the most descending Part or Center of the Mash-Tub: Which Damage, I say, is prevented by the small timely Straw Stream that I have mentioned, which keeps the Part cool by the continual Leaking.

The ill Effects of making the last small Beer Wort serve instead of the first Water for the next Brewing.--- THIS by many is practised, and thought to be a Piece of extraordinary Management; but if they consider and are sensible, that the smallest and last Wort is that which has most of the terrene earthy Part of the Hop and Malt in it, I believe they won't be so fond of continuing this Method: And because it is the Business of all nice Brewers to get and preserve as much as may be the first flowery Spirits of the Malt and Hops in their Wort, and least of the nasty, dirty, phlegmatic Parts of them. I had an Uncle, a common Brewer, in London, who for many Years valued his Art so much in Brewing his small Beer from intire fresh Malt, that

he publickly advertised it in Print, for he furnished it to great Numbers of Families, besides selling sometimes near thirty Barrels of it in a Morning three Times a Week by the Gallon; it being so much approved of, that several capital Brewers, who liv'd near him, despair'd of selling their small Beer made from the Grains of strong Beer and Ale, 'till his was all sold.

Of Boiling Wort.—MR. Houghton says, these Liquors altogether or separate are boiled, that some Globules of the Water, which are yet lighter than the Parts of the Malt, may fly away, and so leave the rest stronger, as having less Water to the more Malt; and also that, by the Violence of boiling, the gross Parts of the Malt may be further divided, and prepared for the next Fermentation, which will divide them so much as to make them lighter than the Water.

How small Beer was spoiled.--- A COUNTRY Victualler's Wife, who was born in *Nottinghamshire*, and brewed her own Drink, wetted ten Bushels of Malt for her common Ale Draught, and made at the same Time Half a Hogshead of small Beer on the Grains, which she boiled, and ordered her Husband to strain or pass it as it came out of the Copper on the Hops that were boiled with the strong Wort, through a Sieve, to wash out the Goodness remaining in them of the first Wort, and to tincture it with so much of the Bitter as it could thus get out of such boiled Hops. But, instead of washing the Hops in this Manner, he, who knew little or nothing of Brewing, fell to squeezing the Hops, to get out as he said afterwards all their Goodness; which when the Woman understood it, she cry'd out, he had spoiled the small Beer: For indeed so he had, because the Bitter, so squeezed out, was of such an unwholesome Nature, and unpleasant earthy Taste, that no Body could drink the Beer, and therefore she threw it into the Hog-Tub.

The ignorant Citizen.--- THE above Account plainly discovers the Malignity of the earthy Part of the Hop, which, when forced out too much into the

small Beer by Boiling or Squeezing, becomes rather a Vomit, than a healthful and pleasant additional Tincture; which, one would think, should be a sufficient Item to the unwary Cits in particular, who in the general are the most unacquainted of any People with the Nature of Vegetables, not to make Use of small Beer brewed with the refuse Grains of strong Beer or Ale, where that can be had, made from intire fresh Malt, because the latter is wholesome and pleasant, when the former is impregnated with the two contrary Qualities: Such Drink, I say, is fitter to give Swine than to Christians. This is in a great Measure proved by our Cows; for, if one of them is permitted to drink the Wash of Grains for a Month or two together, it seldom fails of bringing the Beast under such a Scouring as rots and carries them off, as some of our careless Farmers too often find true by woful Experience.

To brew an excellent vinous Ale or Beer.— THIS I first discovered by my Taste, as it was brewed at a certain great Sea-port, where they are so celebrated for their excellent vinous Beer, that they have justly acquired a very great Reputation for it in *Francè* and in the *West Indies*. It may be made with two Parts Malt Wort, and one Part Raisin Wine; and, to prevent too great a Loss of its Spirits by Fermentation, it is best work'd only in the Barrel.

C H A P. VIII.

Of the wire Malt Kiln.

THE *Wire Malt Kiln*.— This Kiln in some Places is now become their common Kiln for drying Malt, and is made either with iron or brass Wire, so close that no Kernel can drop through, and yet so wide that the Heat has a very easy Access to the Malt; and so quick does the Fire communicate its Power to the Malt, that, in two Hours and a Half, they often

dry off a Kiln of brown Malt, by which it fully answers the Design of the Owner : That is, that the Kernels should be so scorched on a sudden as to blow up and distend their Skin till it is ready to burst, and thereby cause them to deceive the Eye of the Buyer, in making them appear bigger than they really are ; I mean, to make the Buyer believe there is such a Quantity of Flour contained in the Grains of such Malt, as indeed is not. A *London* Brewer having a Malt Kiln of his own at a certain Town, the Man he hir'd to make Malt blowed it up on this wire Kiln according to the present Mode and as he did from whence he came ; but when the Brewer came to understand it, he forbade the like Going on, for he very well knew the Evils attending it : That such hasty Work imbittered the Kernels, by scorching their Outsides and crusting their Flour almost like a burnt Toast of Bread, which caused the Malt to make less Drink, than that more leisurely dried. On the Contrary, a Quaker Maltster of this Town was so careful in making a true, healthful, pleasant pale Malt that he was six and thirty Hours drying one Kiln of it with *Welch* Coal ; but his careful Honesty brought him under a Loss, for he afterwards broke, by being oblig'd to sell this delicate Malt at the same Price of others, that were dried in eight or twelve Hours Time at a much cheaper Rate. However, of late in some Towns, they don't dry their brown Malt quite so high coloured as formerly, nor do they make so much pale as formerly, but dry their Malt according to the *London* Brewers Approbation, who every Day find the Benefit of the Amber Sort answering their Purpose beyond all others,

C H A P. IX.

Of the Fuel to dry Malt, of Malt, &c.

THE Fuel to dry Malt *with*.— IN this Town of ——— their common Fuel is Wood for brown Malt, and *Welch* Coal or Coak for pale Malt. Their Wood is Oak and Horn-beech, which they use both in Brush and Billet. If they use either of these Woods, they burn them the next Malt Season after Felling; that is, if they fell at *Christmas*, they begin to dry Malt with it next *Michaelmas*. The sooner they begin, the stronger the Fire must be. Now they say, that such greenish Wood is beyond old Wood for this Purpose, because it burns stronger, drives off the Smoke quicker, gives a Gloss to the Malt, and a paler Colour and brisker Taste to the Drink; by Reason old Wood is longer burning, the Smoke weaker and stays the longer with the Malt. This Notion is contrary to the *Warminster* Maltsters as I have observ'd: Who say, if their Oaken Roots or Billets are seven Years old before Using, it is so much the better; by Reason, the Sap being mostly consumed by Age, the Wood smoaks less and burns quicker than new Wood, whereby it occasions the less Mischief to the Malt. For making pale Malt, they burn more *Welch* Coal than Coak, because they say it makes a stronger Fire, dries the Malt quicker, and makes it paler by its greater Quantity of Brimstone *Effluvia*; but towards the latter Part of the Work, they add some Wood, that forces a quicker Fire to crisp the Kernel, and thereby save Fuel, Time, and Labour.

Drying Malt with Fern at N——n, in Bucks.——
HERE the Maltster says, the best Way of all others to make this strong Fuel a mild, gentle, sweet Sort is, to let such Fern have a good Shower of Rain on it after it is cut or mowed down, if he stays two or three Weeks for it, and then make it like Hay till it is very dry

dry. By this, the Sap is washed out, which fits it for drying pale Malt as well and almost as sweet as Wheat Straw; for it is the Sap that causes it to stink, burn and blaze most furiously, and thereby gives the Malt a high Colour and ugly Tang: But it is one of the worst of Fuels, if it is got in wetfish. He observes to mow the Fern soon after it is turned brown, because then the Sap will be wasted in it, and the less Sap the less Smoke, nor should it lie too long on the Ground after Cutting. This Malster dries both pale and brown Malt with it, with the Help of a little Wheat Straw, that he burns the last Half Hour, to take off any Tang the Fern may leave behind.

The Way of making Coak in Derbyshire.— HERE they set six or eight Waggon Loads of Coal in a pyramical Heap, so that the great Coals stand on their Ends. If the Wind blows there are set Fleaks to shelter the Heap, and then, in a Hole made at the Top, they throw in a Fire-shovel or two of Fire, which spreads and fires all. This burns and blazes till the Smoke and Flame cease, and it is all of a red Fire; then he covers all the Heap with Dust, and that Side first which by the Help of the Wind burns most or where the Fire breaks out, which immediately damps it and makes them dead Coals, which thus stands till next Morning according to their Occasion; and then with a Rake like a Gardener's with six or eight Teeth in it, he pulls them down round the Heap and the Dust falls to the Bottom, which is thrown up of a Heap to damp the next Heap. It is observ'd that three hundred Weight of Coals make but a hundred of Coaks, and the lighter they are the better. If they are curiously burnt, they gingle like common Cinders, and a Sack of six Bushels will weigh about one hundred Weight: But, in the Southern Parts of *England*, they generally make their Coak, by burning *New-Castle* Coals in an Oven, or in a Glass-house Furnace.

The Value of Coak.--- IT is a most sweet Fuel for drying Malt, the pale Sort in particular; but is best
made

made from the large Pit Coal; which has supplanted the Use of Straw-fuel; and, when it is made to Perfection, it is the most admired Sort of all others.

The Ipswich Way of drying Malt.---HERE they dry their pale Malt with Coak and their brown with *New-Castle* Coal burnt in a Cockle-Oast, as being reckoned the best Ways of all others; but when the Coak is under done, as it oftentimes is, it will cast up a Smoke and damage the Malt. The *Welch* Coal or Culm is also liable to the same Fault; for, as this has sometimes common Coal among it, it yields a Brimstone Smoke, that gives such a Tang to the Drink, as not to be free from it under nine or twelve Months. Here I drank some excellent Butt Beer of a deep Amber Colour; and here I tasted some Six-penny strong Ale brewed at some Miles Distance from this Town, that was the most intolerably tinctured with beaten Yeast that ever I met with.

Mr. Houghton's Observation of Malt-making.---THE Reason he says, why *Derby* Malt does not make so strong Ale as formerly, now they make the pale Sort, is because they lay it too thin on the Floor to come, by which a great Deal is not malted, and the rest only Barley turned. Now in *Hampshire* he says, the Barley, which is much smaller and thicker skinn'd, is laid thicker on the Floors, and consequently heats, and all becomes rich Malt, and makes stronger Beer with the same Quantity.

The Oxfordshire Way of malting.---DR. *Plott*, says *Mr. Houghton*, in his Natural History of *Oxfordshire*, tells us of Malt Kilns made with long Bricks much like those in *Derbyshire*. He says they have also about *Burford* made their Malt Kilns of Stone, of which he has given us a Description in Words and on a Plate; this was invented by *Valentine Strong*, and with it they can dry three Times the Malt in the same Time and with the same Fuel as they could before once; and he supposes the *Cornish* Warming-Stone, or the *Spanish Rugzolas*, would do better yet.

How straw dry'd brown Malt is damaged by the Fire.— THEY cram in their Wads of Wheat Straw, so as to scorch the Malt to that Degree by the excessive Heat of the Fire, that the very Tiles over the Kiln will sometimes crack and fly as well as the Malt, whose Outfides will be scorched and blowed up like a Bladder: But indeed the fewer Hops will serve, because the Outside of the Kernels will be imbitter'd by the Fire and Smoke.

C H A P. X.

Of Water.

O*F the Spirit of Water.*— THIS some Water abounds with more than others, as the Soils through which they pass differ: So some Ground is naturally more fertile than others; for as the volatile Salt and Sulphur of the nitrous Particles of the Air by Dews, &c. which the Earth is water'd with from the benign Hand of Providence, and afterwards by the Sun's Exhalations, is divested from the superfluous Humidity, in Order to leave it a more exalted spirituous vegetating Salt; I say according to the Proportion of this that the Earth is impregnated with, so does the Element, through which it percolates, partake more or less of a spirituous vivifying Quality, fitted as well for the better extracting and joining in Contact with the more spirituous fine flowery and better Parts of the Malt and Hops, as for the Conservation and Support of the Finny Tribe or other *Animalcula* which we daily observe to receive their chief Nourishment from it. Water is preserved by its natural Salts, and the Element of Air.

The Strength of Manchester Water.— MR. Houghton says that, at Manchester in Lancashire, better Ale can be made with six Bushels of Derby Malt, than at Derby Town with eight Bushels of the same Malt; and that because the first has a strong Lime-stone Water, which

which *Derbyshire* has not, according to the Relation I have before given of *Elminster* Water, in *Somersetshire*.

To preserve Water sweet.--- WATER, if it stands stagnant for some Time, especially when confin'd in close Places, is apt to form a clammy slimy Substance, to change its Colour, Taste, and Smell, and to become very nauseous, as it grows more and more putrid : To prevent this Inconveniency as much as possible, great Care should be taken to have the Receivoir very clean. If it be a Cask that has had Wine, Beer, or Brandy in it, I am told the Water will stink so as never to come sweet again while in the Cask. The *Thames* and several other Waters will stink in seven or eight Days, and sometimes sooner, especially in unseason'd Casks, and come sweet again ; by Opening the Bung-holes, Waters often become sweet in twenty four Hours, and sooner, when much shaken and poured to and fro. Water would stink more if the Bung-holes were not left partly open : But putrid Water, though nauseous, is not observed to be hurtful to human Bodies. Dr. *Boerhaave* in his Chymistry, Vol. 1, Page 589, says that when Rain Water stinks, if it be just boiled, all the living Creatures in it will be killed, and, on standing to settle a while, they will subside with other Sediments to the Bottom : Then being acidulated with some pure acid Spirit, the Water is observed to become most wholesome : And that by the same Means, viz. by adding a little Spirit of Vitriol, Water may be preserved from putrifying or breeding Insects, and yet be very healthful withal. But as he has not mentioned what Proportion of this acid Spirit should be put in, and as a small Error in Excess of the Quantity of this very acid Spirit may render it far from wholesome, even very hurtful and noxious ; I will, says Dr. *Stephen Hales*, give an Account of what Experiments and Observations I have made on this Subject, in endeavouring to preserve the Vertue of Chalybeat Waters.

“ I HAVE found, says he, that three Drops of Oil of Sulphur

“ Sulphur, in a Wine Quart of Water, have preserved
 “ the Water from stinking for many Months, and even
 “ two Drops to a Quart of pure Spring Water, which
 “ came from a gravelly Soil, to be the purest of any
 “ Spring Water, it being filtrated through the finer
 “ Sand of that Gravel, which, consisting of innumerable
 “ small flinty Stones, gives no Tincture to the Water,
 “ but purifies it as it glides through its fine Meanders.
 “ Snow and Hail Waters are the purest of any : But
 “ Rain Water abounding with Sulphur, especially in
 “ hot Weather, is apt to putrify ; the purer the Water,
 “ so much the lesser Quantity of acid Spirit will pre-
 “ serve it. I have, continues he, from my own Experi-
 “ ence, and that of others, known Steel Waters drank
 “ with three Drops of Oil of Sulphur to a Wine Quart,
 “ not only with much Safety, but with great Benefit,
 “ when drank only in the Quantity of a Quart, a
 “ Pint, or Pint and a Half in a Morning, for a
 “ few Weeks, and for a much longer Continuance in
 “ the small Quantity of Half, or a Quarter of a Pint.”

In the History of the Academy of Sciences, Anno 1722, it
 is said, “ That fresh Water has been preserved from
 “ putrifying or breeding Insects for six Weeks, by fu-
 “ ming the Cask with burning Brimstone, as is fre-
 “ quently done to preserve Wine and Cyder ; and, if
 “ when a few Gallons of Water are put into the fumed
 “ Cask, the Bung be put in, and it be rolled to and
 “ fro, this will make the Fumes more effectually in-
 “ corporate with the Water, as it does by the same
 “ Means with Wine and Cyder. I am informed that
 “ the *Dutch* in long Voyages, to prevent the Water
 “ from stinking, always put into it, before they set out,
 “ a Quantity of Spirit of Vitriol, which is proper for
 “ Seamen in hot Countries, by hindering a too great
 “ Perspiration.” — It is supposed there are not
 many consumptive Men in a Ship, for whom Mineral
 or other Acids are not good.

To make Sea Water fresh for Brewing.--- THIS Art is
 now brought to such Perfection by that admirable Vir-
 tuoso

tuoso Dr. Hales, that fifteen Gallons of good fresh Water may be produced by a Still and Worm from thirty Gallons of salt Water in seven Hours Time, and that by using only Half a Bushel of *Newcastle* Coals; but, in a larger Still and Worm, more may be distilled in equal Times with less Fuel in Proportion to the Quantity distill'd: That he is informed that Wood Fuel is chiefly used in Ships, which in many Parts abroad costs nothing but the Labour of Cutting and Fetching. A greater Bulk of this will be wanting to distil any Quantity of Water, than there will of Coal to distil the like Quantity. Coals might well be laid in Ballast in a little Compass, but when Ships are full freighted, they have little or no Ballast, which is then not to be come at. But might it not be adviseable, says he, in some Kinds of Voyages, by Way of Precaution, to have a Tun or other Quantity of Coals in some proper Place, when it would take up but little useful Room, especially since so many Tuns of Water may be distill'd with one Tun of Coals; and to prevent any Damage from Fire, a Quantity of Salt may be laid on the Planks, about the Fire-Place: That for this Purpose the Ship-Boiler, when not used for Cookery, can be employed as a Still, by having a separate Cover which fits the Boiler with a close Joining, for that, in the midst of such Cover, a Hole may be made of a true Proportion to the Size of the Boiler; to which Hole the Pewter Head of a Still is to be aptly fitted. But as there are several other Particulars belonging to this Operation, I refer the Reader to his Treatise, entituled, *Philosophical Experiments*. printed in 1739. However as this Gentleman's Ingenuity cannot be enough made known, in common Justice, I could not forbear publishing these Hints: And as it relates in some Manner to the Brewery, it engages my Pen to observe that where fresh Water is scarce, as it is in many Places, which afford no other than the Rain produces from off the Roofs of Houses, and where the Inhabitants live near the Sea Shore, great Quantities of good Water may be obtain-

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ed by such Distillation from Salt Water; so that in any Island, Garrison, or mountainous Place, where no Springs are to be found, they may by this Means have Water enough for Brewing or other Uses, if they have Materials for distilling it: And I add, that it is my humble Opinion, in Case of Necessity, or where Beer is coveted, there may, by such Plenty of good fresh Water, be a Beer made by only boiling Malt and Hops in such Water in the Copper.

The Vertue of Water wherein Barley is soaked in the Cistern.— IN the Malsters Cistern where they shift their Water once or twice to soak and prepare Barley for making it into Malt: The Water, by lying among this Grain a Day or two, becomes impregnated with a great Deal of the Vertue of this Corn, insomuch that it will run off thick or ropy and very frothy, which discovers it to be endowed with a considerable Share of the Spirit and Substance of the Barley. Now this Liquor is seldom put to any other Use than to give it the Hogs as Wash, and undoubtedly is very serviceable for that Purpose. But I am of Opinion (for I never knew it tried) that if the Body of this Liquor was diluted to a proper Thinness with common Water, it might be of Advantage to make Use of it as the first or second Water or Liquor for Brewing, and thereby save Malt: For though some Malsters I have convers'd with own they never knew it used in this Manner; yet they confess they believe it to be of that Strength, which, if distill'd, would yield a Quantity of Spirits. It would therefore undoubtedly be very much to the Interest of many, to use this Liquor or Water in Brewing, because it would not only save one Bushel of Malt in eight, but make the Drink so much the stronger. And that this may not seem improbable, let it be consider'd. that it is a standing Rule with those Brewers in *London* who make Use of *Thames* Water altogether, to allow the extraordinary Strength of that Water to one Bushel of Malt in eight; on which Account they use only seven. where others do eight Bushels of Malt, who brew with Spring

Spring Water. And where such Barley can be spared, let thy poor Neighbours be remember'd, for if they knew the Value of it, they would eagerly desire it, and make Use of it for Brewing, to save Malt.

C H A P. XI.

Of Miscellaneous Matters relating to the Brewing, Working, and Adulterating Malt-Liquors.

HOW a Gentleman's Servant damaged a Barrel of Ale and recovered it.— THIS Servant having an Affignation with a pretty Girl, and being obliged to set his Drink that Night, put Yeast to some of it too hot, which with the Heat of the Weather (it being then Summer Time) caused a violent Fermentation, which so dissipated its Spirits, that, on pegging the Cask about a Month after, he found it foul and a little prick'd (though the next Vessel which was Part of the same Brewing, but put together cool, was fine and in good drinkable Order) upon which he immediately got three Quarters of a Pound of Horse-bean-flour, and one Pound of Raisins of the Sun, stoned and chopped, then mix'd all up into Balls with a little of the same Drink and put them into the Cask, and bung'd it up, leaving a Vent-Hole open; upon this ensued a fresh Fermentation, which discharging a pretty Deal of thick Yeast, the Liquor by this Means in twenty four Hours after became fine and fit to drink, though it was defective as to its Body, therefore he the sooner drew it off.

Working and Tunning Drink.--- IT is not the first flashy frothy Yeast, that is an Indication of the Drink's being fit to tun or barrel up; for, if any tun it in this Condition, the Drink will not clear itself, nor be so brisk, as when such frothy black blistery Head is first either stirr'd in, or skimm'd of, and put into the small

Beer, for this is only a bitter light Froth or Ferment that comes up before the curl'd Head appears, which is a Degree more solid than the first; yet even this is not the solid Head we want, but it is the next that follows this, which is, when the curl'd Head is a little broke into a thick creamy solid Yeast, then it is Time to tun the Beer. But here great Care should be taken not to let such solid Yeast work so long as to fall into the closest Sort of all; for, if such Drink is work'd too long, it won't work to any Purpose afterwards in the Cask, but taste insipid, weak, and disagreeable, because such very high Working makes it lose its Spirits and Strength, which is the chief Preservation of the Liquor, and by which an Observation may be form'd of the two Extreams in Working Malt Drinks. If it is not sufficiently work'd, the Beer can't clear itself. If too much, it gets weak and soon sours.

To take off the musty Taste of Beer or Ale occasion'd by the Vessel.—THIS happens chiefly by a Person's having more Casks than he can fill with Drink in due Time, and then it is that such Casks, notwithstanding their being washed with hot Water, will grow furry, taint, and stinking, unless the Head is taken out and expos'd to the Air, as is, in the Summer Time especially, practis'd by the London Brewer. In this Case, draw off your musty Drink into a sweet Cask, and then immediately boil Half a Pound of Groat Sugar in a Quart of Water a Quarter of an Hour; then put it into a Hand-bowl or Pewter Basin, and, before it is quite cold, add a large Spoonful or two of Yeast to it. This will cause it in Summer Time to ferment presently, then pour it into the Vessel. This Quantity is sufficient for a Kilderkin or more.

To prevent Wort from foxing.—If the first or second Wort is put into a deep Tub to a considerable Quantity, by Means of Persons wanting Room, or a sufficient Number of Tubs, then, to prevent such deep lying Wort from foxing, stir it round with a Hand-bowl now
and

and then, while it is cooling; for, by this, the Air is let into the Liquor and the Heat let out. But, where such Danger is, put a Quantity of Hops into it besides, or disperse it into other Places: This will also help to prevent Foxing.

Why a large Cask is best to hold Beer or Ale.--- FIRE is caused by Motion, as likewise all Heat and Fermentation. Now the greater the Vessel is, the more Parts may arise, and the more sink down; and the more they do so, the more must be the Bustle, especially in high Casks; for there every Bubble, that rises from the Bottom to the Top, must rub through more Parts, which makes the greater Heat, the Liquor thinner, and the fine Parts more easily rise, and the heavier more easily sink down; clarifies it much better, and makes the fine Parts be more by themselves without the gross: An Excellency we desire in all Drinks.

To stop Drink from fretting in the Tun.— SPRINKLE some fine Spring Water over it. It will help to prevent the Wort, while cooling, from fretting.

To stop Drink from fretting in the Vessel.— MIX four Ounces of Sugar with a Handful of Salt and put it into a Hoghead.

How to make common Butt-Beer Stout.— THIS has been practised by several Ale-house keepers, in the following Manner:— After the common Brewer has started his keeping brown Butt-Beer into Butts in the Victualler's Cellar, and it has there remain'd several Months on its natural Lees, the Victualler puts four Gallons of Molosses into one Butt, and with it, the usual Forcing or Fining, which he stirs all soundly about with a Hand-staff. This he lets remain for a Week, and then with a Cane draws it off as long as it runs fine, which will be about half Way. The rest is used to put into a Hoghead as free from the gross Lees as he could, for that is considerably thick and slimy. The first he bottled off and sold it for Six-pence a

Bottle, and, before this is expended, the last, in the Hoghead, will be likewise fit to bottle. By this Method a Victualler increased the Strength of his Beer, without paying Excise for it, which gave him an Opportunity of acquiring an Estate: For the Beer, that he would otherwise sell for three Pence and four Pence a Quart, he made six Pence a Bottle sometimes of; for, by giving it a due Age in the Cask and Bottles, the Liquor lost most of its Treacle Tang, and so well pleased his Customers, that it had a great Name some Time, insomuch that he thought he had gain'd enough to leave off Business, and enjoy a retir'd Life. Then it was that he frankly discover'd the Bite to the succeeding Tenant, who bought all his Stock and gave a considerable Sum for the good Will of the House besides, and from whom I had this Account.

The ill Consequence of drinking such Molosses-Beer.— NOTWITHSTANDING this Molosses-Beer got a great Name by pleasing many of the ignorant Town People, and even tempted the very Drawer to drink frequently of it, yet at last this Drawer found the ill Effect of it by woful Experience; for, by drinking a whole Quart of it to his own Share in a very little Time, it presently threw him into a violent Sweat, upon which directly ensued a great Cold and Hoarsness that held him four Months, and had like to have kill'd him as he himself declar'd.

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