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Pt. 1 only
THE JEWELL HOUSE OF ART
and Nature.

Containing divers rare and profitable Inventions, together with sundry new experimentes in the Art of Husbandry, Distillation, and Moulding.

Faithfully and familiarly set downe, according to the Authors owne experience, by Hugh Platte, of Lincolnes Inne Gentleman.

LONDON,
Printed by Peter Short, dwelling on Breadstreet hill, at the signe of the Star, and are to be solde in Paules Churchyard.

1594.
To the right Honorable, Robert Deuorax. Earle of Essex and Ewe,
Vicount of Hereforde, Lorde Ferrer of Chartley, Barcher, and Louayne, Master of the Queenes Maiesties Horse, Knight of the noble order of the Garter, and one of her Maiesties Honorable priuie Counsell, Hugh Plasse
wifheth a long and happy life, with encrease of Honour and vertue.

When I consider with my selfe (righte honourable) that the trew end of all our priuat labors and studies, ought to bee the beginning of the publike and common good of our country, wherein we breath and haue our being: I holde my selfe partely bound by the law of nature, & partly by the necessity of the times, to disclose and manifest, even those secret and hidden magisteries, both of art and nature, which I had long since entered in a case of marble, and are now (fearing some patent of concealements) ready to breake out of their tombes, and to pleade their owne tenures. And because in these daies of deepest
The Epistle Dedicatoire.

censure, each author of novelties (be they never so really, & royally performed) is every way in danger both of sharp, and sodaine reprehension, not onely of the base & vulgar sorte of people, that measure other mens conceptions by their owne; but of those also that haue had some better education, and been brought vp euene in the same schooles, yea and vnder the same Tutors with them. I am therefore bold (presuming vpon your honorable & accustomed favors towards all true louers of Art & learning, to devote & consecrate vnto your honorable protection, the painefull and chargeable trauells of my youth, not doubting but that being throwned with Achilles shield, they shall be able to endure al the thundring voles of shot whatsoeuer, that shall be bent or discharged against them. And thus resting secure vnder the shadow of so honorable a Patron, & hoping that your honor will inspire some life into these breathlesse ghosts of mine, which are thought to bee dead, and rotten longe since within the graves of oblivion: and wishing the ful accomplishment of all your godly & honorable desires, craving pardon for my bold enterprize at this time, I rest.

Your honors in al duty to command,

Hugh Plas.
The first Booke conteineth, divers new and conceited experiments, from the which there may be sundry both pleasing and profitable vies drawne, by them which haue either wit, or will to apply them.

1. Ondry new and artificial waies for the keeping of fruites and flowers, in their freshe hew, after they are gathered from their stalks or branches.

2. A perspettive ring, that will discover all the cards that are neere him that weareth it on his finger.

3. How to keepe any oule, or other piece of flesh, sound and sweet, the space of three weeke, or one whole moneth together, notwithstanding the contagiousnesse of the weather.

4. How to defend fresh water a long time from putrifaction.

5. A marchants compasse, whereby he may know upon what point the wind blows, in his bedchamber, and in the night time, without beholding the skie, or any vane abroad.

6. How to feed and fatten hens, chickens, geese, ducks, &c. in a more cheap manner, than hath as yet beene made knowne, or common to the world,

7. How to write a letter secretly, that cannot easilie be discerned, or suspected.

8. How to brew good and wholesome beere without any hops at all.

9. How to harden leather, so as the same shall last much longer in the luckers of pumps, then it doth unpard.

10. A conceited chafing-dish, to keepe a dish of meat long hot upon the table, without any coles therein.

11. How to roast meat more speedilie and with lesse fire, then weedo in our common manner.

12. To make a new piece of Walnut tree or Wainscot, to be of one selfe same colour with the old.

13. How to turne five spits with one hand, whereby also much fire is saved.


15. To help venison that is tainted.

16. A pisto of two foot in length, to deliver a bullet point blanke.

17. A new peece of Walnut tree or Wainscot, to be of one selfe same colour with the old.
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18 A peece whereby to performe some extraordinary service.
19 To make greene wood to buerne cleere, at the further end of the Ouen.
20 How to walke safely vp an high scaffold, without any danger of falling.
21 A round ball of copper to blow the fire with.
22 How to erect or build over any brooke, a cheape wodden bridge, of forty or fiftie foot in length, without fastening of any timber worke within the water.
23 A cheape Lanthorne to carry a light in any stormy weather, without any defenfatie before it.
24 To plume vp an horfe to kepe him from tiring in his trauell, and to make him foame at the bir.
25 A drinke for travellers to bee made Extempore, when they want good beere or ale, at their Innes.
26 How to endure'ones hand in molten lead.
27 To hold an hot iron barre in a naked hand.
28 Sweet cakes made without either spice or suger.
29 One candle to make as great a light as two or three.
30 Timber made to lafte long in water workes.
31 To clofe the chops of greene timber.
32 To graue any deuife vpon an egge-shell, and to thorough cut the same.
33 An apperance of strange formes in a glasse.
34 Inke to be carried in the forme of a powder.
35 To write both blew and red letters at once.
36 Inke kept from freezing and molding.
37 How to draw any patterne by a desk of glasse.
38 Helps for the speedy attaining of the secretary hand.
39 To helpe inke when it waxeth thicke.
40 To renew olde letters that are almost wore out.
41 To speake by signes onely.
42 Limming with colours drawne from flowers.
43 A ready way to learne the ABC.
44 To graue and inlay colours into all the mettals.
45 To make bad paper to beare inke.
46 To make an egge to stand alone without any helpe.
47 To harden the white of an egge into a gum.
48 A cheape candle or lampe for poore folks.
49 To refresh the colours of old oile pictures.
50 An excellent cement for broken glasse.
51 To drie gunpowder without danger of fire.
52 To draw fishe to a certeine place in the night by a candle.
53 A baite to catch fishe with.
54 To draw fishe into a cramell.
55 Divers good baits to catch fishe with.
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56 A ready way to catch pigeons.
57 A worme to catch birds with.
58 To catch crowes, jackdawes, &c.
59 To kill Scapies, Seaguls, &c.
60 To gather Wasps.
61 To keepe garments and hangings from moath eating.
62 To helpe beere that lour wreth or is dead.
63 To helpe a chimney that is on fire presently.
64 To have Seafish all the yeare long.
65 To make beere stale quickly.
66 To fleale bees.
67 To make a tallow candle last long.
68 How to tell the just number of Apples, nuts, shillings, &c, as they lie in bulke together.
69 To prevent drunkennesse.
70 An excellent tent for a Diamond.
71 Oyle or vernish made to dry speedily.
72 To fetch out any stain.
73 To helpe wine that reboyleth.
74 How to make Bragget.
75 Clarifying of hony in an excellent manner.
76 To make an artificial Malmesey.
77 To keepe Gafcoigne wine good, a long time.
78 To keepe Walnuts good and moist, a long time.
79 To preferue the glosse of Spanish leather.
80 To helpe smoking chimneys.
81 Tinder and matches sweet, and of a new kind.
82 An excellent mixture to scoure pewter withal.
83 To defend a horse from flies in his trauell.
84 To kill Rats in a garner.
85 To take away the offence of noisome vaults.
86 Sweet and delicate dentifrices, or rubbers for the teeth.
87 To helpe horse and man that is tender footed.
88 To keepe oysters good ten or twelve daies.
89 To keepe Lobsters, Crayfishes, prawns, &c, good, and sweete, some reasonable time.
90 To make smooth or glistering floores or wals.
91 To make parchment transparent.
92 A cheape morter to be used in buildings.
93 A conceited drinking glaffe.
94 To disolve gold, and to part the same from gilt siluer.
95 To know when the moone is at the full by a glasse of water.
96 To melt downe iron easlie.
97 To put feverall wines in one glasse.
98 The Art of memorie.
99 To make a conceited proiection either upon Sol or Luna.
100 To
The Table.

100 To nip a glasse, Hermetice.
101 A Wagon to be drawne with men.
102 A delicate stove to sweat in.
103 The Art of refining of Sugar.

The second Booke entreateth of sundrie newe sortes of soyle or Marle, for the better manuring of pasture or arable groundes, with divers conceits of Husbandry not heretofore published.

The third Booke conteineth, divers chimical conclusions, concerning the Art of Distillation, with many rare practises and vies thereof, according to the Authors owne experience.

The fourth Booke conteineth, the Art of molding, or casting of any liue bird, or little beast, hearbe, or flower, or of any pattern of mettall, wax, &c. into golde, silver, plaister, &c.

The last part, is an offer of certeine new inventions, which the Author will bee ready to disclose vppon reasonable considerations, to such as shall be willing to entertaine them, or to procure some privilege for them.

FINIS.
THE PREFACE OF THE
Author.

Because in my late Apologie of cer-
taine newe Inventions (which I
have thought good as individually of
one and the selfe-same Species, to
annex and combine with this con-
cieved Treatise) I made a condi-
tional promise, of some farther dis-
couerie in artificiall conceipts, then either my health
or leisure would then permit; I am now resolued (not-
withstanding the unkind acceptation of my first fruits
which then I feared and hath since faile out, is a suf-
cient release in Law of the Condition) to make the
same in some sort absolute (though not altogether ac-
ording to the fulnesse of my first purpose) and to become a
building word unto me. And I am the rather per-
swaded herunto, that I might both second my first la-
bours with a fresh supplie of credit, as also for the bet-
ter satisfaction, or rather suppression of all those pro-
ffed enemies of ingenious devises, who notwithstanding
these manifold and inavoidable testimonies pro-
duced in the same Apologie for the better supporta-
tion of such offers as are therein most sincerely propounded,
and doe yet rest at all times (upon reasonable con-
ditions) to be as royallie performed, doe neverthelie
without all wit, reason, or humanitie, not onely make a
question of the possibility of them, but as occupying the
seats of Judgement, (whereas some of them have as yet
bin scarely Scouggers in the Warde, many of them
not yet come to a face of Foines, most of them ununder-
standing no more Latine, than Nouerint vnuefli, and
none of them able to moderate a Logique question in
the Sophisters schools) have both vitrie and condemned

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them in their owne concepts, and pronounced their fatal sentence upon the, in the midst of much sacke & sugar. Yet herein I must of necessity allowe of their grave wisdoms, who being not able to rule their rash and riotous tounge, haue alwaies shewed so great a government over their enchanting purses, as that at all times when the question came to be tried by any round wager (which hath beene oftentimes offered them in my behalfe, and shal stil bee maintained in despi1ght of their ignorance) they haue presentlie shifted themselves by an Apostrophe to a new matter, as if they had spoken unoswares they knew not what.

Now I see that saying of Hierome to be verified in our daies. Nil tam facile, quam otiosum et dormientem de aliorum labore & vigilijs disputare. There is nothing saith Hierome) more easie then for him that is idle and sluggisb himselte, to argue and reason upon other mens labours and watchings. But to leaue these leaden daggers with their golden sheathes to the Cutlers shops, where they would make a goodlie shew, if they were hung up in a Michaelmas Term, let us see (since the former ages haue brought forth and perfected, so manie rare and inestimable inventions for the use and benefit of man) what cause we haue to despaire in our wits who are alreadie full fraught & furnishd with their industrious labors, and yet haue the benet and advantage of our owne concepctes to multiplict al those learned lines which they haue left behind them. Why then should we think so baselie of our selues and our times? Are the pathes of the auncient Philosophers so wore out or ouergrown with weuds, that no track or touch thereof remaineth in our daies whereby to trace or follow them? or be their labyrinths so intricate, that no Ariadnes thread will wind him out that is once
of the Author.
entred? I cannot think, much less believe, that Nature hath dealt so niggardly with all the world besides, as first to make her staples and storehouses of skill and learning, only within Egypt or Greece, and then also to cut off all trade and traffic with them from all other Nations. Nay rather, why should not little England (whose Angli are so called quasi Angeli in the opinion of some that are learned, and for whose good, the great and mighty Jehovah, hath opened even the windowes of Heauen and the door downe such plentie of his richest blessings) seek to range herself in the foremost rankes and troupes of all Mineruaes crew, and not onlie reach with a victori¬ous arme at the golden fleece, in despe¬ight of all the fierce Bulls of Theffaly, but also wrest and wring the victorie, even out of the victors hands.

And were it the good will and pleasure of her most sacred Maiestie (who with a most princelie and prosperous hand, hath hitherto borne up hir sword and scepter in despight of all her forren and domestical foes) to pro¬pound some liberal stipende for all such of her ingenious Subiects as should bring forth any profitable or rare particu¬lar, for the general good of his prince and Country, I would hope to see a new revolution of the first golden age, and that some Polydor would be forced to write a fresh volume of new English Authors, which should make the antient Poetical Gods to be their foiles, and to yeelde up both their crownes and Scepters unto them. But now I may insilie saie unto England, O thou little Island, were either thy manifest wants, or thy secret and hidden tre¬asures insufficiently knowne unto thy selfe, thou wouldst then as earnestly embrace the one, as thou doest now insensiblie passe over the other: yeathou shouldst neither enue Spaine for hir riches,nor flatter her for her com¬modities,nor feare her for all the invincible Navies that she
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she could prepare and set forth against thee. I dare boldly say and constantly affirm, that as our country doth afford many careful fathers that daily perform their best endeavours for the weale publike, and many heroicall and martial men, whose undaunted corages have sufficiently manifested themselves, both at home & abroad, so yet there remaine a secret number of choice wits, who being full fraught of more necessarie, ye more invaluable commodities, then either the East or west Indies are able to afford, are nevertheless forced to consume their daies in melancholie, & (almost to the hazard of their soules) to bury their talents in the bottomles pit of oblivion. Sed quid ego haec vobis nequidquam ingrata revoluuo? Dies dabit, quod dies negat. And there I will cast my anchor for this time. Now to the subject we have in hand.

It may seem a matter right strange and admirable to all the excellent Artists of our age, that among Noueffe in the schools of Philosophie, a slender Husbandman in the rights and culture of the ground, a man of civill education, that hath drawn the longest line of his life within the limits and limits of London, should now (in these flourishing though unrewarded daies of skil & knowledge, & after so many editions of such excellent Authors concerning the same subject) presume to bring forth a volume of new inventions, whose usefullness might delight the delicate cares of a few, and whose profitable practice might sufficiently satsisfe both the labor and expectation of many thousands. But when I consider with my selfe, that the God of Nature and knowledge (when it pleaseth himselfe to use his own meanes), is bound to no age, profession, or estate, and that the best wits of our time, are fallen into a deep slumber, or rather into a deadly sleepe, by an excessive dose of Anodiaum specificum which they have greedily swallowed, that they might the better passe over the ingratitude full.
of the Author.

full and barbarous daies in extream silence and oblivion, I am the bolder I say (taking the advantage of the time, and being urged by the great & manifold wantes of my country, that dayly present themselves, & call and cry for help at their hands, who have or can find out any meanes of succor or releafe to offer and present unto my country amongst many other delightful and pleasing experimentes, some profitable practises both of Art and Nature, and amongst those, some being also of such kind and qualitie as might best sort, the most painfull, the most poore, and the most necessarie members of this land, that therby I might bring that good and commendable purpose of Virgill to some measure of perfection, vt quamuis auido parerent arua Colono, and so conclude also with the Poet, Gratium opus Agricolis.

For what eie doth not pity to see the great weaknesses and decay of our ancient and common mother the earth, which now is grown so aged & striken in yeares, & so wounded at the hart with the ploughman's good, that she beginneth to faint under the husbandman's hand, and groweth at the decay of her natural Balsam. For whose good health and recoverie, and for the better comfort of sundry simple and needie farmers of this land, I have partly undertaken these strange labors, altogether abhorring from my profession, that they might both know and practise some further secrets in their husbandry, for the better manuring of their leane and barren groundes with some new sorts of marle not yet knowne, or not sufficientlie regarded by the best experienced men of our daies; or the most religious worshippers of the Goddesse Ceres. In which discourse, as the rustical people & plain clouted shoes shall happily find some varietie of soile in sundry places where their ordinary dung doth faile them; so those which are ingennious, may gather philosophical matter enough, to stirre up their sharpe wits to a higher contemplation.
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temination of Nature, then the bare letter doth import.

And because neither Albertus Magnus, Alexius of
Piemont, Cardarucus, Mizaldus, Baptista Porta, Firo-
uanta, nor the rest of that Magical crew, nor yet Wic-
kerus, that painefull gatherer and disposer of them all,
should here be objected as a matter of terror unto al
new professors of rare & profitable inuentions, I haue thought
good (for the better satisfaction of the wiser sort) in a
word or two to set downe some of the wants of those an-
cient Authors (for what one man could ever attaine to al
things in their full perfection) which no doubt are left for
the Neoterici and later writers of our age to supply &
 furnish. First of al I doo find the most of these Authors
in Latine, French, or Italian, whereby the vulgar sort of
people, who haue most need of some profitable inuentions
to helpe them, can not possiblie put them in Practise, al-
though al which they haue written had bin true. Second
lie for that I think that most of their friends and follow-
ers (although good Latinisss) doone at length suspect
and charge many of them with much untruth in their
best and most especiall receipts, although in matters of or-
dinarie distillation, sublimation, calcination, &c. of their
Arsenic, Antimonie, Mercurie, and the rest of the
seven bodies in their violent maners, and for those grosse
uses wherein they are most employed, as also in their hand-
ing of beauties, coulours, perfumes, and such like, mane
of them haue dealt faithfully enough, although not so ful
lie, but that they may well endure some newe additions
both in matter & in the maner of their discourse. Third
lie, some of them hauing written divers particulars, only
by a theorical and speculative kind of contemplation, and
not drawne from the infallible grounds of practice, haue
published whole Volumes by imagination onely, in their
private studies, which when they come to be tried either
of the Author.
in the glowing forge of Vulcan, they vanish into smoke, or to be committed to the earth the common mother of all inferior creatures, they bring forth nothing else but ordinary fruit, not answerable either to their promises or to our expectations. Others are so astronomically conceived in their rare and admirable magisteries, which they intreat of, as if the practiser being very religious both in the letter and sense, yet not performing the secret when he hath done his best, they would persuade us that he hath not made his true election of the season and planetary hours wherein to actuate so great a mystery. But the best and most approved authors of the rest, have written all their learned experiments so figurative, and wrapped them up in such clouds of skill (and that maketh them so often to tell us, Scribimus nobis & Philosphis, scribimus filis artis, calling their minerals by the name of Aurum nostrum, mercurius nostrum, stibium nostrum, &c as that no man, without a manuel maister that may even lead him by the hand thorough all their riddles, is able either to make the sweetest Antimonie, or to dulsifie Mercurie as it ought to be, or to bring any metal to be medicinable by making it irreducible to itselfe. Here hence it commeth to passe that the most part of our chimical and paraeelsian practisers, not being able to open those fast locked bodies of the mettals, whereby to make them by many rotations so volatile as they ought, do therefore give them in their grosse Natures, with their earthy and poisoned parts, not being able to make a true and philosophical division of the. And yet persuade themselves, that they have greatlie profited in Hermes school, because they are able to make Oleum sulphuris, Oleum vitrioli, flores & vitrum antimonij, Flores sulphuris, crocum Martis, and manie sorts of precipitate, and of latea Borax chriftalinuis, with their
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There Anodinū specificum, but wanting both Oleum solis and the oile of Pearle and Coral, which considering the maligne qualitie both of Opium and Hyofcyamus, without those helpers, I knowe not with what warrant they dare minister the same so often as they doe. Seeing then, that all these ancient & new Magicians (notwithstanding their studious endeavours & inestimable expence both of time and treasure) durst never as yet presume to raise out that olde enuied sentence Plura latent quam patent, being written in capitol letters, by the hande of Nature, even in the forhead of the leafe and meanest of al her creatures. Why should not I, having spent some of my sweetest hours in reading, & many of them in conference, and more in practice, but most of all in contemplation, in regard of al my charge & trauel, adventure as boldlie as the rest, to commend the flowers of my youth, to the courteous view of al well disposed Readers, who may either to their great good make use of my labors, if they have beene well bestowed, or else by my example learn to employ both their wittes and time in a course more commendable for themselves, and more profitable for their Countrey. Yet presuming of their favorable censures (notwithstanding I must leave the same in equal balance for a time) & adventuring to measure other mens delights by mine own, I hope I shall find no Stoick so seuer, but that I shall content him in some one particular at the leaft (if not in the general subject of my book) which he may either for his necessitie, or for his pleasure be willing to embrace. But now it is high time for the prologue to give place because the Actors are at hand, who are ready to present such choice and variety of matter, as that notwithstanding they may happily faile in gesture or action, yet I doubt not but that they will either procure a friendly & thankfull plaudit, which is the most that I can desire, or a most free & liberal pardon, which is the leaft that I can deserve.
Diuerse new and conceited Experiments, from the which there may be fundrie both pleasing and profitable uses drawn, by them that have either witte, or will to applie them.

Sundry new and artificial ways for the keeping of fruits and flowers, in their fresh hue, after they are gathered from their stalkes or branches.

Ause new fourmes of Lead to be made, either round or square, that may fit the bignes of your flower, or fruit which you meane to keep, in euery of which fourmes place one flower, Cherrie, Plomme, or Peare, hanging by the stalk in such maner as it grew, let these fourmes be well fitted with their apt couers, and sodered verie close with safte Soder which will runne with a small heate, so as no aire enter, bury them deep in a shady place, where the Sunne may worke no penetration. Some commend a sandie, and some a grauelie ground, aboue all other for this purpose, but if they be well sodered, I thinke any ground will serue the turne, or if you think good, you may hang them by lines in some coole and running brooke. Or else you may put euery seuerall fruit or flower in his seuerall earthen pot well leads.
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Leaded within, and covered with earthen covers, well burnt & leaded likewise, cementing or closing them together with the Goldsmith's waxe or cement, consisting of stone-pitch, rosen, powder of bricke, and such like (although some content themselves with molten Brimstone, and others with yellow waxe and rosen, molten and well wrought together.) These little pots you must place within greater, and these greater within vessels of wood, stopping up every breathing place that you can imagine; for here I can assure you that the air will be a player, unless you can keep it out of the Alley perforce. If you would afterwards bury these wooden vessels, then were it requisite to pitch them well, both within and without: but if you mean to place them only in cool and fresh vaults, or Sellers, then may you very well spare this defensiveness, so as the case be strong and tight of itself. Yet some commend the keeping of fruit or flowers in Glassses made of purpose for them, to be the best of all others, so as the Glassses bee made with long neckes, and bee nipped (hermetice) with a pair of white tongs, the manner whereof you shall find hereafter set downe num.100. I dare not commend in any high tearmes, the dipping of fruit in wax well tempered with some Turpentine, Pitch, Rosene, sweete suet, or Barrowes grease: where also some would have the fruit first wrapped in paper, to keep it the cleaner, although I know there is somewhat to bee performed this way in some kinds of fruit which begin to rot first the outward partes inwardly. But if the fruit begin to rot first at the Core (as the Katherine peare, and divers other sorts of fruit doe) then all the outward covers and enclosures whatsoever (yea though they were dipped in dissolved Ambre which is counted the purist...
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rest and most defensative garment of all the rest will
never be able to turne Nature out of her bias. Here
also some sharpe wittes haue imagined that if spirit of
wine well rectified, were glutted with thimblebition of
anie flower, vntill it could worke no more vpon the
same, that thereby it were possible to preserve anie
flower of the same kinde, a long time therein. But this
is to bee vnderstooode onely of the drie leaues which
bring nothing else but the Tincture and strength of
the hearbe with them, and not of the moist leaues
which will leaque a putrifying phlegme behind them,
which in time will helpe to corrupt the spirit. Nowe
me thinkes I see a whole troupe of gallant dames at¬
tending with their listning eares, or rather longing
with their great bellies, to learne some new found skil,
how they may play at chopcherrie, whe cherrie time
is past. Wel, to giue these Ladies some content, I will
unfolde a scroule which I had long since as carefully
wrapped vp as euer any of the Sybels did their fataf
 prophesies, wherein I will make them as cunning as
my felfe (faying onelie that I will referue one strange
venue to foile a sholler withal if need be.) The secret
is short, let one element be included within another,
so as the one may haue no accesfe nor participare
with the other. But this paraduenture is too philo-
phical for women. Then receiue it Ladies with plaine
tearmes into your open lappes. For want of Glaffes
with broade skirts (whereof notwithstanding I doe
thinke there are enouh to bee had if you can bee fo
gracious with master Jacob of the Glafhouse) cause
new Pewter veffels of some large content to be made
and of the fashion of bell Saltsellers, with diuerfe cies
or hookes hanging in the inside, at the which you
must faften the Cherries, by their stalkes, and hang
C 2  them
The jewel-house of

them so as that one maie not touch an other, the
skirts of which vessels you must compass with lea-
den rings of such weight as may be able to presse the
downe to the bottome of some leaded panne, wher-
in you must place them, having first filled the panne
almost full with fayre water prepared as is heere set
downe num. 5. least by putrifaction of the water,
the Cherryes also beginne to putrifie with it. Yet
heere you must be carefull that the Cherryes
hang within the ayre of these inner Vesselles, not
touching the Water, which may happilie rife one
inche or somewhat more within the innermost
skirts of them. And thus the ayre beeing kept
coele, and defended from change ( whose alteration
from heate to colde, and from moysture to
drinesse, is the principall meanes of the ruinating
of all mortall bodies) will preserve such Cherryes as
it receueth in charge for two whole Moneths at
the leaft as I haue long since prooued. And per-
aduenture if you make choyse of sounde fruite ga-
thered after two or three sayre dayes togethers the
dew being sufficientlie drawne from them by the
Sunne, you may yet keepe them somewhat longer.
But the onely pleasure of this secrete is performed
in Glasse through whose perspicucitie after some
reasonable quantitie of water firft remoued or deu-
ded, one may discern weekly in what plight they
are. It seemeth very probable, that if Cherryes as they
hang ypon their braunches, and before they come
to their full maturitie were included in an earthen
vessell of some receipre, having a partie couer with a
hole in the midde, deuised into two equall partes,
and eniere breathing place well stopped or luted, and
the Sunne sufficiently defended from the pot, that so
the
Art and Nature.

the fruit would keepe fresh a long time upon the tree whereon it groweth. This secrete extendeth generallie to all fruite. And it is not much unlike to the spreading of a Tent ouer a Cherrie tree about fourteene dayes or three weeks before the Cherries were ripe, practised by a Surrey knight not many yeares since, whereby he did greatly backward the tree in his bearing, now and then watering the tent in a sunny day with colde water, whereby the strength of the Sun beames became verie weake vpon the tree, and when he was disposed to ripen them speedily, he withdrew the vaile, giving a freer passage to the hote and scorching beames of Phoebus. By the helpe of some one of these, or of some other of the like kinde and qualitie it was my happe to present vnto sir John Allet L. Maior of the Citie of London 8. greene and fresh Artichokes vpon the twelfe day, with a score of fresh Orenge, which I had kept from Whitfuntide then last past, at which time I was also furnished with 200. Artichokes for mine owne prouision, which continued a service at my table all the lent ensuing, to the great contentment of sundry of my ghestes who would have bin right glad to have dined with the secrete onely. It may be that at my next impression I will impart the same, as also the true & perfect ordring of the rose tree, whereby wee may have the flowers to bud and blow when all other roses have made an end of bearing. Which conclusion I have inserted in my conceyted booke of gardening, wherein I have set down sundrie obseruations, which neither M. Twelver though hee have written sharply, nor Master Hill though hee have written painfully, nor Master Barnabe Goege though hee have written soundlye, applying himselfe in his whole discourse both to our foyle and Clymate, hath as yet discouered to the vworld.


world, though peradventure he may know them as well as I, and reserve them for himselfe, and for his secrete friendes. All which are readie for the Press, and doe onely attende to see if Noahs Pigeon will returne with an Oliue branch, seeing his Rauen hath as yet brought nothing with her.

2 A perspective Ring that will discover all the Cards that are neere him that weareth it on his finger.

A Christall stone or Glass of the bignesse of a two-pennie piece of siluer, or thereaboute, beeing the iuff halfe of a rounde Ball or Globe, and cutte hollow within, hauing a good soyle sweete-ly conveyed within the concave superficies thereof, and the stone it selfe nearlie polisshed within and without, will giue a liuelie representation to the eye of him that weareth it, of all such Cardes as his companions which are nexte him doe holde in their handes, especiallie if the owner thereof doe take the upper end of the Table for his place, and leaning nowe and then on his elbowe, or stretching out his arme, doe applie his Ring aptlie for the purpose. I haue discovered this secret rather to discoure yong Nouesles from Card-play, who by one experiment may easilie gheffe, how manie Heights & cousonages, are dayly practised in our dicing and gaming houses, not doubting but that the general publication there of wil make the same so familiar with al men, as that I shall not justly be charged of anie to haue taught old knaues newe schoole-pointes. This secret is as yet meerly French, but it had beene long since either denized or made English, if there coulde haue beene found any sufficient workman amongst vs, that coulde haue
Art and Nature.

haue foyled the stone so artificially as it ought to bee. There be some English knights that can sufficiently testifie the truth herof by that which they haue seen amongst the French gamifters.

3 Howe to carrie Gold in a most secrete maner.

Melt downe some Golde, and mixe therewith a sufficient quantitie of Leade (but then you shall bee forced to teft the fame before you can recouer your Golde againe,) and this is the most secretwaie of all the rest, because there will bee no shewe or apparaunce of Golde eyther within or without, but the separation will bee somewhat troublesome. But if you woulde carrie golde about you in such manner, as that without anie other mans helpe, you maie deuide the Golde your selfe from the mettall wherein you conuey it, then cast bullets of Golde in a Pistoll molde, vvhich you may so aptly hang with in some molde of greater boare that maie fitte the peece vvhich you carrie vwith you (vvhich vwill bee also a good meanes to remooue all suspicion of art) as that by povyring of Leade rounde about them, they may ferue in stead of coares to your greater bullets, vvhich vwith a small heate are soone parted in funder. But if you vvould carrie coine, then dip your Angels or Crownes in molten Lead that is not ouer hote, and conuey them artlie vwithin some small and feate Leaden weightes, that may agree vwith the Auer de Poiz. Some commend the povyder of Marble, mingled with molten rofen to lap angels or other coine in, before it be through cold. There be also diverse philosophicall waies for the secretting of Sol and Luna, but those are referrued for higher purpofes.

How
4. How to keep or preserve any fowl or other piece of flesh found, and freee for three weeks or one whole Moneth together, notwithstanding the contagiousnesse of the weather.

Make a strong Brine, so as the Water bee overglutted with salt, and being scalding hote, perboyle therein the fowle or flesh which you would preferue some reasonable time, that is to say, according to the greatnes and grosse of therof, then hang it vp in a convenient place, and it will last a sufficient time without any bad or overfaltish tafte, as I can testify of mine owne experience. This I thought good to publish both for the better preservation of mutton, Veale, and Venison, whereof a great deale in this lande is yearely lost, in hote and vnseasonable Sommers, as also for the benefite of our English Mariners, which are forced sometime to vittaile themselues in such intemperate Climates, where no flesh will last sweet four and twentie houres together, by reason that they have no meanes to make the same to take salt, which without all question will enter this way and make penetration verie speedily by reason of the hote and fierie spirite of salt thus prepared. Some doe vs to perboyle their fowle, after they have taken out the garbage, and then do dippe them in Barrowes grease, or in clarified Butter, till they have gotten a newe Garment over them, and then they lay them one by one in stone pottes, filling the stone pottes vp to the brim with Barrowes grease or clarified Butter, wherein they doe pricke some Cloues, and sprinkle dried salt vpon the uppermoste face thereof, placing the pottes in some
some cool room. Some thinke that fowle being fil-
led ful of good wheat & after buried al ouer in wheat,
will keepe good a long time. I haue also heard it ve-
rie credible reported, that a side of venison hath byn
kept sound and sweet one whole month together, by
lapping the same in a course thinne cloath, and then
covering it with bay salt. Reif it were first perboiled
in the aforesaid manner, and then covered with salt
as before. I could here adde one line more, whereof
euerie letter shou’d be worth an angel to diuers good
housekeepers in this Land, but that the same would
breed both offenfe and detriment vnto others, for
the which cause onely, I haue thought good to keep
the same vnder hatches a little longer.

5. How to defend fresh Water a long time from putre-
faction.

This is performed by the addition of some small
proportion of the oyle of Sulphur with it, incorpor-
ating them both together, whereof I haue long
fince made a sufficient triall. Some commende the
oyle of Vitriol to the same end: and seeing my penne
hath so vnaduifedly flipt into an Element of fo great
necesfitie, I wil make the Sea-men a little beholding
vnto me at their first watering, which being spent, I
must leaue them to their brackifh waters againe, vn-
leffe by the helpe of some distillatorie vefell (wherin
as also in diuers other of the fame kind and qualitie, I
have found maifter Sergeant Gomthrone, the moft
exquisite and painfull practizer and performer of our
times) they can make separation of the freshe part
thereof on Ship-boord. Let the owner, Marchant,
or Mariner, hauing sufficient leifure to make his pro-
vision
The fewell-houfe of uifion of fresh water, before he beginne his voyage, prepare his water in this manner. First let him fill either some Rhenish Wine fatters, fack butts, or White wine pipes, such as haue beene fawed through the midft, onclie with faire water, these halfe tubs hauing tapholes within three inches of the bottome, at the which after the water hath palled his firft putrification, and is become sweet againe, he may then drawe it from his residence into a cleane Caske, and by this means it will laff much longer at the Sea than other wise, and yet if there were but two or three handfuls of falt dissolved in a pipe of the fame water (which would not much offend either the taft or stomach) it would prefervie it much more then the bare preparation of the water will doe in the aforesaid maner. Sir Fraunces Drake, that Spaniʃh fcourge & Magna spes altera Troie, who hath fought for all the helpes which he might, either in his water or his victual, for the better confort and reliefe of his Mariniers, in one of the laft conferences which I had with him, did af­­­sure me, that the most putrified and offenfue water that could happen at the sea, would by 24. howers agitation or rolling vp and downie, become sweet and good beuerage. And Captaine Plat in whomse Sir Frances Drake for his good partes did alwaie repose great trust and confidence, did vſuallie carye ceretin long and thicke pieces of sheet lead with him, which he would cause to bee hanged by lines at the bung-hole even to the verie center of the vessell, wherby he did attract much of the fecial part of the water, and the Leadcs would become very slimie therwith. This he did with often change and iteration, alwaies clea­­sing the leades as they grew filthie, and so with much ado, he found the water a great deale more pleafing then
then before. These fewe conceiptes I haue thought
good to impart for the benefit of the whole Nauie of
England, for the which I haue prouided more dain-
tie cates, then it hath been hitherto acquainted with
all, doe onlie keepe them in my breast, vintill an ho-
nest purveyor may bee rewarded with some honest
pension. Que. what proportion of spirtte of Wine,
or Aqua vite well rectified, will defende water from
corruption.

6. A Marchants Compasse, whereby he may knowe
uppon what point the wind blowes in his bedchamber,
and in the night time, without beholding the skie or
any vane abroad.

FAs ten a large vane, to a long yron rod, let the fame
rise thorough the middeft of the roofe or some oth-
er part, that may beft agree with the roome where-
in you mean to place the same, and let the yron ftele
thereof, come through the feeling of your chamber,
and at the end of the rod, let there be a sharpe index,
that may point vpon a table of wood (which for that
purpofe must be drawne, with all the parts of the wind
vpon it like a mariners compasse) to that wind which
bloweth. You must haue diuers Staies of yron by the
waie as the rodde passeth to keepe it vpright, hauing
holes in the midst of them, and wrought with lappets
at the fides, wherein to faften nailes to a long post,
which for the fame purpofe must bee placed within
the garret, betwene the feeling of your chamber and
the roofoe thereof. Note that the Index and the edge
of the vane must alwaies stand vpon two direct con-
trarie points.
How to feed &fatten Hens, Chickens, Geese, ducks, &c. with divers other sorts of fowle, in a more cheap manner, then hath as yet beene made knowne or common to the world.

Knowe divers that haue contented themselues, to feed and fatten them with graines onelie, whereof they haue made a great benefit vnto themselues, by reason of the easy price for which they are sold. But if you take the bloud of beasts, whereof Butchers make no great reckoning, filling stone pottes therewith, whose couers may bee full of such holes, as that the flesh flies in sommer time, may easilie get in and out at the same, you shall finde the bloud by meanes of the flie-bloes and putrefaction together, whole converted into white and glib worms (which the anglers call Gentils) which will fatten them exceedinglie, & make them eate most tenderlie. A Dutch man that first practised this secret in a Noble mannes house of England, (whose fowle for the tendernes of their flesh, was highlie commended of all his gheftes) had a yearelie stipend of twentie nobles conferred vpon him by his Lord, during his naturall life, for the discouerie of the secret. Yet I could wish, that these wormes did first scourse themselues, either in moiffe, lome, or bran, before they were scattered amongst the fowle: And if notwithstanding this helpe, the foode shall seeme offensive to our weake stomaches, especiallie being made acquainted therewith before hand, then receive the same in a better form and in a sweeter manner at my handes, who haue alwaies desired to giue all the grace which I might to any secret of good vfe. Boile this bloud with some store of branne amongest
amongst it (perhaps graines may suffice, but bran is the better) until it come to the nature and shape of a blood pudding, & therewith feed your foule so fat as you please, and this will be both a wholesome & a cleanly feeding for them. Som commend carrots, turnips, Parsnips and pompeons, first sodden and then some bran or course pollard mingled therewith. You may feed Turkeys with bruised acorns, and they will proper exceedingly with them. Some to fatten their capons speedily, put them into coopes wherein each bird hath a several room devided from the rest, being so straight and narrow as that the hen or capon may only feed himselfe and roost therein, not being able to turne his bodie, thereby persuading themselves that wanting motion and exercise he will soon growe to be fat and of greace. Some do use to keepe fowle 2. or 3. daies without meat, till they be exceeding hungry, and then they give them their full. Others doe foke chippings and other crustes of bread in broken beere, or flatten milk, wherewith they do afterward feed their capons: out of all these a good huswife will easilie choose both the likeliest and the best.

8. How to write a letter secretlie that cannot easilie be discovered, or suspected.

Write your minde at large on the one side of the paper with common inke, and on the other side with milck, that which you would have secret, and when you would make the same legible, holde that side which is written with inke to the fire, and the milckie letters will shew blewifh on the other side. Or else rule two papers of one bignesse with lines of an equal distance, make the one full of glass windowes, through which you must write your mind upon a second
cond paper, the fil vp the spaces with some other idle words: but if all were made to hang together in good sense it would carry the leffe suspicion. Each friend must have one of these cut papers to read all such letters as shall be sent unto him, & this maner of writing will trouble a good decipherer to bring in to perfect sense. Alfo you may first write an ordinary letter that may carry some good sense to your friend, but let the lines be wide asunder. Then between these lines write your secret letter with gall water only wherein the gauls have been infused but a small time (for if after you have writte therwith there be any sensible colour left behind upon the paper, you must throw away that water and make new.) This being dry and of one colour with the paper, will give no cause of suspicion, & the rather because the letter purporteth a sufficient sense already. Now for the discovery therof, you must dissolve some coppres in faire water, & with a fine calaber pensill first dipped in your copper water, you must artly moisten the interlining of your letter, and thereby you shall make it sufficiently legible. This is one of the most secret waies that I know. But yet the finest conceited way of all the rest in my opinion, is by close carriage of a letter within a lawne or Cambricke ruffe or handkerchief, which a man may weare for his necessary use without the defacing of any one letter contained therein. And this serveth most fitly for a love-letter, which may without all suspicion of friends be easily presented in a handkerchief to any gentlewoman that standeth well affected to her secretary. There is also a ready way without changing of the Alphabet to write ones mind speedily upon paper, & yet the same not to be deciphered without the helpe of a rolling pinne of the same scantling with that whereon it was first written.
written. But these two latter conceits (for some reasons best knowne vnto my selfe) I may not so boldly impart as otherwise I would,

9. How to brew good and wholesome Beere without anie Hoppes at all.

Since my profession is this booke is in some sort to sanotomize both Art and Nature, without any regard of private mens profits, whom it may either essentially, or accidentally touch: I am bolde therefore without crauming any leaue to do good, to renue or rather to confirm & ratifie an ancient opinion & practise, which long since in the great dearth and scarcity of hops many Brewers of this land, haue bin forced to put in vfe for y better suppertation of their weak & declining eftates. But because they failed in proportion (without the which there can be nothing complete or absolute) they suffered a good conceit to die in the birth. And no maruel then if wormwood notwithstanding it be a simple so highly commended of all the ancient & new Herbarists for his great & singular effects in physick, be in a maner utterly abandoned of all the brewers of our time (except a few y can make a difference betwenee 5. s. and 5. li. charge when hops are sold for 50. s. the hundred, seeing as yet not any one of them hath so Clarkely wrought upon this simple as to couer & hide the taffe therof, from y wel mouthed Ale-conners of our common wealth. Which weaknes of theirs because it consisteth wholly in the want of a due proportion betwene the mault & other beercorn in respect of wormwood, I haue thought good to let downe a sufficient direction, for such as are wise and willing to doe good both to themselves and to their Countrie, whereby they may easily euen in one dayes practize attaine to the full perfection thereof

Supposing
Supposing then that your Wormewood is either cut down in the leaf before it be seeded, or being seeded that it is cut into short pieces, whereby there may be made an equal mixture of the whole bulk together (for you must note that the seeded tops are much stronger and more oily than the rest of the leaves or stalks) make first a decoction of four ounces of hops with nine gallons of water (which is the proportion that some Brewers in some sorts of drink do use) and when you have gotten out by ebullition the full strength and virtue of them, keep the same apart, and begin likewise with some small proportion of Wormewood to the like quantity of water as before, and when you have bestowed as much time and fire herein, as you did about the hops, then taste each of them by itself, and if you find the same to exceed the first in bitterness, then begin with a less proportion of Wormewood, and so reiterate your work, until you have equally matched the one with the other, then may you safely proceede by the rule of proportion to a barrel, and from thence to a tun, and so to a whole brewing. Neither let the excessive bitterness of Wormewood in his present taste animate thing dismay you, for if you did but taste the decoction of hops only before the mixture of the ground malt (which doth wonderfully sweeten the same) you would think it a verie unapt liquor to be wrought up into so pleasing a drink as our ordinarie Beer doth shew to be, For it is the Hoppe onely which maketh the essential difference between Beer and Ale, and that by allaying of the exceeding lusciousness of the malt with his bitterness, whereby both uniting themselfes together, become a savory and wholesome drink for man's bodie. Which may
which may bee as well in euerie respect performed with Wormwood as with the Hoppe, yea and peradventure with Centuarie, Artichoke leaves, or Aloes hepatitis, as some workmasters have confidently affirmed unto me. And though the Hoppe be usual in drinke, and the Wormwood onely in medicine, whereby some may happily be perswaded, that it is inconvenient for men that are in health to drinke a medicine continually to their meate, yet let this be a sufficient answer to that objection, that it is the dose onely that maketh the difference herein. For I can assure you in mine owne experience, and by the experience of one of the best experienced Brewers of London who yet liueth, that if you give a double or treble quantitie of good English hoppes, to an ordinarie guile of strong Beere, you shall find the same to be a sufficient preparation to your bodie for the best purgation that shall be ministered after. And this can one of the right heauiable Peers of this lande sufficiently witnesse, who together with some good part of his retinue, having well tastted at a dinner of suche Beere, as (by the instrusion of the Brewer of English hoppes for English hoppes) was too overhopped, that both him selfe and the rest of his family that was then about him, were suddenly surprized with a great loofness. And this is the reason why Venice Turpentine which being ministered in a small dose is given for the strengthening of the backe, and to stay the running of the scines, yet if it be taken in ñ quantitie of an ounce or ounce, it will purge sufficiently in diverse bodies. So then either let there be no more taste of wormwood then there is of hoppes in our drinke, and we shall finde no difference in effects, but such as shall commend and grace the wormwood beyond the hoppe,
or els there may bee aduancd with the hoppe to the
bitternesse of wormwood wine, and so the shall finde
the hop farre to exceede the wormwood in his ma-
ligne qualitie. Neither woulde I haue any man to
thinke, that I doe either wrongfully intrude vpon ot-
her mens possessiones, or presumptuously undertake
a charge which I cannot performe, for I am in by dif-
cent, and have continued fiue yeares in possession at
the leaft, and therefore am not easilie to be removed
without a philosophicall action commenced against
me. And because you shall farther knowe that I haue
some reasonable skill in my trade, I dare undertake
without the helpe of any yeast at all, to bring y woort
either of Ale or Beere to his perfect workmanship
(wherin is shall containe at the least either six or seuen
daiies togethier) without any intermission, & that on-
ly by a philosophicall stirring vp of the fire of nature
which shal extende and spread it felle \textit{a centro ad cir-
cumferentiam}, till it haue digested the whole body to
his perfect ripenesse or maturitie. Thus much I haue
thought good to publish for y credit of wormwood,
and for the beneft of this Iland in sundry respectes,
which I shall not need to particularize at this time be-
cause they are so commonly knowne to all men. And
though I know I may bee overweyed either with the
Fraunders Merchants, or with the great Hoppe-ma-
sters of Englane whose foundation is so deepe laide, that a fewe loose lines can neither shake nor
stirre the fame; yet either knowing, or at the leaft per-
swading my selfe to maintaine the truth, before I
give it ouer I will craue the libertie of the schooles,
\textit{quod sist controversfa}. And in the meane time those
which will not bee satisfied, of the wholesome and
rare medicinable helpes of the one, togethier with
the
the weake and feeble vertues of the other, (which was but a Hedgebirde the other daie, though nowe it bee perking fo proudly vpon his poles) I will re-
ferre them to the learned Herbals of Dioscorides,
Matheolus, Doctor Turner, Dodoicus, Turnizerus, and the rest.

10 Howe to harden Leather so as the same shall last
much longer in the suckers of Pumpes then it dooth
unprepared.

This secret is so necessarie for the whole lande,
as that I muste crave pardon of my especiall
good friend for the discouerie thereof. Lay such
leather as is well tanned, to soake in water wherein
there hath beene some store of the filings of yron a
long time, or else in the water that hath lien long un-
der a Grindstone, into the which such yron as hath
beene from time to time ground away, hath fallen,
and there setled. This hath beene found to bee a se-
cret of good vse, by one of the Pumpemakers of our
time, and if thou canst pumpe out any better vses of
this secrete, take them in aduaantage; and remember
where thou hadst them.

11 A conceipted Chaffingdish to keepe a Dish of
meate long hote upon the Table without any coles
therein.

Let the Dish bee somewhat deepe, and cause the
Chaffingdish to bee made of such shape as may
best receive the same, into the which you may con-
uey a peece of yron red hote, the same beeing of an
apt forme to lie in the bottome of the Chaffingdish.
This will continue his heat a long time, and if you have one other spare iron to heat as the first cooleth, you may keepe any dish of meate warme as long as you thinke good. From this ground did those warming pinnes first spring, which of some are called Froes, and being put into their cases, and those cases wrapped in linnen bagges, doe serve to heate beddes with, and to cast one into a kindly sweat. The like device is also used by others in conveying of such iron pinnes into hollow boxes of wood first lined inwardly with mettall, and iron chests, either to lay under their feete where they use to write or study in colde weather, or in their coches to keepe their feet warm. The now distresed king of Portugall caused a pair of wooden soles to bee made for a pair of shooes which he had to sit in, which he would warme at his pleasure with Mars well rubified.

How to rost meate more speedily, and with leffe fire then we now do in our common maner.

Make a square and concave boxe, or else of the fashion of a Cilinder of iron plates, or else of wood lined with those plates long enough and large enough for such and so many ioynts of meat as you meane to rost at once, within which Cilinder let the meat turne as it roasteth. For the reflexion of the heat that is gathered within the boxe will make great expedition. Note that the boxe must onely couer the meate, because you are to leaue a fire (if neede be) to hang on a pot or kettle over the same fire. It must also be close on euery side sauing onely agaynst the fire, and at the sides thereof you must have flittes to let in the spitte. I haue heard of the like deuise heretofore executed.
executed by an outlandish potter in burnt clay, for the which he had his pruiledge, but his deuice wanted a couer, it was exceeding heauie, very apt to bee broken, and not so strong in reflexion as this metal-line deuise, especiallie if it be kept cleane and bright.

33. To make a new piece of Walnut tree or Wainscot to be of one self-feame coulour with the old.

First straine walnut rindes well putrified with some liquor, and with a sponge rubbe ouer your wood throughlie well, and after it is drie, rub the same ouer againe with good olde Linseed oile, & it wil become of an excellent brown colour: then if the other wood which you would have match with it, do much differ fro the new in colour, you must also with fine sand, skoure off all the filth and greace of your olde wood, and then rub it also ouer with Linseede oile. Some take broken beere only. By this meanes I had an old wainescot window, that was peeceed out with nevve wainseot by a good workeman, and both became ve-rie suteable and of one colour.

34. How to turne 5 spittes at once with one hande, whereby also much fier is saved.
After 5. round spittes together, like the teeth or tines of a mole-speare, with a handle in the center of them, let them be placed in a reasonable distance the one from the other, according to the bignesse of the joints of meat that you would roast upon them, (I take them to be most apt for fowle) you must also have a crosse of yron, having a hole in euery corner thereof, to receive the ends of these spits, which may be propped with a staie behind that it fall not backward. Using these spits, you shal not neede to rayfe your fire vpon such high raunges as otherwise you shall be forced to doe, when one spit is placed directlie above another. This secret I have borrowed out of Pope. Pius the v. his kitchin.

15. A probable conjecture at the composition of harde Waxe.

Am verilie perswaded, that the essentiall part, if not the whole bodie thereof, is made of the gum Lacca, peraduenture refined a little, or incorporated with some other apt bodie. For I haue seale therewith oftestimes, and doe find the same to agree with hard wax, in the perfect taking of the impression of the seale, in the manner of the burning, in the smell, and in brittlenesse. It onely differeth in cleerenes and colour. I haue heard that the Barbarians doe make a bright and orient crimofin colour therewith vpon leather, for which purpose it is greatly sought for in England, to transport into Barbary.

16. To helpe venison that is tainted.

Fit bee much tainted cut awaie all the flesh that is greene, and cut out all the bones, and bury it in a thin
thin olde course cloth a yard deepe in the ground for 12. or 20. houres space, and it wil bee sweet enough to be eaten as I am enformed by a Gentlewoman of good credit, and vpon hir owne practife.

17. How to make a Pistol whose barrell is two foote in length to deliuer a bullet point blank at eight skore.

A Pistoll of the aforesaid length and beeing of petronel bore, or a bore higher, having eight gutters somewhat deepe in the inside of the barrell, and the bullet a thought bigger then the bore, & so rammed in at the first three or foure inches at the leaft, and after driven downe with the skoowring stick, will deliver his bullet at such distance. This of an English Gentleman of good note and for an approoued experiment.

18. A piece whereby to performe some extraordinarie service either by Sea or land.

A use a long barrell to be made and of the boare of a Tennis ball, of five or fixe foot in length and well flock'd, having within twelve inches of the mouth thereof a hooking iron of foure inches in length, forged to the neather part of the piece, by which hooke you may staie your piece by som raile, or other piece of timber, whereby you may safelie discharge the same, without feare of any recoile upon you. I leave the full use thereof to bee found out by Martial men. This invention I hadde of the fine lyman of Lambith, beeing a Gentleman of good conceit in all ingenious devises.
19. To make greene wood to burne cleere, at the farther end of the Ouen.

If you burne greene wood in an ouen, it burneth somewhat cleere toward the mouth of the ouen but commonly black & deadish at the further end, whereby the ouen is never sufficiently heated to bake well. You shall find a remedie thereof in this manner. Divide the mouth of the ouen into foure equal partes, and cause a bar of yron to be made as long or somewhat longer than the mouth of the ouen, & in breadth one exact fourth part thereof. Fasten this bar overthwart-wise in the middle point of the ouen mouth, and this will make a partition betweene the fire and the aier, so as the aier will passe vnder the bar to kindle the fire, and the flame will issue ouer the barre, and so the smoke which before did choke the fire will also haue his passage.

20. How a man may walke safelie vpon a high scaffold or piece of Timber, without danger of falling.

This is easie perforinied by wearing of a paire of spectacles, whose sightes must be made so grose, as that he which weareth them may not discerne any thing a farre off, but at hand onely. For it is the sight onely of the steepenesse of the place, that bringeth the feare, and overturneth the braine. By this means I haue heard that the English man which displayed an ancient vpon a scaffold neere the top of the pinacl of Paules steeple, did helpe himselfe in his desperate attempt.
Art and Nature.

21. A round ball of Copper or Latton, that will blow the fire verie stronglie, onely by the attenuation of water into ayre, which deuice will also ferve to perfume with.

Make a round ball of Copper or Latten, of y bigness of a small bowle, foder thereunto a rounde pipe or necke, of three or foure inches in length, and somwhat leffe than a goose quil, at the end whereof, in the manner of an elbowe, foder on a leffe pipe no bigger than a straw, whose vent in the ende may not much exceed the bignes of a pinhole, let al the joints and sides be fodered with filuer foder, heate the fame well in the fire, and then put it into a vefsel of cold water, and it will sucke some of the water vnto it, you may heate the fame fo often, till by the peize thereof you may bee affured that it is more then halfe full. Then set this ball vpon a few glowing coles, and you fhall finde the fame to giue a very strong blast againft the fire which you mean to kindle, directing the nose of these bellowes towards the fame. I make no queftion, but that it is poftible with a verie small helpe to melt down either gold or filuer with these bellowes, and that the fame may be made to large as that they wil blow one whole houre together, without anie intermiffion. If you make a little round ball of filuer in this maner, only with a small and freight pipe, rising out of the bodie therof, you may put some rofe.
rosewater or some other sweet scenting water therein, and therewith perfume your chamber, and by this means a small quantity of sweet water will be a long time in breathing out.

22. How to erect or build over any brooke, or small river, a cheape and wooden bridge, of 40. or 50. foot in length, without fastening any timber work within the water.

Pece the timber work in such sort, as that it may resemble an arch of stone, make the joints strong, and binde them fast with crampes or dogs of iron, let this bridge rest upon two strong pillers of wood at either end, both being well propped with spurres, & at either end of your bridge make a strong buttreffe of bricke, into the which you must let your pillers and spurres, that by no meanes they may shrinke or giue backewarde, then planke over your bridge and grauell it and it will last a long time. This is already in experience amongst vs.

23. A cheape Lanterne, wherein a burning candle may be carried, in any stormie or windie weather, without any horne, glasse, paper, or other desensative, before it.

Make a foure-square box, of 6. or 7. inches euerie waie, and 17. or 18. inches in length, with a socker in the bottome thereof, close the sides well either with doue tailes or cement, so as they take no aire, leave in the middest of one of the sides a lit or open dore, to put in the candle, which from the bottome to the toppe thereof may containe 6, or 7. inches in length,
length, and twoe and a halfe in breeth, place your candle in the socket, and though it stand open and naked to the ayre without any defence, yet the winde will have no power to extinguish the fame. The reason seemeth to be because the box is already full of ayre, whereby there is no roome or place to conteine any more, neither can the ayre finde any thorough passage, by reason of the clofenesse thereof. The socke would be made to screw in and out at the bottom and then you may put in your candle before you fasten the socket. This is borrowed of one of the rarest Mathematicians of our age.

24. How to plom vp a horse, and to make him fatte and lustie, as also howe to keepe a Iade from tiring by the way, and to make him to foame at the bit.

Take anula campana, Commorinseed, Turmericke & annis seeds, of each a pennieworth, and seeth them well (with three heads of Garlique amongst them well stamped) in a gallon of Ale, then streine it and expresse as much of the substaunce as you may well wringing out, and giue your Horse to drinke therof bloud-warme a full quart at once, then ride him til he be hot, then stable him, litter him well, and currie him vntill hee bee colde, doe the like two or three morninges together, and so turne him to grasse, and he will thrive woonderfullie in a short time. Some commend a handfull of grunsell sodden in the afore-
faide ale with the rest of the ingredientes. But if you keep him in the stable, give him to eat in his prouender the rootes of anula campana with some common feedes both beaten together, or anula campana shreded, for 14. daies together, and it will make a leane Iade to thrive more in one moneth, then otherwise he would doe in three. And when you ride abroade upon a hired Hackney, carie a good quantitie of the powder of anula campana with you in some leather bag, and when others doe baite their horses in their ordinarie manner, your horse being first well walked, littered, and rubbed, give him a handful of this powder in a quart of strong ale with a horne, and tie his head high to the rack, and you need to give no other or verie little prouender vntil night, then let him be well meated, and give him in the morning two peny worth of bread, and his ale with the powder, but water at night. This a friend of mine yet living, did learn of a good fellow that had bene a ranke-rider in his daies, by whose meanes though his hackney tired at Bristow, yet this companion for his better encouragement, seeing him out of all heart, by reason that hee was like to lose so good companie as then was gathered together, he exchaunged Horfes with him, and brought the Hackney (by the meanes aforesaid) verie quicke and liuely vppe to London. Also if you tie a prettie bunch of Peni-royall about the bit within the Horses mouth, the Horfe champing thereon, will foame gallantlie, and trauell vwith muche more courage. Another Gentleman, who also attendeth vpon a verie Honourable personne, tolde me, that whensoever hee founde any Iade to tire vnder him, hee woulde presentlie take off his Saddle, and vwith a good quantitie of Arsesmart (which is an hearbe that
that groweth almost in every Ditch and (standing Water) rubbe him well on the backe vnderneath the Saddle, and afterwarde lay a good quantitie of Arse'mart vnder the saddle, and to ride him any reasonable journey. These secrets I thought good to discover for the benefit of all English travellers, and I hope they are true because my authors are alioe, and speake of their own experience, and not by bare report from others, they doe also carrie great probability with them. But nowe from the horse to the Rider.

25 A speedie or present drinke which trauailers may make for themselues, (ex tempore) when they are distrest for want of good Beer or Ale at their Inne.

Take a quart of good water, put thereto five or six spoonfuls of good Aqua coposita, which is strong of the Annis seedes, & one ounce of Sugar with a branch of Rosemarie, brew them a pretie while out of one pot into another, and then is your drinke prepared. Or if you leaue out Sugar it will be pleasing enough. I have bene credibly enformed, that divers gentlemen of good credit when they trauell abrode, and cannot like the taste or relish of their drinke, that they use no other then the aforesaid composition, and finde the same both to refresh and coole them verie well, neither are they troubled with the rawnes of colde water, by reason that it hath received some correction from the Aqua Composita, and that the Annis seedes doe giue a delicate taste vnto it. It were not amisse for all sea-men to carrie some store of Aqua vitæ with them, that when their Wine, Sider, Perrie, and Beere are spent, they may tranmute their water into the said drinke.

E 3.

26. How
26 How any man may safely put his finger or hand into molten lead, without any danger of burning.

Take of quicksilver one once, Bole Armoniack of the best two ounces, Camphire half an ounce, common Aqua vitæ two ounces, first beate, and then mingle all these well together with a pestle in a brazen mortar, then anoint your hands all over thoroughly well with this ointment, & be sure that your hands are clean without itch or scabbe. I did see a Dutchman called Haunce, a pretty nimble Chimist, who after he had set some lead on the fire in a melting pot, till it became blewish and exceeding hot, he stirred the same first with his forefinger up and downe, pretending to see whether it were not too hot to endure in the palm of his hande, and afterwards telling his fellow that it was of a good temper, he caused him to pour the same out being some half pound in weight into the palm of his hande, first prepared as before, and presently he poured it into his other hand, and so out of one hand into another five or sixe times together, till in the end he threw the same cold upon the ground. This hee did for a pot of the best Beere in a garden in Southwarke about ten or twelve yeeres thence, in the presence of myselfe and divers others, at which time I writ the receipt even as I did both see him make it, and see it my selfe, disbursing the charge both of the Beere, and the ingredients.

27 How any man may hold a hot iron barre in his hande without burning his flesh.

Dippe your hand in molten glewe (take heede the glew be not too hot) & presently strew the powder
der of horse burnt to ashes upon the glew, then dip your hand againe in the glew, and strewe more of the said powder thereon. Note that the thicker your bar is, the thicker crust you must make upon your hande. This I learned of an olde and skilfull man that yet liueth, and assured me that hee had made often triall thereof. 

Pre, if this be not a good deuise to defende mantlettrees, and other pieces of timber that stande neer the fire from burning. Take an equal proportion of fish-glew, and Alom, mingle them well together, the glew being first dissolued in wine vineger, then parget over whatsoever thou wilt with this composition, and throw the same into the fire, and it shall not burne. This out of the secrets of Wickerus 110. See Cardane de rerum varietate 644.

28. Sweet and dillicate Cakes made without either Spice or Sugar.

Slice great and sweet Parsnep rootes (such as are not seeder) into thin slices, and having washed and scraped them cleane, then drie them and beate them into powder, searing the same through a fine scharce. (Pre, if there might not be som means found out for the grinding of them, whereby to make the greater riddance or quantitie.) Then knead two parts of fine flower with one part of this powder, and make some cakes thereof, and you shall finde them to taste verie daintilie. I haue eaten of these cakes diverse times, with verie great good liking.

29. How with one candle to make as great a light as otherwise with two or three of the same bignesse.

Use a round & double Glasse to bee made of a large size, & in fashio like a globe, but with a great round
rounde hole in the toppe, and in the concave part of the uppermost Glasse place a Candle in a loose socket, and at some hole or pipe which must bee made in the side thereof, fill the same with spirite of Wine or some other cleare distilled water that will not putrifie, and this one Candle will give a great and wonderfull light, somewhat resembling the Sun beames. Note that this Glasse is not much unlike to those Wine drinking bolles that have false bottoms, wherein Sacke, or Claret wine may bee conveyed with faire water onelie in the uppermost part of the Cup, whereby a plaine meaning man may easilie be deceived. This conceipt of a Candle, a Gentleman of good account, and my especiall good friend did learne in Venice, where he was shewed the secrecte for a fewe French Crownes.

What light a Candle woulde shewe if it were placed in a large Cilinder like vnto a halfe Lanterne, all of Latten kept bright and glistening, the same being inwardly garnished with diverse steele Looking-glasses, so artificially placed as that one of them might reflect unto an other. I knewe an expert Ieweller, dwelling (whilest he liued) in the Blaçke-friers, who had a Glasse with a round bellie, and a flat backe standing vpon a foote, with a Lampe placed so at the backer part thereof, as that the light thereof was just opposite to the center of the bellie through which (the Glasse being first filled with spirite of Wine) there would so brim and glittering light appeare, as that by the helpe thereof he would graue anie curious worke in golde as well at midnight as at the noone day.
Howe to make great posts and pieces of timber that are to be driven into the earth, or piles for water works to last much longer than otherwise they would.

I have heard that the Venetians whose houses do stand upon piles of wood, do use to burne or scorch the timber in a flaming fire, continually turning it round with some engine, untill they haue gotten a blacke and hard colic crust vpon it, and so they finde it to last some hundreds of yeares, as it hath beene reported vnto me. A Kentish knight of good worth did also assure me, that they use to burne in this manner the endes or poyntes of their posts, which they drive into the grounde when they make their pales and other enclosures. This secret carieth great probability with it, for that by this means the outwarde part of the wood is brought both to such a hardnesse and likewise to such a drynesse, vt, cum omni pura-fatio incipiat ab humidio, for want of moisture and sappiness, neither the Element of earth, nor yet of water can make any penetration into it.

To make all the choppes and clefstes of greene timber to close againe.

Annoint or supple well the greene timber which you doe expose into the ayre, with the fatte of powdered beefe broth, and soake it well with sponges or pensils into the clefstes or choppes thereof, do this twice ouer, and you shall finde the same to answer my report. Some Carpenters doe use to close vp the great choppes of Wood with Greace and Sawdust mingled together, but the first I take to bee the better
better way, for that I haue thereby seene the timber
to come to cloе together, as if it had neuer bee¬

ten at all, but note that the timber must bee
thus prepared in time, and while it is greene.

32 How to graue any armes, posies, or other deuise upon
an egge shell, & how to through-cut the same, with di¬
uers works and fancies, which will seem very strange
to such as know not the maner of the doing thereof.

Dippe an egge in suet being molten, first the one
halfe, and then the other, holding the same be¬
tweene your thumbe and forefinger when you dippe
it, let the same coole in your hand, and beeing colde,
with a sharpe bodkin or some other instrument of i¬
ron, worke or graue in the suet what letters or por¬
tature you wil, taking away the suet clean, & leauing
the shell bare at the bottom of your worke. Then lay
this eg thus engraued in good wine vineger or strong
alliger in a Glaffe or Stone Pottinger, for some fixe
or eight houres, or more, or leffe, according to the
strength and sharpenesse of the Vineger, then take
out the egge, and in water that is blood warme dis¬
folute the suet from the egge, then lay your egge to
coole, and the worke will appeare to bee grauen in
the shell of a ruffet colour. Sapius probatum. And if the
egge lie long inough in the vineger after it is so gra¬
uen, and couered with suet as before, the letters will
appeare upon the egge it selfe being hard sodden, or
eſse if you care not to loose the meate, you may picke
out the same when the shell is through grauen, and
so you shall haue a straunge peece of worke perfour¬
med. Those two latter conceiptes I learned of late,
but I haue not proued them, but in all likelihoode they
they should seeme to bee true.

An apparance of strange formes in a Glasse.

Grind an Angell weight of fine leafe golde, with two ounces of *Sal ammoniacke* vpon a marble till you can scarcely discerne any golde, then take two parting Glasse each of them containing a pinte, in the one put the ground golde with foure ounces of good strong water, and in the other glasse put foure ounces of Mercury with eight ounces of *Aqua fortis*, let both these glasses in warme ashes vpon some furnes, till both the bodies be dissolved, then take a parting glasse of a quart, and whilst the substances being dissolved are yet warme, poure the same into your quart glasse, but first you must put in your strong water wherein the Mercury was dissolved (I write accouding to the practize which I did see) and then poure the other water vpon that, and presently you shal see an extreme thick blacknesse, which a Dutch Alchimist and practifier of phisick that died of y laft yeres plague (vpon the discouery therof) wold mainta in to be that *nigrum nigro nigrius*, so much spoken of amongst the philosophers, & after a while when the water began to cleare, then he termed it *caelum cristallinum*, after that did appeare a continual rising & falling as it were of flakes of snow which continued certaine houres, & then as it were a hil al couered with pearle, & that he called *sepulchrum Moses*. Al which composition hauing stood one night, there appeared diverse spires like blades of corn or grass but of a whitish colour in the bottome of the glasse, yet in the end, by a reuerberatory furnes hee turned al this great matter into a precipitate, and therefore it must needs be
The fewe/l-hcufe of bee a Philosophicall woork that did ende in so great an arcanum. Yet the same if it bee truelie perfourmed is woorth the beholding, if it were to no other end, then to put vs in minde of Democritus his Atomi, which concurring together, at length engender bodies. There is a like woork to bee perfourmed in filuer, whereby I haue feeene feuerall fourmes and shapes of things sometime to spring vp suddenly, and sometimtes in a night or two, the same sometime representing trees, shrubs, hedges, and flowers, and diuerfe other shapes, and notwithstanding many prati-fes to find out the reafon of the differences of these forms, I could neuer yet make any one forme twise, but that Nature would play so infinitly, and at her owne pleafure herein, as though I did obferue a iuft proportion of all the ingredients of this magifterie, yet (because she found fome difference of peize when fhee weyed them in her owne ballance) I had alwayes a feuerall and differer forme from the laft which I made.

34 A portable ynke to be carried in the forme of a powder in any paper, leather purse or boxe.

IN Foster lane or amongst the refiners of golde and filuer, get a large panne, such as they make their testes of bone ashes in, it is a deep dish made of burnt clay, into this put fo much of the fatest and beft coppres that you can get, set the fame vpon a tureen ouer a reafonable fire of charcole, at the firft it will diffolue into a water, & after by continuing of your fire it will grow drier and drier, stir the fame continually with a wooden spattel into the midft of the pan, and keepe it from burning or hardning to the sides of the pan, and when it is thoroughf calcined into a whitifh powder
powder and before it become redd, take it from the fire, then weigh out of this calcined copper offe one part, one part of the BEST galls well powdered, and half a part of the clearest gum Arabic well powdered also, searce them all through a fine searce, the finer the better, and it will not be amisse if you use a lawne searce herein. KEEPE this powder in close boxes and in the warmest places of your house, and when you will write therewith, put some of the powder into a spoon, adding thereunto some water, wine, beer, or vinegar, and stir it well together a prettie while, and when it hath setted a little, you may write therewith, and as it drieth, it will growe blacker and blacker upon the paper till in the end it become verie legible. This I have often proued. Some commend dry Litmas scraped in water, and forced to a solution, whereby to write in stead of a blew inke. But I thinke it not amisse, first to dissolve some Gum Arabic in the water to keepe your inke the better from sinking. These fortes of inkes are verie good for the sea, because glasses are subject to breaking, and though you put your inke in leaden pots, yet in time it will thicken exceedinglie, and then euery man knowes how troublesom it wil be to the writer. I could here set down some other fortes of inkes that be not common, whereof some will fall from the paper in a few daies, and others would corrode or fret the paper in pieces, but because I know but one good use of them all, and for that I feare so many bad uses, or rather abuses, would follow if they were known and made common, I will rather seeme ignorant of them, then become an author or helper vnto badde men in their bad purpose.
How to write both blew and redde letters at once, with one selfe-same Inke and pen, and upon the same paper.

Put the quantitie of a Hasell nut of Lytmas blewe to three spoonfuls of conduit water, wherein some Gumme Arabick is dissolved, and when it hath settled the space of one hower, if you write therewith you shall have perfect blew letters, and if you dip a pensil in the juice of Lymmons, that is drained from his residence, and do wet some part of the paper therewith, and after let your paper drie againe, and then write vpon the place where the juice of the lymmon was laid, with your former blew inke, the letters will suddenlie become red, and in all the rest of the paper the letters will be blew. And so you may also make partie letters and other fanfies, if you wet your paper accordinglie. sapius probatum.

To keepe Inke from freezing and moulding.

Put a few drops of Aqua vitae therein, and then it will not freeze in the hardest Winter that can happen, and in Sommer time if you put salt therein it will not waxe mouldie as I haue beene crediblie informed.

How to draw any grosse pattern of any Beast, fowle, Tree, Fruit, Flower, Personage, or other picture whatsoever.

You must haue a deske of the clearest and eueneest glasse that is to be bought, yet I haue scene our Suffix
Sufflex glass to serve the turne sufficientlie (and som"vse the skinne of an abortiue Lambe, finelie dressed and streined stiffe vpon a frame) vpon this Deske you must fasten the patterne at the foure endes with a little vax, vpon the which patterne, lay the finest paper that you can get for money, and wax that also vpon the patterne as before. Then place your deske with the back therof against a brim or perfect light, that hath no other opposit nor side light to hinder it, and I thinke it best of all against a window where the sun shineth, and the pattern wil shewe all the lineaments thereof very perfectly through the fine paper, vpon which you may trick, either with a fine pointed cole, black lead, or pen. Or of a sufficient light to be placed under the deske by severall lampes, if thereby also in a darke night, you may not diserne howe to performe your worke perfectlie. Some in stede of this deske doo oyle a paper and lay it vpon a patterne, and draw thereon with blacke lead, and then prick the pattern full of holes & so pounce it vpon another paper. And some haue patterns of beasts, birds,
The Jewel-house of birds, flowers, &c. prick out in paper, and those they
pounce also upon other paper. And this is a good &
readie waie for him that is not skilfull in the Arte of
drawing, to garnish any plot which he hath taken of
any Manor,parke,close,&c.with Trees,hedges,deer,
houfinges, &c. But there is a waie by a perspetuie
glafe (which because it is consecrated unto Arte, I
dare not profane the fame too much by deliuering it
into unhallowed hands) whereby a young scholler
may by one houres demonstration exactlie draw and
set downe the lineamentes of any line personage,
Beast, or other fowle whatsoever, being placed at a-
ny reasonable distance from him, and so of any state-
lie edifice or building, fort, bulworke, or fortificati-
on, and of al manner of engines, whatsoever the wit
of any worke-maister is able either to actuate in the
great or to performe in modell onely. Yea al manner
of drawne patternes whatsoever, bee they never so
great, may by the helpe of this glaffe (wherof I haue
gotten the use at the hand of my deare friend) be lef-
fened and brought within as narrow a Compasse as a
man would reasonablie wish or desire. And whofo-
euer shall advisedly pradtise by the helpe of this glas,
may in one moneths space be able to drawe any pat-
terne by hand onely, without praying in aide of the
fame any more. So likewise it is possible by waie of
reflection, for any man to behold in a looking glasse,
and that also in his private studie, al the gestures and
actions whatsoever any persone shall make or per-
forme, in any roome or corner of his house, as also to
see eu'en in the bottome of his feller, whatsoever is
done vpon the top of Paules steeple, or any other
steeple within London, so as his dwelling bee within
the Citie or the Liberties therof, or within any com-
petent
Art and Nature.

Petent number of miles distant from the same. But because I do see that every Author is in danger to be cenfured according to the particular judgement of every Reader, and because Stultorum plena sunt omnia, I will not extend the credit of this secret to his uttermost bounds, but this shall be sufficient for the weake faith that reigneth in the world at this time.

38. Some helps for the speedier and true making and breaking of any letter, as also how a learner may write straight, and give some prettie grace unto his letters.

For the speedier attaining to any written hand, let some perfect wrighting maister, (and I knowe not whom I should heere commend before mine olde Schoolemaister, Maister Conradus, that teacheth ouer against saint Anthonies Schoole) deliuer a few copies written, or rather broken in this manner. Let him divide or breake each letter into so many partes, as he hath cause to make any little pause or addition before hee finish the same, which is nothing else but the undoing & disjoining of the same, that a yong scholler may the better see, which waie the same was made vp and brought togither. As for example, the Secretarie small a, hath six partes before it bee made vppe, the b. c. and d. haue foure and some more, and some lesse, and for the better understanding of my whole meaning, I would haue caused the whole Al-

\[ \text{alphabet} \]
phabert to have beene cut, and so printed in this manner, but that I could not staye the doing of it, and also for that I knew that master Conradus will sufficiently performe the same with his pen, to any that shall bee willing to requite his pains, and hee hath alreadie written some such coppies for my children. Also it giueth a great grace to your writing, if the whites of certeine letters bee made of one equall bignesse with the o, supposing the same were all round, as the white of the b. of the a. p. y. v. w. x. q. d. g. and s. And for the writing straight, and true breaking of the letters, cause a paper to bee ruled all over, with great lines, drawne with a text penne, vpon which ruled paper, you must laie a leave of the finest paper that can bee gotten, such as they doe commonlie sell for two shillings, foure pence the quere, and let the scholler write vpon the shadowe of the text lines, or else if the neather paper be ruled full of small lines, when hee writeth vpon the fine paper, let him haue care, that those small lines may cut or deuide all those letters which he maketh, in the middeft, and hee shall finde great vfe thereof. Some draw the letters first in black lead or red inke; and then let their scholler run over them with blacke inke, till they haue brought their hande in vre with the shape and fashion of the Letters. There is no doubt, but that some willing and careful Schollers will finde some of these helps, as good as the Ace of heartes in their writing, though other heedlesse Drones, will scarce make the Ace of Diamonds of the best meanes that any master or Teacher shall discouer.
A Gall water very necessarie to mingle with your Inke, as it groweth thick in your standish or ink-horne.

SLice or beat some of the best Galles, and put them in a glaffe of faire water, and when they have giuen some reasonable tincture to the water, you may mix the same with your inke as it thickneth: this is a more kindlie waie, then to vse either faire water, beere, or vineger in stead thereof. But when the water beginneth to be ouer olde and out of date, you must then throw away the same and make fresh.

How to renew olde letters, that be almost worn out of sight.

This is performed by rubbing them ouer carefully with the gall water aforefaid being wel prepar'd, for that will strike a fresh hew again into the old and outworne Coppres. These two secrets I learned verie lately of a skilful & well conceipted gentleman, who hath made some practises thereof himsellse, and the first I can warrant by mine owne triall.

How to speake by signes only without the vuttering of any worde.

Diverse 24. signes, whereof euery one may represent some one of the 24. letters, but place your vowels for the more readines in this maner, First A. vpon the tip of your thumb on the left hand, E. vpon the tip of your forefinger on the same hand, & so of the rest, so as when you lay the index or foresinger of your right
right hand on the tip of your thumb on the left hand, the party with whom you shall conferre in this maner may alwayes note the fame for an A. the rest of the letters which be consonants, may be understanded by touching of several parts of your body, or several gestures, countenances, or actions, as an hem for a B. a cross made on the forehead for a C. a phillip for a D. and so of the rest. I have seene a gentleman together with a gentlewoman that were very ready in their conceited alphabet, to deliver their minds each to other in this maner, when as not any of the standers by understand either word or letter of their meaning. And I hold the same a necessarie arte to be practised of such as doo naturallie lacke their speech, whereby they may be understanded of others, which otherwise could have no mutual conference with them.

42. How to paint or limne with the colours that are taken from herbs or flowers.

Some drie the leafes of herbs or flowers, which carry any deep colour in them, and if there be several all colours upon one leafe, they deuide them, and keep each colour by itself, grinding the same upon a Marble, and after thee it in close glasses or leaded pots, sufficiently defended from the ayre. If you grind the leaves of a white rose with a little Allome, it will give a yellow colour, and so will the purple part of the leafe of the flower deluce, ground with a little lime, yeeld a good and perfect greene. Some express the juice of herbs or flowers, and then evaporate either in a baneo or in the sun so much as will ascend, spreading the rest thinly upon the bottoms & sides of small dishes, & after, then set the same in the sun to dry, & then grind it with.
with gumme water as they haue cause to vs e it. Some infue the moist, and some the drie leafe with faire water, and so soone as the beautiful hew of the leaues begin to vade, they dreine away the water, and make an addition of fresh leaues thereunto, and so change their leaues often, that they may purchafe to themselves nothing else but the liuelie and bright tincture of euerie hearbe or flower. Those two colours of the Rose, & Flower-deluce I learned of master Bateman sometime the person of Newington a most excellent lymner.

43 A readie way for children to learne their A.B.C. 

Cause 4. large dice of bone or wood to bee made, and vpone euery square, one of the small letters of the crosse row to be grauen, but in some bigger shape and the child vsing to play much with them, and being always tolde what letter chants, wil soone gain his Alphabet, as it were by the way of sport or pastime. I haue hearde of a pair of cards, where- on most of the principall Grammer rules haue been printed, and the schoole master hath found good sport thereat with his scholers.

44 To graue and inlay colours into Sol, Luna, Mars, or Venus, to shew in the nature of an Ammel.

First cover your mettall with a crust of waxe, and with a fine sharpe toole when the same is cold, cut out the shape or proportion of what letters or other portraits-
The Jewel-houfe of
portraiture you pleafe and of fome reasonable large-
ness, then pour fome strong water in thofe emptie
places, and when you find them deep enough grauen,
mingle Orpiment and Mafficke melted together for
a yellow colour, and Vermillion with Mafficke for a
red, and fo of all other colours. Now when your Ma-
ftick hath been molten together with any of the afore-
said colours, let it coole, and beat the fame into pow¬
der, and lay of that powder within the grauing, & af¬
ter lay the metal vpon the fire, till the mafficke melt, &
it will remain falt and firme therein a long time. This
of a Jew that yet liueth for ought that I know.

45 To make bad paper to beare ynke in some reasonable
manner.

Ru your paper wel ouer with the fine powder or
duff of Kofen and Sandrach mingled in equall
parts before you write therewith. Note that you muft
tie the powder hard in a rag of Laune or thin Cam-
brick, and therewith rub the paper thoroughly well.
This is a neceffarie secret for Students, whereby they
may note in the margentes of their bookes if the pa-
per should happen to finke, which is an especiall fault
in many of our late yeere bookes of the Law.

46 To make an egge to frande vpon an ende without a-
nie helpe at all.

The is an olde tale of a good workeman who
made an egge to fand in falt vpon an ende, but
here the fame is more arty performed, and yet with-
out any fuch fupportation. Holde an egge in your
right hande, and with your fift give three or foure
good strong blowes vpon your lefte arm, or
The whites of diverse eggs are beaten and cleared with oil or water, put the same into bladders, and hang them in your kitchen chimney where a fire is usually kept during the day, and in a few days the same will become as hard as gum Arabic. This I have often proved. Some perform the same in the Sun alone. See to what use this gum will serve.

Multa omnia albumina simul exagitabils, iis vesicam impleas, inde in olla aqua plenam feruentis immittas, ac die cuquias sinas, detrabe, & per multis dies desiccari curabis, loco tamen non pulverulento, & sic lapidescet ut in vitri duritiem transeat. Wickerus in libro de secretis fol. 532, citat. Bap. Port. auctorem istius secreti.

Here we may note the diverse and sundry effects wrought by the several degrees of fire. We see a continual white fire doth roast an egg till
it become extreme hard but yet the nature of food remaining, an intermixture heat bringeth forth a gum altogether unfit for nourishment, and a gentle or natural heat engendereth a chicken that is good meat, but not before it hath received some alteration by an outward and elementall heat. I will not urge this philosophicall point of fire any further; only I wish that he that is a true master of this element were my master also for a time.

A cheape Candle or Lampe for the poorer sort to use in their houses.

 Dip Candleweke in molten rosen, then wet your hands in water, and after you have dipped every weeke, you must stretch it out at length, or streighten it betweene your fingers, and so lay them to coole upon a halfpace or floore of stone. I thinke the refuse of olde ropes and cordage would be a very profitable weeke for this purpose. This conclusion although it haue beene in some sort already published by meanes of persons both in towne and countrie, and giuen over by the inconuenience of the excessive smoke only which annoieth the whole room exceedingly wherein it burneth, yet mee thinkes that during the deare price of tallow candles, the poore might make some shift or other with them, as either by setting the candle within the Chimney, or else in a Candlesticke ouer the mantletree with a large wide tunnell made of wicker, and couered with paper, and having an elbow which might passe through some large hole into the chimney whereby the smoke may be avoided. These candles I know will not exceed halfe the price of the worst weeke candles that are to bee bought.
But for those that can content themselves with the light of a Lampe (and I am sure the same will serve for watching Candles, and yet be much easier in price) let them buy Rape Oyle, which for the most part is to be had after two Shillings the Gallon, and therewith maintain their Lamps, using a small weke of a few folds one lie, or rather a Candle-rush in the Socket of their Lampe, and so they shall finde that one pint of oile will last them an hundred hours, whereas a pound of watching candles will bee spent in threescore, or threescore & ten hours at the most, and yet they are dearer by one penny in the pound. Note that the weke or rush must stande a little flopping in the nofe of your Lampe. Or if you would use your Lampe in stead of a watching candle, and to maintain a light onely, then may you take a prettie large beere Glasse, placing your weke upon a wier, being platted like a trefoile in the bottom, the wier it selfe being first thrust through a little round flat piece of Leade of the bignesse of a two pennie piece of silver, to make it stande the steadier. The weke must be fastened to the wier with a thred of Cotten loosely bound about it. When you have placed this weke in the middes, then pour in either oile or suet round about it, and so kindle your Lampe, and it will give some light also through the Glasse. Note that your Glasse may not be too large, lest that the week grow to a cole before the Oyle can consume away fast enough to give it passage unto fresh weke thereby to maintaine his light the better. But if you would have your Lampe to last the longer, but to give no light at the sides, nor greatly at the toppe, then set your Glasse in a deepe Basin or potte of water, thereby to keepe the Oyle the cooler, and so it will also
The Jewell house of
also laft the longer. And it is not amifsed, nay it is vere requisit to put in some water into your Glasse before you put in the Oyle, thereby to keepe the oile from burning. Neither can I heere omit or passe over in silence that one more speciall use of a Lampe than anie Candle can afford, which is the saftetie of your light from being caried to and fro in the nighttime with Rattles and Mifs, which have often times set Mattes on fire with the flame of a Candle as they haue sought to convey it into their Nestes. Neither woulde I willingly studie by anie other Candle, because it continueth so long in one equal light, without giuing that offence to the eye which the Candle dooth by his present blaze after it is newlie topped; and by his dimnesse if it bee not often topped; If it were possible to haue store of that Oyle of Beech-masfe (which a late Writer dooth undertake to produce in great quantitie from the Nutte, and which I haue knowne expressed in England, but not with such ycelde, the difference whereof maie peraduenture bee found in the distinct natures of the English and the Naple Nut) or of that Oleu Palme, which is taken at this daye to bee the Oile that issueth out of the Date tree, the burning whereof is most sweete and delicate in a Lampe, as I can testifie by the triall of sundrie nightes wherein I vfed no other watching Candle in my bedde Chamber. Let this suffice to haue spoken of Lampes for this time, and vntill I may obtaine more leysurie and more libertie to lighten a newe Lampe that will giue more light then a Cresset in some of the darkest corners of this lande.
49 Howe to refresh the colours of olde pieces that bee wrought in oyle.

Some use to beate the dust off them with a Foxe taille, or with a brush of feathers, and after rubbing them over with a Spunge and warme Vrine... This way was commended vnto mee by master Bateman, sometime parson of Newington, a man whom for diuerse good partes that were in him, I can neuer sufficiently commend. Others rubbe them over lightly first with a Spunge and faire water, and after there commeth no more soile then with a spunge and good old Linseed oile, wherin somtimes for the spee-dier drying they do put some burnt Alom or powder of glasse finelie ground. Some do vse first to wash o-uer the pictures with soap, and presently after they be drie to vernish them over. Note y all this is intended in pictures not vernilhed before. Vide postea num. 72.

50 An excellent cement for broken Glasses.

Take one part of Virgin-wax, and two parts of the teares or cleare drops of Masticke, and cement therwith. But the better way is if you beat the whitest fishglew you can get with a hammer till it begin to waxe cleare, and then cut the same into verie small and short peecees, suftirng the same to dissolue uppon a gentle fire in a little leaded pan with a fewe drops of Aquavitae. Then let some other that standeth by, hold both the peecees ye are to be cemented ouer a chafing-dish of coles till they be warme, & during their heat lay on the dissolued glew with a fine pensil, then bind the glasse with wier or packthread, & let it rest till it be cold.
colde. With this cement I did see a Dutch Jeweller (dwelling then in the Blackfriers, but since departed this world) cement two of her Maiesties crystal cups that were broke. Some commend vnflawk lime, wheafloure, and the white of an ege. Others like fisheglew, with Aquavitæ and Ceruse, or with the teares of Masticke, Aquavitæ, and Ceruse. A singular workeman did highly commend ve into mee Rennish wine, and Singlaffe or fisheglew for this purpose.

5 I How to drie gunpowder without all danger of fire.

Althought I do not hold this for any great secrete, yet because there hath much mischief & spoile of men happened onely by the rechleffe drying of powder, I haue thought it requisite and necessarie in that respect, and for the prevention of all dangers to come, to publish the same. Cause then a vessel either of Lead, Pewter, Latten, or Copper to be made, having a double bottome, between which bottomes you maie convey scalding water at a pipe, which water may also bee heated in another roome, for the more safetie agaynst the fire, and then you may lay your powder vpon the vppermost bottome till it bee drie, and when the water beginneth to coole, you may let it out at a Cocke in the bottome of the Vessel, and so giue passage for more scalding water into the Vessel by another Cocke which may be fastened in the pipe that runneth into the vessel, or having a little pipe in the side, you may from time to time with a funnel poure in scalding water at your pleasure, & this is done both with lesse cost, and also lesse circumstance. I do vs when I would dry my powder in hast, to heat a fire shoule by discretiœ, & the Hay.
2. To draw Fisb to a certaine place in the night time, by a light or candle.

To much filed lead into an vrinall as will make it finke, and vpon the lead fitrew some hearbes, and vpon those hearbs some glo-worms, couer the glaffe. with a corke and lute it well, and about the necke of the vrinall tie a string, which must bee put through a great corke that may keepe the vrinall swimming in the water at what deapth you pleafe. Note that with some pipe or quill, you must convey some ayre into the glaffe, for else the glo-wormes will die, and then I thinke their shining brightnesse will vanish awaie, and therefore those perpetuall lights are meerelie fabulous and fantastical that are drawne from these distilled wormes and Mercurie together. Some nip or lute a glasse hauing crude Mercurie therein, and so hang it in the water as before. Also a candle helde either euene with the water, or sunke a little way into the water, will amaze and drawe the fishes vnto it, so as if you havc a little hoope-net, vpon the ende of a cane or pole, you may califie take them, and bring them to the brinke-side. All these experimentes are best performed in a darke night.

3. A Bait to ca.tch fisb with.
O halfe a hotte halfe penie white loafe, take one ounce of Coce seed (2re. if Coculus indiæ be not better) one ounce of Henbane seed finely powdered, temper the same wel with strong Aqua composita into a past, then divide your past into small pieces, of the bignesse of a graine of wheate, and cast in a handefull of them at once, somwhat above the place where the fish doe haunt, if it be in a riuer. This serveth especiallie when you see the fish to flote, but for the cheuen you must make your baiies as big as cherrie stones, and put them in little coffins of paper, & then throw them vpon the water. This secret I haue not proued.

Pitch a tramell ouerthwart a riuer where there is good store of fishe, then goe vpwarde against the streame a prettie waie from the net, and as you come downeward againe with the streame, throw in some lime stones here and there dispersedlie, on both the sides of the riuer. These vnflaked limestones wil make such a crackling in the water, that no fishe dare return backe againe vpon them, but will run forwarde and mashe themselues in the tramell. This I had of John Hefer, one of the moost auncient chimifts of my time in London, in exchange of one other secret which I disclosed vnto him. Yet some be of opinion, that you must hurle in whole handfuls at once now and then, whereby the fish hearing so great a noise, and taisting the strength thereof in the water, may bee the more affrighted.

Diners good baies to catch fish with.
Fill a sheep's gut with small unseaked limestone, and tie the same well at both ends, that no water get therein, and if any pike devour it (as they are rauning fish and verie likely to doe) the dieth in a short time, you may fasten it to a string if you please, and so let it flote upon the water. Also the liver of every fish is a good baite to catch any fish of the same kind. Paste made of wheate flower, a little saffron and some sugar, and tempered with water, is a good baite to angle withal for roche, dace, &c. Also if you gather dunghill wormes, or from under a block, and take the earth from them, and put them into fine clean moss, suffering them to scowre themselves three or four daies therein, the fysh will bite the better at them.

56. A readie way to catch Pigeons, and other great birds.

Make small coffyns of paper, (such as the Confit-makers use to put their confites in) not exceeding the length of one's finger, past the sides & ends with some starch, clip the upper part of them round with a pair of sheeres, then annoint the inside of the uppermost skirts of them round about with birdlime in the forme of a ring, and after you have procured the pigeons to haunt a place, by making of a shrap a day or two before, lay of these coffyns here & there with a few peaseon in euerie one of them, a little floping or declining, and strewe some other peaseon amongst them. And when the Pigeon pecketh at the pease within the coffyn, she is immediatlie masked or hooded, not seeing which waie to flie. And so you shall fynde verie good sport, and take them easilie.
57. A Worme to catch birds with.

There is a great opinion conceived of a Worme that hath many feet and is found in a horse-mill, where corne is ground, most commonlie vnder the ground where the horse treadeth, and is exceeding sweet, place this worme with lime twigs about her, where she may be seen, and you shall soone take birds therewith. But I take this rather to bee the worme wherein the Nightingale dooth so much delight, which is found in a mil-case, or where Bakers vfe to boult their meale.

58. How to catch Pigeons, Crowes, Iacke-dawes, and Magpies.

For the taking of pigeons, you must make a shrap three or foure daies together, laying loose lines amongest the pease vntill the Doues bee acquainted therwith, then in som euening tie at those lines great store of stringes, which with a needle before, you must thrust through the pease, being first sodden softe for the purpose, and at the end of euery stringtie a little knot, when a pigeon hath swallowed downe one of these pease, together with the string, she cannot possibly get it vp againe, but she is easilie taken. Perhaps some other birds may also be taken in this manner. It is not amisse to hide the threads neare the pease with grass, earth or straw, or some such like matter. Also if you throw gobbets of flesh or cheese curds abroad in the fields where there be store of Rookes, Crowes, Dawes, or Magpies, within the which there is conuied some of the powder of Arsenicke or subli-
Art and Nature.

Sublimate, you shall sooner dispatch your barnes and other Garners of corn, of all these wastfull birds. But take heed that none of your hoggges doo eat of these dead birds, least they happen to poison them also.

59. How to kil Scapies, Seaguls, & other raueting waterfowle.

Some be of opinion that if in the winter time, you doe streine ouerthwart a river or brooke, where fowle doe haunt, some strong line or whipcorde, at the which you may also hang divers other smaller threads, baited with garbage vpon hookes, of an apt fize for them, that so they will hang themselves, and be easily taken. Also for the taking of store of scapies, you may lime some twigs which may be fastened at small fishes, and then lye the same vpon large leaves, so as the lime touch not the water, and the scapie striking at the fish is taken with the lime twigs. And having taken one or twoe of them, then clippe their winges and so leave them in the water, and all the scapies thereabout that are within hearing, will come to helpe them, and continuallie flie houering ouer them, so as having your peeces charged you may discharge at the whole flocke as fast as you can charge, for they wil not be driuen awake.

60. How to gather great store of Waspes together, so as you may destroy them all.

Some honie put into a pipkin, and the same placed ouer a gentle fire, the windowes of the roome being set open, will by the sent and vapour thereof, draw all the Waspes that are neere the place within.
The Jewell-house of

any reasonable compasse, into the roome where you have bestowed the pot. Note that this must be done in an apt season of the yeare, when as there bee store of waspes, and in some place where they haunt greatlie. Also the waspes will soone resort to an earthen pot, wherein there is some raw flesh, and when you haue drawne some store of them together into the pot, then couer it and set it on the fire vntill you haue destroyed them all. This latter secret I hadde out of Cardanus de rerum varietate, pag. 294, but the first is more naturall and commandeth farther off. Also if you set store of iarre glasses in your Orchard, and about your house, where you see the greatest haunt of them, with some decoction of honie and water, or water and suger, or any other sweet wine or composition in them, leauing these pottes or glasse three partes emptie, they will not forfake these sweeteliquors, vntill they haue drowned themselues therein.

61. How to kepe garments of cloth, or hanginges of Tapistrie, Dornickes, Saie, &c. from moth-eating.

Brush your apparell with an ordinarie brush, and so likewit your hangings, or else you may use a brush made of a figge frale, vntill you haue gotten all the dust out of them, then brush them ouer throughlie well twice or thricie euerie yeare as they hang, with a brush made of wormwood tops. And yet I think it to be the surer waie, if they were also wel rubbed with wormwood on the backsides. I haue heard that it is an usuall practife amongst the Italians here in England in summer time to cause great store of Walnut tree leaues to be hoong vpon a thread, so as one may not
Art and Nature.

hot touch another, and when they are throughlie drie, then strewe them in their Chestes and Presses, amongst their cloathes and other furniture of their chambers and beds, and within the seuerall foldes of evry garment.

62. To helpe beere that beginneth to soure or is dead.

Some put a handful or two of ground malt into a barrell of beere, and stir the same and the beere wel together, and so make it to worke afresh and become good againe. Some do burie lower beere 24. houres in the earth, and thereby recover it. Others add new strong beere to the old, and so the dead beere is forced sometimes to worke againe to a new head. Some fetch it againe with chalke or lime, and some with oyster-shels, and some throw a handful of salt into a barrell of dead beere. A Ladie in this lande hath alwaies vsed to put in a handful of ore-meale into evry barrell of beere, when it was first laide into her seller, whereby hir drink did alwaies carrie with it a quicke and a lively taft. It is also very good to tilt your beere, when the vefsele is little more then halfe drawn off, for so you shall draw your beere good even to the latter end.

63. To helpe a chimney that is on fire, presentlie.

When you see the chimny on fire, forthwith get a large thick blanket or couerlet, and with your help of twoe or three persons, let the same be held close both aboue and below vnto the mouth of the chim¬ney, so as no ayre may enter, and if you cannot come easilie to the toppe of the Chimney, couer the same close alfo, either with a fitte boorde, or else...
64. To have store of Sea-fish for the provision of one stable, without repairing to the sea for them.

Sr Edward Hobbie (as I have heard) hath stored certeine dikes in the Ile of Sheppey, with sundrie kindes of Sea-fish, into which dikes by fluces, he doth let in from time to time, change of sea-water to nourish them.

65. To make ale or beere to become stale, in a short time:

Bottle ale, or bottle beere, being buried somewhat deepe in the ground, in a coole or shadie place, becommeth stale enough to bee drunke in 48. howers space, as I have beene assured by an honest and sober Courtier.

66. How to steale Bees.

If you place a Bee-hiue somewhat before swarming time in the midst of a great beech tree, so close as that it may not be discerned for feare of stealing, the Bees will resort unto the same, especiallie if it bee first well sprinkled within with water and honie.

67. How to make a tallowe candle to last much longer, then it doth in our usuall manner.

A Neopolitan hath written, that salt mingled with oile will make it to double his lasting, but I thinke the practiser herof will find it somewhat troublesome to make a good solucion of salt in oile. For oile is an improper subiect to receine salt. I have heard an Irish practici-
practitioner affirme, that if tallow candles be made about Alhallontide of good stuffe, and presently laide in colde water by the space of 24. houres together, and then hung vp to drie in a coole and windie place upon their stickes, that by this meanes onely they will laft much longer than otherwise they would, and burne also much sweeter. But I am sure that if there be a true counterpeize giuen to a short tallow candle, (such as is vsually called the Goldsmiths candle) and the same afterwards let down betweene ones fingers into the midst of a pale or tub of water, so carefully, as that the flame be not extinguished in letting the same fal into the water, it will laft as long as two candles of the same length and bignesse, alwayes supporting it selfe above the water, by a thin crust or webbe, which it worketh about the flame in the nature of Camphire, which continueth his burning in the water (being once let on fire) vntill it haue wrought a passage or entrie for the water into it selfe.

68 How to tell the just number of Apples, Nuts, Shillings, &c. as they lie in bulketogether, how great so ever the heape be.

Cause the owner of them to dispose of the whole heape in this maner. First will him to lay downe two, then lethem double that number likewise, and so continue in the rule of duplation vntill hee can double no longer, laying all the oddes ones apart by themselues, then shall you easly gheffe by the present view of the whole number, how many there are in the whole heape. For either they must be 2, 4, 8, 16, 32, 64, 128, &c. and which of these numbers foever it bee, every reasonable eye will gheffe, the bulk of the one number dooth so much surmount the other.
62. The Jewel-house of

ther. The like also may be done in trebling, and now
and then doubling or trebling, the more to obscure
the concept.

69 How to prevent drunkenness.

Drink first a good large draught of Sallet Oyle,
for that will float upon the Wine which you
shall drink, and suppress the spirits from ascending
into the braine. Also what quantity soever of newe
milke you drink first, you may well drink thirst as
much wine after, without danger of being drunk.
But howe sick you shall bee with this precaution, I
will not here determine, neither would I have set
downe this experiment, but only for the help of
such modest drinkers as sometimes in company are
drawn, or rather forced to pledge in full bollies such
quaffing companions as they would be loth to offend,
and will require reason at their hands as they term it.

70 An excellent tent for a Diamond.

Burn Iuorie in a crucible or melting potte, being
close luted, into a blacke powder, then take a little
of the fine powder thereof, and mingle it with a few
drops of the extracted Oyle of Masticke, and in the
setting of the stone you must have care that it touch
not the tent.

91 How to make Oile or Varnish to dry speedily.

This is done first by boyling of the oile to the con-
sumption of the one halfe, or one third thereof,
and then by the putting in the ashes of the back-
bones of Shads or Mackerell. Also diverse Shaddes
heads
heads dried in the wind, and hung up in a dark place, will glitter like Glow-worms.

72 A strong Lee that will fetch out any seyne as also refresh an olde Oyle Picture, and make it very fine again.

Take of the ashes of the Vine one handful, of white coppres and burnt allotom of each the quantity of halfe a Walnut, put thereto a pint of conduit water, infuse the same vpon the said substances in an Ipocras bagge, & reiterate the water vpon them 4, or 5. times till it grow very strong, set the said water on the fire, and put thereto the quantity of an hazel nut of good Sope, then take the said Lee so hote as you may well endure your hande therein, and after you haue taken off the dust from the picture with some brush or foxe taile: rub ouer the picture with a spunge till it come to a good lustre with the said Lee, and when the colours please you, then with faire water wash off the said Lee againe, and the piece or picture though never so olde will become very fresh. 2re. if this secrete do not onely extend to such oile pieces as are not vernished. Some rub ouer pictures or Tables with an Onion cut through the midst. This secrete with the preceedent I had of a Dutch mount-banke, and they came so hardly from him as if hee had beene extremly costiffe. Vide antea. num. 49.

73 To helpe Wine that reboileth.

If any sweete Wines happen to reboile in the hot part of the Summer, as I haue often seene, and as manie Vinteners to their great losse haue often-
The Jewel-house of

times felt) then Placentius willeth a little piece or
castle of Cheele to be put into the vessell, and pre-

tently a strange effect will follow. *Hoc ex anchora sa-
mis & sitis.* I beleeeue that the corporation of Vint-
ners would giue twentie pound yearely to have this
secreete warranted to bee true. For the best remedy

which they haue, is to draw the wine of from the lee

into other cleane caske, thereby perswading them-

selves to coole the wine, and to stay the boyling ther-

of. But after a while the inward fire oftentimes begin-

neth a fresh workmanship, and frustrate th all their la-

bour. I would esteeme him for a learned Vintner, and

worthie to haue the next anoydance of Bacchus his

chaire, that could giue me the true reason of this re-

boiling of wines. But because I haue allotted so great

a place of honour to him that can but shewe the rea-

son onely thereof, therefore I will not presume nor

professe to knowe the cause efficient, but I durst un-
dertake to performe the remedie, if I thought my

rewarde would not bee somewhat like vnto his, that

within this few yeares taught diverse of the compa-
nie how to draw out of a Hogges-head of wine lees,

10 gallons of cleare wine at the leaft, which beeing

trickt, or compassd, or at the leaft mingled with o-

ther wine, hath eu er since by diverse Vintners beene

retailed for wine, whereas before it was wholie solde

for lees to the *Aqua vitae* men. And this is the reason

why there hath neuer since beene the like store of lees
to make *Aqua vitae* of, as before the discouerie of this

conceit, and that the lees of many Cellors which be-

fore were liquid, are now become stiffe like paste, and

may verie well be wrought vp into the forme of bals.

And if I be not deceived, the first practise thereof be-
gan in Pater noster row, and within these few yeares,
but I fear by this time, it is a parcel of manie mens 
Creede that will never be left till the worlds end. Wel,
the poore fellow got hardly a good suite of apparel
amongst divers of them to whom hee disclofed the 
secrete, although some one of them could tell which 
way presently to raise 30 or 40 li. per annu unto them-
selfes. And therefore I see it is no offering of skill in 
these days to Vintners. But the better course were 
to take a Tauerne and get a Hollibush if France were 
more open, and a little more freed of the excessive im-
post, and so to draw wines as artificially as the best of 
them. For I can assure you I have almost the whole 
art as it is this day in use amongst the Vintners, writ-
ten in a prettie volume entituled, Secreta dei pampinei. 
And if I durst here so boldly as I could, both truly & 
largely write of those jumbling sleights, that are too 
often practiced in our natural wines by some of 
the Coopers of London, to the great benefite of the 
Marchant and Vintner, although themselves, poore 
soules, get nothing thereby but the hooping of the 
vessels, and now and then a Can of wine for their la-
bours, a man would wonder from whence such great 
variety of juggling should growe or spring, and howe 
these plaine fellowes that never read their Grammer, 
nay scarcely know their A, B, C, should be able to run 
through Ouid's Metamorphosis as they doe at mid-
night. And yet I cannot altogether blame either the 
Cooper, or the Vintners man for practicing of these 
alterations, transmutations, and sometimes even real 
transubstantiations, of white wine into Clarret, & old 
lags of Sacks or Malmesies, with malafoes into Mus-
kadels. For we are grown so nice in taste, that almost 
no wines vnlesse they be more pleasant than they can 
bee of the Grape will content vs, nay no colour vn-
lesse
The Jewel-house of Jollitie bee perfect, fine and bright, will satisfy our wanton eyes, whereupon (as I have beene credibly enounced by some that have seene the practice in Spaine) they are forced even there to entrelace now and then a lay of Lime with the Sacke grape in the expression thereby to bring their Sackes to bee of a more white colour into England then is natural unto them, or then the Spaniards themselves will brooke or endure, who will drinke no other Sackes then such as be of an Amber colour. This makes the Vintners to tricke or compasse all their natural wines if they bee a little hard, with Bastarde to make them sweeter, if they pricke a little they have a decoction of honie with a few Cloues to deeceive the taste, if they be clowdie or not perfect fine, they give them either the white or the yellow parrell, according to the natural colour of the Wines, wherein they must use Eggs, Milke, Baysalt, & Conduit water well beaten and laboured together with a stubbed rokke, and then wrought soundlie together with a parrelling staffe, which parrell for the most part in one night (vnlesse the Wines happen to have a flickering Lee) will cause them to fine, whereby you may presently drawe at certaine. But this is daungerous vnlesse it bee in a house well customed, for that the Wine may not lie too long vpon his parell. And some Wines will not endure long after you have racked them from their parell. Note the wholesomeffe of these Lees to make Aqua vitae withall. But when the Wines doe rope or beginne to faile or faint in themselves, either in substaunce or in colour, either by age, by the fault of Caske, soyle, salt water, or other accident, then manie tymes the Vintener is driven to his hard shiftes, and then hee
hee helpeth himselfe with Allome, with Turnfole, Starch, and with manic other Drugges, and aromaticall ware which hee fetcheth from the Apothecarie, the particulars whereof I coulde set downe and applie even as they haue beene a long time (till within these fewe yerees) practized in one of the most autentique Tauernes of my time. But my purpose is onely to put some in minde of their grosse night-woorkes which discouer themselues by Candlelight at their Celler Windowes, whishing them to leaue all vnwholefome practizes for mans bodie, leaft if they shoulde heereafter against my will force mee to publish them to the worlde, I shoulde drawe my Countrey men into such a liking of our Royston Grape, that in the ende they woulde for the most part content themselues with their Eng-lish and naturall drinke, without raunging fo farre for forreine Wines.

74 The making of a Bragget, which is manie times mistaken for a Muskadell by the simple sort of people.

Pv one part ofsmal Alewoort that is blood warm with one part of clarified Honie according to the maner set dwayne num. 75, but put no Cloues there- in in the clarifying. For the making of one Hogfe- heade of this Bragget which is aboute 63. Gall- lons, you must take nine Gallons of this clarified Ho- nie, and 54. gallons of strong new ale: when your cla- rified hony hath stood one day, then mingle the same with your newe Ale in a Hogfhead, first filling your Hogfhead halfe full before you put in your honie, and then hang this aromaticall composition following in a
in a long slender bag in the midst of the vessell vz. of Cinamon three ounces, ginger three ounces, greins 3. ounces, colianders one ounce, cloues one ounce, nutmegs one ounce, long pepper halfe an ounce, Cardamomum one ounce and a halfe, liquerice one ounce, then fill vp the vessell almost full with the rest of the new ale (yet some commend rather the putting in of the spices confusedlie then in a bag) bee sure to have foure or fiue gallons or more of the same newe ale, to fill vp the hogshhead as it purgeth ouer continuallie. There is a leffer hole neere the bung hole in beere hogshheads, which must stande open whilstt it purgeth, you must also be carefull in the beginning to giue some little vent to the hogshhead whilstt it worke: in three or foure moneths, it will bee reade to drinke. You must haue a hazell stickée of the bignesse of a good cudgell, so great as may well enter in at the round bung-hole, and when your hogshhead is about three quarters full, put in this stick, being sawed croswise at the end about one cubite in length, (the Vintners call it their parrelling staffe) as the aptest toole for this purpose. Beat with the said staffe the new ale and the honie together a good prettie while, & when you haue finished this agitation, fill vp the vessell with the rest, and let it purge as before. If you finde your muscadell too thicke, after it hath stood 3. or 4. monethes, you may take a cane or pipe, made of Tinne plates, that will reach into the midst of the hogshhead or somewhat more, stop the ende thereof and make some holes in the sides, and with a funnell you may poure more newe ale into the Cane, and so make it thinner. This Cane is an apt instrument to conceie any liquor or composition into a vessell of wine without troubling of the same, or turning vpp the lees, wherby
Art and Nature.

whereby you may draw the same fine presently.

75 Howe to clarifie honie so that the taste thereof shall be much altered.

Put a gallon of water blood-warme to a gallon of honie, put in your honie first, and with a ftick take the depth thereof in the vessell wherein you boile it, and then put halfe an ounce of beaten cloues bound in a linnen cloth therein, and let them boile with the water and honie on a gentle fire till all the water bee consumed, which you shall ghesst at by the marke on the fticke. Your honie muft be pure and simple not mingled with woort, flowre, or other bad composition, cuen as it is gathered vpon the breaking vp of the hiues. It is a worke of two or three hours, and the elder the honie is the better it serveth for this purpose. You must remember to take away the skum as it riseth. Som boile this honie a little higher to a more consistencie, and preserue fruit therewith in stead of sugar. These two receits I had of an Oxeford scholler, who asurued me that hee had often made proofe thereof in the City of Oxford, and I know the man to be both of good conceipt, and verie carefull in the commendation of any secreete to his friend otherwise then may well stand with his owne credite.

76 A Receipt for the making of an artificiall Malmesey.

Take four gallons of conduit water, into the which put one gallon of good English honie, stirre the honie well till it be dissolved in the water, set this water in a copper pan upon a gentle fire, & as there arieth

L 3
feth any skumme take it off with a goose wing or a
Skimmer, and when it hath limpered about an hour,
then put in a new laid egge into the water, which will
finke presentlie, then continue your firft fire without
any great encrease, and also your skimming so long
as any skim doth arise, and when this egge beginneth
to floate aloft and sinketh no more, then put in ano¬
ther new laide egge, which will finke likewise, & when
that second egge doth aloft swim aloft with the fyrt
egge, let the water continue on the fyre a Paterno¬
fter while, then take it off, and beinge colde, put the
same into some roundelet, sylling the roundelet brim
ful. And in the middef of this roundelet hang a
bagge, where in first put some reasonable weight or
peize, and to euerie eight gallons of liquor two nut-
riegges grofeli beate, twentie Cloues, a rafe or
two of Ginger, and a sticke of Cynamon of a fynger
length. Set your roundelet in the sunne, in some
hot Leades or other place, where the sinne shineth
continuallie for three whole monethes, couering
the bung-hole from the raine, and now and then syll-
ing it vppe with more of the same composition as it
wafteth. This I learned of an English trauayler, who
aduised me to make the same alwaies about the mid-
def of Maie, that it might haue 3. hot moneths togi¬
ther to work it to his ful perfection. But leaft this way
should happen to faile you, I have thought good for
thy better securitie, to set down mine owne fansie, for
the easier stirring vppe of this Malmesey to his work-
manship. Let your vesseel be such as hath alreadie
conteined some muste or other liquor that hath
wrought therin (for he that knoweth not the vfe of a
worker is but a slender Artist) stop the same very close
and lay it in a convenient Seller til it haue wrought
fuffy-
sufficientlie, but in the working giue the caske vent by degrees, for feare of afterclaps. Or else you may easilie procure the same to worke, by adding of some yeast or ferment vnto it, and setting it warme, according to the usuall manner of ale and beere.

77. How to keepe Claret wine, or any other wine good, many yeares together.

At euery vintage you must drawe off almost a fourth part out of the hoghshead, and then rowle it vpon his Lee, and after fill it vp with the best newe wine of the same kind, that you can get. Your caske must be bound with iron bandes or hoopes, and alwaies kept full and tight. I haue heard that an Essex knight vseth this practive, and hath Wine of nine or ten leaues (as they terme it) which is so many yeares olde.

78. To keepe Wall-nuts greene and moist a long time, so as you may pill the kernell.

Take the stampings of Crabs after the veriuice is expressed from them, lay your nuts therein one by one, so as they touch not one another, and so make stratum super stratum till your vessell be full, these will last some two or three moneths as I haue beene credibly enformed by a gentlewoman that hath made proofe thereof.

79. How to keepe the glossse of Spanish Leather shooes, or buskins, a long time.
The blacking of a Lampe tempered with the oyle of Almondes or some other sweete oyle, is verie good for this purpose. I know a gentleman that doth use to rub his spanishe leather shoes with the back-side of a piece of (e)sheep-leather, but you must have care to keepe this kinde of leather verie drye. Some maintaine the gloss of this leather, with a piece of black velvet onely.

80. How to helpe smoking Chimnies.

If the Chimnies bee large, and carrie some good length and breadth with them, then may you erect or builde a false back & sides to your smoking chimnies, so as there may be a distance of three or four inches betwene the olde backe and the new, raise this new worke a foot above the mantletee. Warranted by a Gentleman of Ireland, being a great practisier in artificiall conclusions, 2. e.

81. Tinder and match of a new kind and sweet.

Take the light & thin shauings of drie fir boords, light them with a candle, and when they are almost burnt, put them out as you would doe Linnen rags, after the flame is past, in a stone pot. Then laie another thin shauing thereon, and with a steele and flint stone strike fire into this tinder, and blow there-in till this new shauing doo kindle and so light your candle, and then put out this last shauing in some reasonable time, and it will helpe to increase your Tinder. This I haue seene a Dutch Joiner vsed oftentimes in the lighting of his Candle. Note here that your match
match and your tinder is all of one substance or matter. Also you may make sweete matches to your ordinarie tinder in this manner. Cut or thwite a number of small Juniper stickes, with sharpe points like picke toothes, and dip them but a little waie, and that very lightly in Brimstone, and when the brimstone is spent the Juniper will burne sweetlie.

82. *An excellent mixture, to make pewter bright withall and to take out the staines.*

To a gallon of strong bucke Lee, put halfe a pound of blacke sope, and a reasonable handefull of the dust of Flaunder's tile, which you shall make by rubbing one against another. Boile them well together till they become like pappe or birlime. This will last a whole yeare. You must onely haue care to bestowed good labour vpon the vessell if you meane to vse this fcowring.

83. *To defend a Horse from flies in his travaile.*

Teepe Arsmarte in water, making the water very strong of the heartbe, and therewith wash your horse before you meane to travell.

84. *To kill Rats in a Garner.*

Be sure there be no holes in the bottome or sides of your garner, or any where else, sauing above the boords which you must place sheluing wise, or in the maner of a penthouse throughout the garner, about halfe a yard or two foote from the corne, so as when the Rats haue leaped downe into the bulke of corne, then
The Jewel-house of
they shall not be able to rise or bolt vp againe before
you haue sped them.

85. How to take away the offence of noisome vaults.

Make the vent thereof vpwarde as large or larger
then the tunnell downward, and carrie the same
vp to a convenient heigth, for so the offensive ayre
as fast as it riseth hath issue and stayeth not in the pas-

86. Sweet and delicate dentifrices or rubbers for the
teeth.

Dissolve in foure ounces of warme water, three or
soure drams of gumme Dragagant, and in one
night this will become a thicke substance like gellie,
mingle the same with the powder of Alabaster finely
ground and scrafed, then make vp this substance
into little round rowles of 4. or 5. inches in length.
Also if you temper roset or some other colour that is
not hurtfull with them,they will shew full of pleasing
veines. These you may sweeten either with rofewa-
ter,cujet,or muske. But if your teeth be vere scale,
let som expert Barber first take off the scales with his
instrument, and then you may keepe them cleane
with the aforesaid rowles. And hear by these misera-
ble examples that I haue seene in some of my nearest
friendes, I am enforced to admonish all men to bee
carefull, how they suffer their teeth to be made white
with any \textit{Aqua fortis}, which is the Barbers vsiall
water, for unlesse the same be both well delayed, and
carefullie applied, a man within a few dressings, may
be driven to borrow a ranke of teeth to cate his din-
ner.
87. To help either man or horse that is tender in the foot or hoofe, whereby they cannot endure any great travel.

Let him that travelleth much and hath this insirmitie, put in each sock before he draw on his hose a new laid egge somewhat grosetlie broken, and so let him travel upon them. So likewise you must put in two egges a little beaten into either hoofe of the horse, and clap cow dung upon them, and then wrap them well one night that they fall not out, and after you may travel him any reasonable journey. This is much used in Italie.

88. How to keepe Oysters good 10, or 12, daies.

Some hold opinion that if you barrel them vp whilst they are new and quick at the Sea side, putting some of the brackish water where they are taken amongst them, that so they will last many daies good. 

Qre. Of dissolving of some salt in fresh water til it bee of one strength with the brackish, which containeth some eightheenth or twentieth part of salt, peradventure it will not be a misse to change your brine now & then. Some pile them vp in small roundlets with the hollow parts of the shells upward, casting salt among them at euerie laie which they make. This is a good devise to send them far into the Countreys where oysters are deintie and sold by tale.

89. To keepe Lobsters, crayfishes, Prawnes, Shrimpes, &c. sweet and good for some few daies.

These
These kind of fish are well noted to bee of no durability or lasting in warme weather, yet to prolong their daies a little (though I fear I shall raise the price of them by this discouerie amongst the Fishmongers, who onely in respect of their speedy decay doo now and then affoord a penieworth in them) if you wrap them in sweet and course rags first moistened in salt water, and then burie these cloaths in Callis sandle, that is also kept in some coole and moist place, I knowe by mine owne experience, that you shall finde your Labour well bestowed, and the rather if you lay them in seuerall cloathes so as one doe not touch the other.

90. An artificial composition, wherewith to make smooth glistening and hard floores, or to plaister walls with.

Temper Oxen-bloud and fine clay together, and lay the same in any floore or wall, and it will become a verie strong and binding substance, as I have beene told by a gentleman stranger, who affirmed vnto me that the same is in great use in Italie.

91. To make parchment cleere and transparent, to serve for divers purposes.

Make choice of the finest and thinnest parchment you can get, scrape the same ouer with a knife till it become verie thin, (but first you must wet it well in water) then straine it vpon a frame, and fasten it well, and when it is drye oile it all ouer with a pensill, with the oile of sweet Almonds, oile of turpentine, or oile of spike, some content themselves with linseed oile, & when it is thorow dry, it will shew very cleere, & serve
in windowes in steade of Glaffe, especially in such rooms as are subject to overseers. You may draw a- nie personage, beast, tree, flower, or coate armour upon the parchment before it bee oyled, and then cut- ting your Parchment into square panes, and making flight frames for them, they will make a prettie shew in your windowes, and keepe the roome verye warm. This I commend before oyled Paper, because it is more lasting, and will endure the blustring and stormie weather much better then paper.

92 A profitable and cheape morter for building, where- in either no Lime, or small store of Lime Shall bee requisite.

A wise, wealthie, and ancient Sopeboyler, dwel- ling without Algat, hath for the better encour- age ment of others, long since erected a faire and stately edifice of brick for his owne habitation, upon the good succesfe whereof he hath also verie latelie built one other house of some charge and good receipt, the morter whereof did consist of two loades of waste sope ashes, one load of lime, one load of loame, and one load of Woolwich sand. So likewise one other of the same facultie, being likewise of good cre- dite and great experience, hath vsed onlie loame and sope-ashes tempered and wrought together in stead of morter, whereby he hath laid both the founda- tions, chimneys, and their tunnels in his dwelling house in Southwarke, and they haue endured those stormes alreadie which haue overthrown many o- ther both new and olde tunnels that hath beene built with the ordinarie morter. It may be that many lime- men, and some of those Bricklayers that are in fee M 3 with
with them may bend their force against this new practice, and labour to discredite the same by all means possible, but there is no reason that can holde agaynst experience, nor no malice so great, but that trueth in her time shall bee able to vanquish. And if these three tryals shall not bee thought a competent number to give credite to a new invention, I will vpon reasonable request and warning, backe and confirme them, with three score more at the least, which I can produce already made and executed within the Citie of London and the Suburbs thereof, in somuch that who soever will take a careful view of all our late buildinges, that consist of Brickwoorke (especially within the Suburbs of the Citie) hee shall finde great store of these waste ashes to be employed in them.

93. A conceipted drinking Glasse wherein many sortes of fish will seeme to swim vp and downe.

IN the middest of a good large drinking-glasse, and of a bole fashion, let a shortpiller of Glasse arise, vpon the which a rounde Globe or Ball of Glasse must be placed, vpon which Ball there inust bee diuerse sortes of small fishes well drawne and limned, then fill the Glasse either with water, or with white, or Rennish Wine, and the least motion that can happen, either to the Wine or water, will make the fishes seeme to play vp and downe within the Glasse.

94. Howe to dissolve golde, or to part it from guilt silver, without melting downe the silver.
Dissolve some sal Armoniacal, in some good aquafortis, whose feces fixes the Goldsmiths vnproperly termethem) have beene first striken down with some fine siltur, or else still by retort the said aquafortis, from good store of Baysalt first calcined; let some of this water in a parting glasse upon warme imbers, and put therein your guilt siltur, and it will stand in the forme of a golden water. You may gather your golde againe either by euaporation of the water, and so the golde will settle in the bottome, or else if you put Mercurie therein it will amalgamie with it, which Mercurie will soone flye awaye in fume, being put into a Crucible, and leave the Golde behinde. I doe hold this to bee a verie profitable secret for the Goldsmith, vnlesse the Mercurie in the first guilding of the siltur, doe conuey some part of the Golde so farre within the siltur, as that the water can make no sufficient penetration vnto it. For by this meanes all the charge of testing and parting will be faued, which (as I take it) will not bee much lesse then foure pence vpon euery ounce. But whereas it hath beene obieeted by some Refiners, that by this meanes there will bee much golde loft (especially in such ancien plate as hath bee made and perhaps melted down againe before the arte of refining which is of a puine date was found out, for that this water doth only take holde of such gold as doth environ the outside of the siltur) I holde this to be a weake objection to discourrage any man from the practize of this solution, for that in such plate as either carieth no touch, or so old a touch as the buier shall not bee acquainted with all, he may follow the old refining rules: and in such guilt plate as hath bee made since the arte of refining hath
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hath first beene vsed amongst vs (which is the most usual plate that is bought and sold in these dayes) he shall finde the same a most beneficall praetize, if the first doubt may be salued. Which may easily be proved in one ounce or two of guilt siluer, making a straite observation howe much golde was bestowed thereon.

95 Howe to knowe when the Moone is at the full by a glasse of salt water.

Thath beene crediblie reported vnto me, that if an ordinarie drinking glasse bee filled brim full, a little before the full of the Moone, that, euens at that instant when the Moone commeth to the full, the water will presently boile ouer.

96 Howe to melt downe the filings of yron, nailes, or other small pieces of yron with a small fire.

To three partes of yron put one fourth part of Antimonie powdred, in a crufile or melting pot, let the same in any ordinarie fornesse, and blowe a little with a paire of bellowes, (or else for your more easie you may use a winde fornesse) and you shall finde the same to melt verie speedily. This way you may easilly cast both Musket and Caliuer bullets of yron.

97 Howe to put severall liquors or Wines in one Glasse, without mixing.

Take a Beere glasse of six or eight inches in height, and being of one equall bignesse, from the bottom to the topppe, then powre therein some faire water, an
an inch or two in height, upon the which lay a round trencher that is almost equal in compass with the glass. Then out of a long spouted glass or pot, pour gently some milk upon the trencher, and after that some Rochell or Connyack white wine, and then some Gascoigne Claret wine, and after sacke, and so you shall have each liquor or wine to float upon the other without mingling together, because the fall thereof is broken by means of the gentle pouring upon the trencher. Some hold opinion that the same may also be performed with a round toste. But I think that you must have a special care herein, that the heaviest liquor do lie in the bottom, and that you proceed from lighter to lighter, so as the lightest or most aereous or fierie be placed uppermost, for each thing desires to be in his natural place.

You must make choice of some large edifice or building, whose Chambers or Galleries bee of some reasonable receipt, and so familiar unto you, as that every part of each of them may present itself readily unto the eyes of your mind when you call for them. In every of these rooms you must place ten several subiectes at a reasonable distance one from the other, lest the neareness of their placing should happen to confound your Memorie. Your subiectes must consist of Decades, whereof the first

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is a man, and the fifth a woman, or rather the wife of that man which beginneth the Decade. And by this means your first, your fifth, your tenth, your fiftenth, and your twentieth subject, &c. Both forward and backwarde is easily brought to minde. The rest of the subjects in every Decade may be such as are merely differing the one from the other, unless you shall like to have some few of them resembling the profession of him that beginneth the Decade. As for example, if you begin with the Souldier, you may take a Drumme and a Target for two of the subjects in that Decade. But if you place too many subjects of one nature within one Decade, you will finde them verie troublesome to remember. These subjects would be such as are most apt either to bee agents or patients, vppon whatsoever you shall have cause to place in them. And therefore a fire, a Dunghill, a Carte, a paire of Bellowes, a Tubbe of water, an Ape, a Shippe, a night-gowne, a Milstone, and such like, are apt to make your subjects of, wherein you may place all such things as you would remember, and as Master Dickson termed it, to animate the umbrae or ideas rerum memorandarum. But heerein euery man may best please his owne witte and memorie. Now to proceede to the placing of these tenie subjects, in their tenie local roome, you maie beginne with a Souldier, whom you may place in the doore or entrance confronting with a sterne and warlike looke all such as shall offer to enter that roome, whereof hee take the charge, you maie also imagine him with Flaske, Touch-boxe, Morion, Peece, Swoorde and Dagger, &c. Because you may happlie have occasion in the placing of some harde woorde, to vse
some one of these more fitlie then the other. Your second place maie bee your Bed-steed, (if that do happily stande next your doore) at the head whereof, you maie by a strong imagination place an extreme burning fire, and at the feete thereof a great and smoaking Dunghill. In your Chimney (if that likewise bee next your bed, and of a competent distance from the bedde) you maie imagine a Tubbe full of water. Then in your window beeing the next fitte place you may imagine Bellona flaring with her fierie eyes, and portraied in all points according to the visial description of the Poets. Then upon your court Cubbarde, you may place an Ape with her clogge, and in an other Window (if your Chamber haue two windowes) a Shippe vnder saile with all her tackle. Vpon your Chaire you may imagine a night-gowne furred with Foxe skinne, haung wide sleanes, and great pockets belonging to the same. Then vpon your Table standing in the middeft of the roome, you may place a Millstone, or a Drumme, and in the top of the feeling over your Table, a Target, a sword, or a Lute hanging downwarde. And if you want places, you may make either side of your windows to be one, and so of your Chimney. But here you must haue an especiall care beginning at the doore of your chamber to take the places round about the chamber according as they lie, and that before you fall to the praetize of this arte you may perfitely (as your Parter noeuer) remember every place, and what subject you have placed therein, which you shall the better perfourme if you make a full and a live description of euerie subject in your minde before you place the same. Nowe haung gotten all these subjectes, with their severall places,
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lices memoriter & adunguim, suppose you are to re-
member a Cat, a Lute, and a hande, you must al-
ways remember to place your first worde whatso-
ever it bee; and howe vnapt so euer it bee in the first
subiect, and the seconde worde in the seconde sub-
ject, and so forwarde. And therefore you may ima-
gine your Cat scratchinge the Souldier by the face,
till the blood runne downe his cheekes, he himselfe
swearing and flaring and strugling with her. Your
Lute being layde in the fire, you may imagine the
same burning to coles, and all the stringes cracking
in funder to your great greefe. Then you may ima-
gine for the better remembrance of your third word,
a hande raking in the dunghill till it become soule
and lothsome in sight. In the like maner you may
passe through the whole decade. And if you haue
more words or Capitaverum to remember then ten,
you must beginne with the next decade of your lo-
call subiectes wherein you may place other tenne
woordes, and so you may procede to what number
you lift, having subiectes enougb to receyue them.
Beholde heere that great and swelling Arte; for the
which Maifter Dickson did vsually take of euerie
Scholler twentie shillings, making one whole Mo-
onths discourse of the Theorique part thereof, but
in the practique hee coulde scarcely tell which way
to bestowe a full houre in demonstration. And yet
to deliuer my cenfure hereof, according as I haue
found therein, I must of necessitie confesse, that al-
though it doe neither anfwere his great promisses,
not the expectation of those his Schollers, whose
good opinions he did entretaine so long with such
golden hopes in the bettering of their weake memo-
ries, that yet notwithstanding the same is verie sufi-
cient.
Art and Nature.

85

cient to procure an assured and speedy remembrance of any 10, 20, 30, or 40 principal things, more or less, that we shall take in charge to perform, and therefore very necessary for him that is charged with many errands, and would discharge them all in such order as they are delivered unto him, as also for the remembrance of all such pleasant tales and histories as shall pass in table talk, from conceived wits. In which two especial uses, I have often exercised this Art for the better help of mine own memory, and the same as yet hath never failed me. Although I have heard of some of Master Dickson his scholars, that have proved such cunning Card-players hereby, that they could tell the whole course of all the Cardes, and what every gamester had in his hand. So ready we are to turn an honest and commendable invention into mere craft and commonage. And if there be any that do doubt of this art, or shall think that I have dealt too compendiously in so large a subject, I will according to my ancient promise, be at all times ready, and that freely, as well in this as in any other secret which I have disclosed already, or shall hereafter by any public impression disclose unto my Country men, be ready to manifest the same by plain terms, or manual demonstration, to their best contentment.

99. How to make projection, either upon Mercurie, Venus, or any of the rest of the base bodies, with a medicine so exalted, as that one shall extend upon a hundred, either ad album, or ad rubrum, and abiding both the touch, malleation and coppell, the gold being 24 Carots high, and the silver 12 ounces fine.

A multis amatur Alchimia & tamen virgo est.

N 3
Coulde never yet receive any sufficient warrant or allowance: from the true and ancient chimical Philosophers of all former ages, for the manifesting of so great a secret as I have now in hande, in any plaine or naked tearmes. And that made Geber to take holde of this Posie, Secretum tuum non revelabis cuiquam. And Comes Treuisianus, dooth so religiously holde and maintaine the secretting both of the Philosophers matter, their fire, the Colours, time and proportion that is to be vsed in the great worke, as that he breaketh out into this strong conjuration, of all such happie Alchimistes, as haue alreadie accomplished their golden desires in this Art: Quod si materiam, pondus, aut coires non eris, adiuro te per Deum vivum ne cuiquam revelaucris. But because I purpose not to prophane or violate those Sacred groundes of Nature in this discourse, but onely to particularize a fewe projecions, I hope that both my pardon and my fault shal carrie one date, and therefore I will proceed the boldlier in my purpose. It is a worlde to see, how euery Arte hath gotten his Counterfeite in these daies. Howe Logike is turned into Sophistrie, Rhetorique into flatterie; Astronomie into vaine and presumptuous Astrologie, that ancient and divine science of Alchimie into Cementsations, Blaunchers, and Citrinations, ending commonlie either in coofenage, quoinage, or in Capistro, which made Petrarkc to giue a Caucat in these wordes: Caeve Alchimiam, semper rebus aliquid defuerit, dolis nihil. And againe: Chimista qui tibi aurum suum spondet, cum tuo auro impronisus aufugiet. This made Chawcer in his time to play so plesantlie vpon
vpon the Alchimist's hollow cole, & this hath made
me to touch or glance at a few other sleights of later
date; therby to admonish al yong gentlemen and oth-
ers to take heed of all these mercenary hirelinges,
*Qui cum alis mille aureos promittant, ipsi drachman petunt. Locus poscit fabulam.* A subtile marchant for-
ting himself of late, with an old smokie Alchimist for
his better credit, as they became fellow travellers in
the higher parte of Germanie together; lighting by
chance vpon a young crewe of marchants that were
wel monied, and ready for any rich prize that should
be offered unto them, especially for *Fons* barke that
was laden with the golden fleece; after some salutati-
on had, and a few words of course enterchangeable
passing betwixt them, this cunning companion of
the alchimists began to parlie with them in this ma-
ner: My maisters and friends, you see me to be men of
honest parentage and condition, and most happily to
be here met both for your owne good and ours. So it
is, that if you will performe that secrete which is re-
quiste in so weightie a matter as I am in purpose to
commende vnto you, *I* will make you the moste
royall Marchantes of the whole Worlde. Neither
shall any of you make the hazzarde or aduenture of
one Deniere, vntill with your owne eyes and handes
you shall haue seene and made a sensible proofe of
this my friendlie offer. It is but in vaine to use ma-
nie wordes amongt friendes: You shall make a per-
fect provisjon your selues vpon Mercurie, *ad omne
examen*; and because my selfe and my partener
will bee free from all suspition of deceipt, you
shall bringe the Crucible, the Coales, and also the
Quicke-fluer with you, and wee will but onelie
deliuer
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deliver you one graine of the medicine which shall
extend itselfe vpon a full ounce of Mercurie, which
you your selues shall likewise let fall into the crufible.
A man would thinke that this were plaine dealing,
and that vnlesse these men were wilfullie bent to co¬
fen themselues, that it were impossible, to deceive so
many young eies, that watched so carefully for them
selues. But now to the pra&ife. The fire being kin¬
deled, one of them setteth on the Crufible by direc¬
tion of the Alchimift, vnder the nose of a paire of gold¬
smithes bellowes, who told him that for the better
fixation of the Mercurie, there muste a reuererato¬
torie blast be made now and then with the bellowes,
after the Mercurie was once warme in the melting
pot. Now this Impostor had before conueied into
the nose of the bellowes, an ounce or somewhat more
(to supplie that which the Mercurie with his fume
should carrie awaie with him) of Sol so subtiliated
by often reiteration of Aqua Regis vpon it, as that
it becam almost an impalpable powder, which when
the Marchant by the appointment of the Chimift,
had blowne amongt the Mercurie, he was willed to
drop in the medicine, being wrapped vppe in a final
paper, and then to leaue the crufible in the fire, vntill
the medicine and the Mercurie were both incorpo¬
rated together, and that the Mercurie were suffici¬
entlie tinted into Sol, and within one halfe hour (af¬
ter he had first caused them to melt downe an ounce
of fine golde in an other crufible, and to put the same
to the first worke, for the better fusion of the powder)
he willed to be taken out of the fire and conveyed in¬
to an ingot, and the same being colde became twoe
ounces of perfect Sol, abiding both the hammer, the
test, and the horne of Antimonie. It is not to bee
doub-
doubted, but that these yong gallants were right joyful of this good success, desiring nothing more then to become Lulliftes, offering to exchange their freedom both of the olde Haunce and of the newe, for this multiplying Art. Now this geere worketh like wax, and the Alchimift demandeth 2000. dollers, for the provision of coles, furnaces, saltes and Minerals, but especiallie to engrofe all the Mercurie, that could be gotten, least either it should rise to an excessive price, or be transported into Spaine, for the refining of the Indian oare. The money is forthwith deliuered by weight, because there must bee no time lost in the telling, with a charge to vse all expedition that could be for the gathering of the Mercurie together that was to be gotten far and neere. The substance of this historie is already deliuered, I will not stande long vpon the circumstance. The Alchimift having fingered the monie, beginneth to erect furnaces, and enteraineth them with a few distillations, calcinations and sublimations, teaching them howe to make Lutum Sapientie, Aquam separationis, aquam regis, oleum vitrioli, salis, & sulphuris, to congeale Mercurie with the spirit of Saturne, to make jaccarum Saturni, to whiten their teeth withall, to blanch copper with Arsenick, to melt one part of Luna with 3. parts of Venus together, and then to forge plate thereof, and by a certen ebullition, to make the same diverse times to touch equall with our best starling, or higher according to the fineness of the siluer that was mingled with Venus, all this (with an infinite number of spagirical experiments) was performed, both to passe away the time without tediousnesse, whilest the Philosophers egge (which required io. moneths digestion, was hatching in Cælo philosophorum) as also
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to gain more credit with the merchants, whereby a man of these single gifts, might not be feared or mistrusted of his flight, which both he & his compagnio were daily practising, and in the end finding good opportunitie they put the same in execution, leaving them that had most need to blow at the coles. I do verely beleeue that if the old D. of Florence were alive againe, he would have outbidden the merchants for this secret, whose distillatorie vessels, furnaces, & other chimicall instrumentes, were all of siluer as I haue heard it often reported. But now, to giue a few Items more against these Impostors, before I conclude. Let every man that is besotted in this Art, and dependeth wholly upon other mens practises (himselfe not being sufficientlie acquainted with those great and hidden Maximes of nature) take heed also of all false and double bottomes in Crusibles, of all hollowe wandes or roddes of yron, wherewith some of these varlettes doe vs to stirre the mettall and the medicine together, of all Amalgames or Powders, wherein any Gold or Silver shall bee craftilie conveyed, of Sol or Luna, first rubified and then projection made upon it, as if it were vpon Venus hir selfe: but speciallie of a false backe to the Chimney or furnace, having a loose bricke or stone closely ioyned, that may bee taken awaie in an other Roome by a false Sion that attendeth onely the Alchimistes hemine, or some other such like watch-woorde, who after the medicine and the Mercurie put together in the Crusible, enterteineth Balbinus with a walk and with the volubilitie of his toung, vntill his confedrate may have leysure enough to convey some Gold or Silver into the melting potte, which were able to deceive the best sighted Argus in the world. By
By these fewe legerdemaynes, I hope many thousands will be sufficiently warned, of these wandring &roguing Alchimists, who since the death of Cuckow, Stannie, and Feates, and the rest of that rable, are become the verie Juglers of the Lande, yea infinitelie worse than they: For that our auncient Juglers would shewe all their jugling trickes for a great or a Tealtern, and though nowe and then they made shew to tranmute fluer into Counters, or money out of one mannes hande into an others, yet in the ende, every man returned with the Coine which he brought in his purse againe, whereas these Rascales do not onelie convert other mennes monie wholelie into their owne purses, but procure also a great looke and expence of time, which might haue beene many waies better, but no way worse employed, and can never bee redeemed againe. Wherefore to conclude with Petrarck, Die vtea Jibipraet qua promittit aliis, primumque suam pellat inviam. Est enim ferre, mendicam genus hominum, cunquse pauperes fateantur, dictare alios voluntas, quasi aliena illis quam propria molestior sit paupertas: sic ut miseris se alios miserreri dicere soleant impudenter, & ignitiis etiam interdum magnae promittere: O turpis promissio, & o iustae reduxitias. 

Place a violl or other glasse having a long necke, in a pan of ashes, suffering one inch of the neck only to peer aboute y ashes, then lay charcole round about the neck, & close to y fame (som do also couer the viol with hot tongues, which is commonlie called Sigillum Hermetis.

iiif!
with a round glasse fitted to the mouth, both to keep
out the ashes and also the extreme heat of the fire
from striking downward into the belly of the glasse,
covering also the verie toppe or summit of the glasse
with charcoal, two or three inches above the fame,
then make fire at the toppe and let it kindle of it selfe
downward, and if that heat be not sufficient, use also
the blatt of the bellowes, for you must force the neck
of the glasse even to a heat of fusion, and when it is
readie to melt, then nip the same close together with
a paires of tongs being red hot, which for the same
purpose must be kept in a strong glowing fire, and if
you can take it in his inust time, you shall close the same
so strongly, that it is impossible for any ayre to issue
out. You may safeely keepe any distilled oil or water
in a glasse so nipp'd. But take heed how you keepe
the juice of any strong or fierie plant, as also of any
decotion that is apt to work it selfe into a bodie, as
new must, or the strong wort either of ale or beer,
least you doe not onelie mispend your time, lose your
liquor, and breake your glasse, but also get a shrewd
turne your selfe, if you happen to be within gun-shot.
For there be certain wild spirits within, who can in-
dure no imprisionment, but if they can find no waie,
they will make waie, bearing out before them both
locke, bolt, and hinges, and yet they are such as the
Philosopher can not want, though the vulgar forte
know no use of them.
or A Wagon to be drawn with men in stead of horses.

The joints and other parts of this wagon are so knit together with hooks & pinnes, as that it may easily be disjoyned and taken inumber, whereby many of the may be couched in a narrow roome, and will lie close together in a ship. It is to be drawn with six men, whereof two of them muste labour at the fore-carriage thereof, and at either wheel, other two, which muste worke by winding of the handles, (which are of purpofe fastened both to the Naue of the wheel, and axletre) either forward or backward as occasion serveth. The use thereof is to convey their victuals and other necessaries from place to place when the mariners or soldiars haue cause to land in some countreys where the place affoordeth no horse or other beasts that are fit for labour or cariage. I know not the Author of this invention, but because it came so happy to my handes, and caried some good conceipt with
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with it, I thinke it necessarie to be published amongst other serviceable devises for the sea.

A delicate stone to sweate in.

Put into a Brassie potte of some content, such proportion of sweete herbs, and of such kinde as shal bee most appropriate for your infirmite, with some reasonable quantitie of water, close the same with an apt cover, and well luted with some paste made of flowre and whites of egges, at some part of the cover you must let in a Leaden pipe (the entranunce where of must also bee well luted) this pipe must bee conveyed (through the side of the Chimney where your pot standeth) in at a thicke hollow staffe of a bathing tub crossed with hoopes according to the vnual manner, whereby you may couer it with a sheete at your pleasure. Nowe the stem of the pot passing through the pipe vnder the false bottom of the bathing tubbe which must bee bored full of bigge holes, will breath so sweet & warme a vapour vpon your bodie, as that (receyuing aire by holding your heade without the tub as you sit therein) you shall sweat most temperatly, and continue the same a long time without fainting. And this is performed with a small fire of Charcole maintained vnder the pot for this purpose. Note that the room would be close wherein you place your bathing tub, least any sudden cold should offend you whilst your body is made open & porous to the ayr.

The Arte of refining of Sugar.

Make a very strong Lee of vnfleckt Lime wherein dissolve as much course Sugar as the Lee will beare,
beare, then boyle the same a little, and presently put in the whites of eggs first beaten into Oyle, which will make it to give up a scumme, which must be taken away as long as anything feth. Then pour all the liquors through a great woollen cloth bagge, and so the filth will remaine behinde in the bagge; then boyle the liquor againe, till it bee ripe, which you shall knowe by taking two or three droppes of the liquor and putting them upon a plate of colde yron, letting it coole, which when it is concealed a little like salt, or as a meane betweene sirruppe and hard Sugar, then take the liquor from the fire, and pour out the same into the earthen Potte or Moldes made for the same purpose, having a hole in the smaller ende which must be stopped for one night after, and after that night open it, letting all the substance remaine in the Potte, untill the sirruppe beginne to leave dropping (into the nether Pot wherein the Moldes stande) or droppe verie soulie at the little hole, this Syruppe (as I take it) is that which they call Malassoes. Then take Potters Claie, and Clay the broade endes of the Potte over therewith, and as that Claye sinketh downe by reason of the shrinking of the Sugar, fill them vp with more Clay, repeating the doing thereof till the Sugar shrinke no more. Then take the Sugar-loaues out of the Moldes, and put them in a Stone, till they bee drye and harde, and after binde them vppe in Papers according to Arte. Note that if the Sugar after the first boyling, and beeing powered out into the Moldes and beginning to congeale, appeare to bee ouer-black or soule, and shall not become white at the first in the same Moldes, but some seciall part remaine therein,
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Therein, then it must be newe boyled with Lee in all points at supra, till it bee perfectly white. Also the clay must be potters clay, tempered like pappe in water, and the same must runne through a Colander full of holes upon the bottome of the Sugar loafe, for the softnesse of the Sugar will not suffer the pressing downe of any stiffe clay. This receipt though happily it want some of the circumstances in the Arte of refining, yet it should seeme the matter of substance is sufficiently unfolded herein. I had the same of a Gentleman of a great Worship and a

FINIS.