The jewell house of art and nature. Conteining divers rare and profitable inventions, together with sundry new experimentes in the art of husbandry, distillation and moulding / [Sir Hugh Plat].

Contributors

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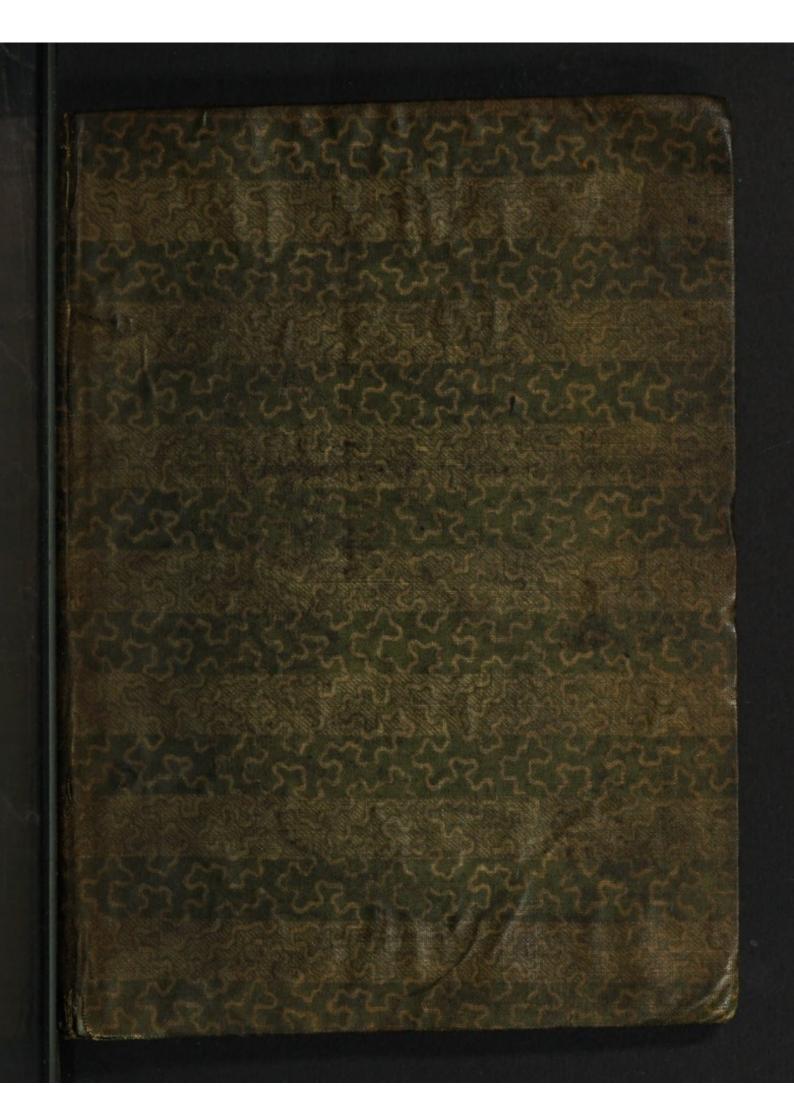
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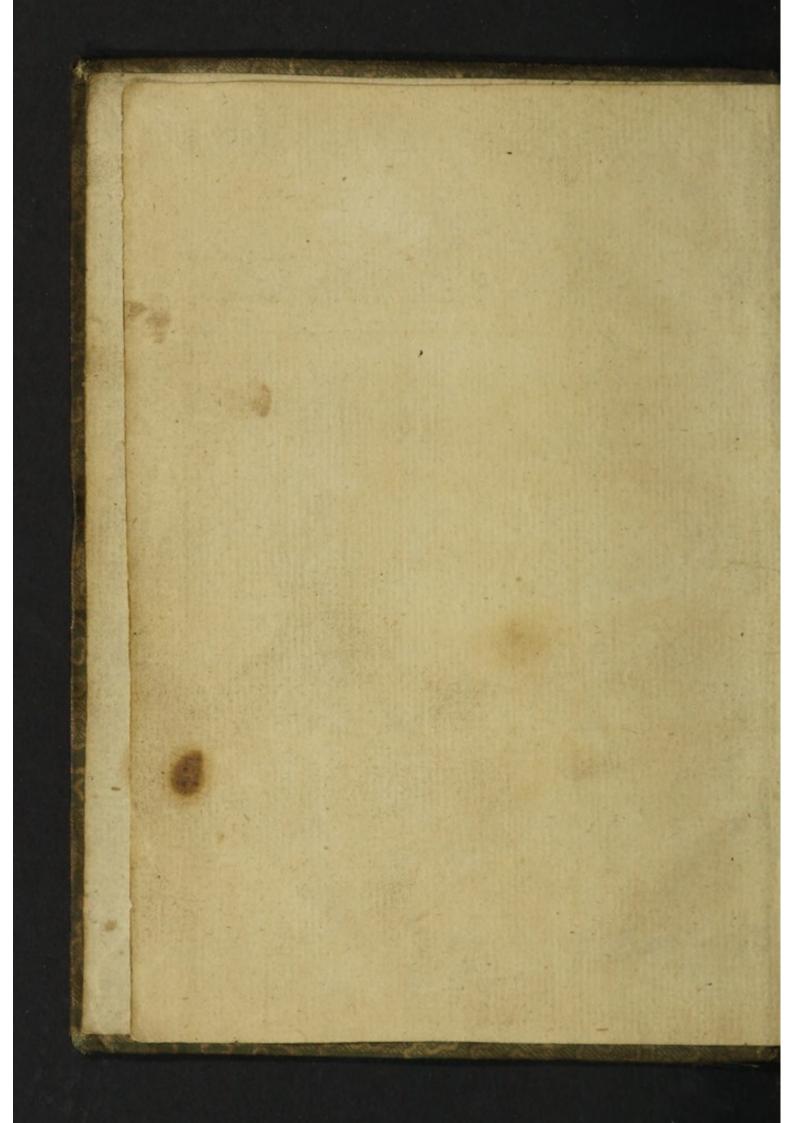


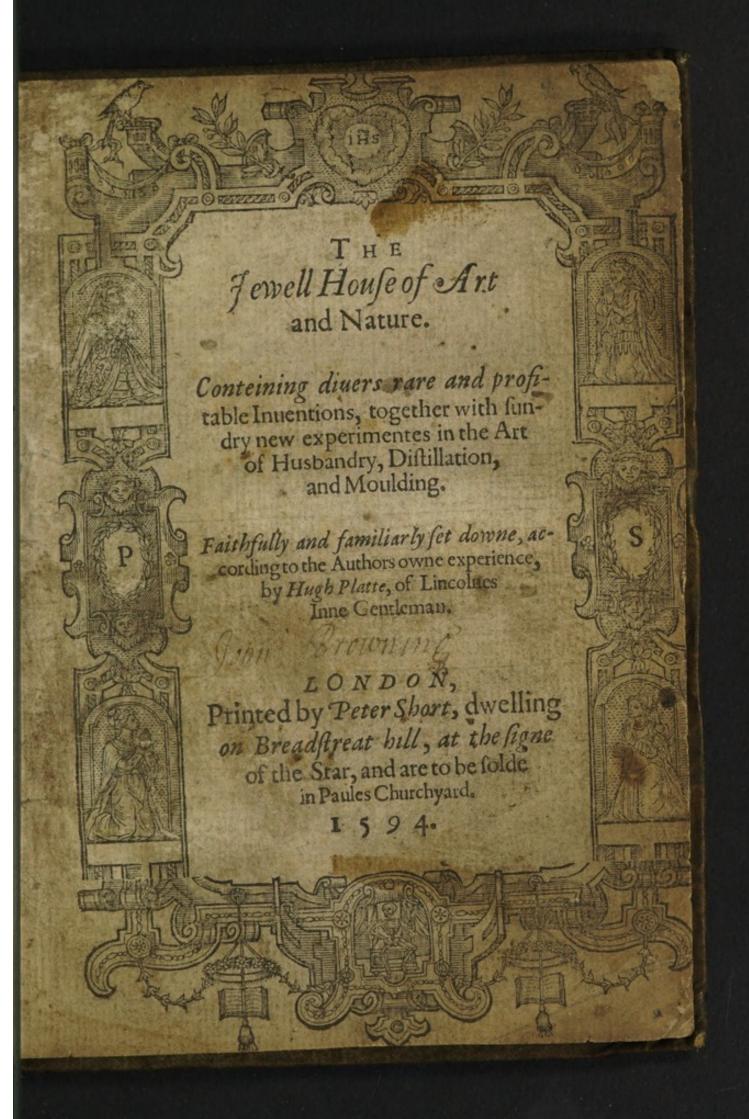


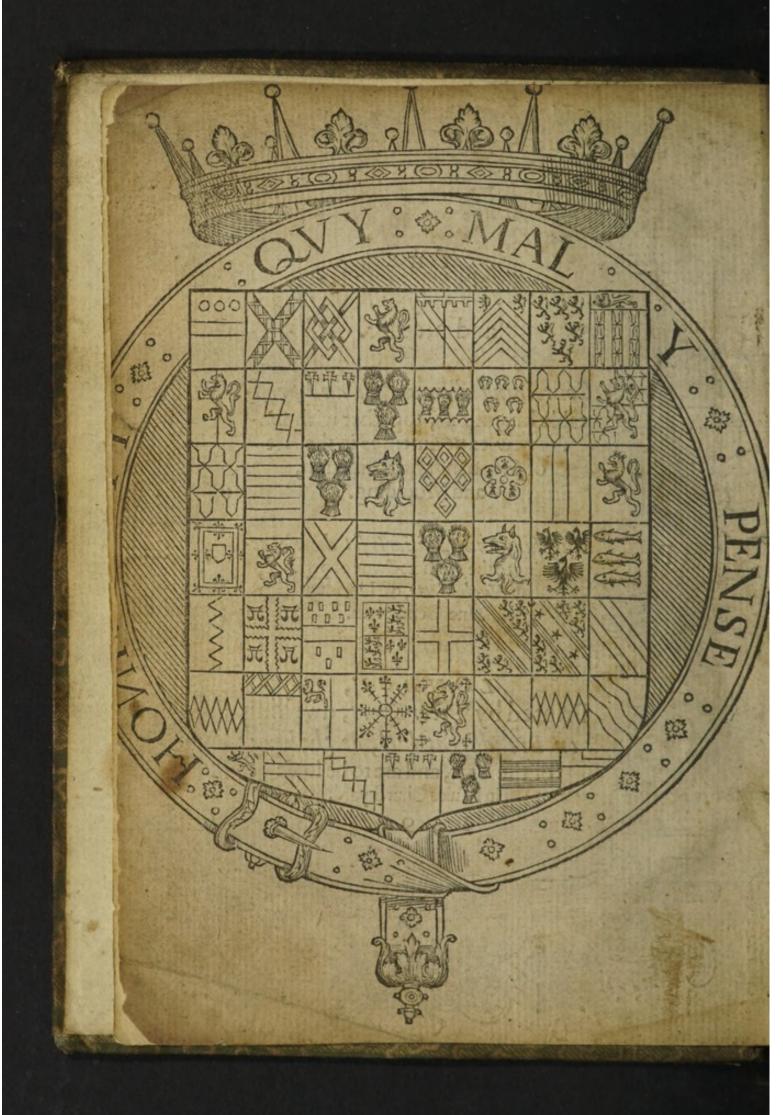




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To the right Honorable, Robert

Deuorax Earle of Essex and Ewe,

Vicount of Hereforde, Lorde Ferrer of Chartley,

Borcher, and Louayne, Master of the Queenes Maie
sties Horse, Knight of the noble order of the Garter, and one
of her Maiesties Honorable privile Councell, Hugh Plane
wisheth a long and happy life, with encrease
of Honour and vertue.



Hen I consider with my selfe (righte honourable) that the trew end of all our privat 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 felfe 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 enterred in a case of marble, and are now (fearing some patent of concealements) ready to breake out of their tombes, and to pleade their ownetenures. And because in these daies of deepest

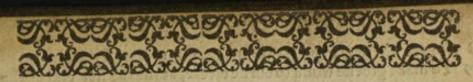
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The Epistle Dedicatore.

censure, echauthor of nouelties (be they neuer so really, & roially performed) is euery way in danger both of sharp, and sodaine reprehention, not onely of the base & vulgar forte of people, that measure other mens conceipts by their owne; but of those also that haue had some better education, and been brought vp euen in the same schooles, yea and vnder the same Tutors with them. I am therfore bold (presuming vpon your honorable & accustomed fauors towardes all true louers of Art & learning, to deuote & consecrate vnto your honorable protection, the painefull and chargeable trauells of my youth, not doubting but that being shrowded with Achillis shield, they shal be able to endure al the thundring volces of shot whatfoeuer, 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 fince within the graues of obliuion: and wish ing the ful accomplishment of all your godly & honorable desires, crauing pardon for my bold enterprise at this time, I rest.

Your honors in al duty to command, Hugh Plat.



The first Booke conteineth, divers new and conceited experiments, from the which there may be sundry both pleasing and profitable vses drawne, by them which have either wit, or will to applie them.

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

2 A perspective ring, that will discover all the cardes that

are neere him that weareth it on his finger.

3 How to carrie gold in a most secret manner.

4 How to keepe or preserve any soule, or other peece of flesh, sound and sweet, the space of three weekes, or one whole moneth togither, notwithstanding the contagiousnesse of the weather.

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

6 A marchants compasse, wheereby he may know vpon what point the wind blowes, in his bedchamber, and in the night time, without beholding the skie, or any vane abroad.

7 How to feed and fatten hens, chickens, geefe, ducks, &c. in a more cheap manner, then hath as yet beene made knowne, or coms

mon to the world,

8 How to write a letter fecretly, that cannot eafiliebee discerned,

or suspected. 9 How to brew good and wholesome beere without any hops at al. 10 How to harden leather, so as the same shall last much longer inthe suckers of pumps, then it doth vaprepared.

11 A conceited chafingdish, to keepe a dish of meat long hot vpon-

the table, without any coles therein.

12 How to roaft meat more speedilie and with leffe fire, then wee doo in our common manner.

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

14 How to turne five spits with one hand, whereby also much fire is faued.

15 A probable coniecture at the composition of hard wax,

16 To helpe venison that is tainted.

17 A pistol of two foot in length, to deliuer a bullet point blanke aceight skore, 18 A. A3:

The Table.

18 A peece whereby to performe some extraordinary service.

19 To make greene wood to burne cleere, at the further end of the Ouen.

20 How to walke fafely vpon an high scaffolde, without any daunger of falling.

21 A round ball of copper to blow the fire with.

22 How to erect or build ouer any brooke, a cheape woodden bridge, of forty or fifty foot in length, without fastening of any tymber worke within the water.

23 A cheape Lanthorne to carry a light in any stormy weather, without any defensatiue before it.

24 To plum vp an horse to keepe him from tiring in his trauell, and to make him soame at the bit.

25 A drinke for trauellers 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 last long in water workes.

31 To close the chops of greene timber.

- 32 To graue any deuise vpon an egge-shell, and to thorough cut the
- 33 An apparance 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 deske of glaffe.
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 worne out.

41 To speake by signes onely.

42 Limming with colours drawne from flowers.
43 A ready way to learne the ABC.

44 To grave and inlay colours into al 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 glasses.

51 To drie gunpowder without danger of fire.

52 To draw fish to a certeine place in the night by a candle.

53 A baite to catch fish with. 54 To draw fish into a cramell,

55 Divers good baits to catch fish with.

The Table.

Societatell, Shalle che of coz 56 A ready way to catch pigeons, Minimum and regree W & 102 57 A worme to catch birds with. 58 To catch crowes, iackdawes,&c. 59 Tokill Seapies, Scaguls, &c. 60 Togather Waspes. 61 To keepe garments and hangings from moath eating. 62 To helpe beere that sowreth or is dead. 63 To helpe a chimnie that is on fire presently. 64 To have Seafish all the yeare long. .65 To make beere stale quickly. 66 Toffealebees. 67 Tomake a tallow candle last long. 68 How to tell the iust number of Apples, nuts, shillings, &c, as they ly in bulke together. 70 An excellent tent for a Diamond. of deside and a part of the tent of the 71 Oyle or vernish made to dry speedilie. Domi and waw Marren 72 To fetch out any staine. 73 To helpe wine that reboyleth. To the man and the state of the 74 How to make Bragget, and noney stolelines ybeer sed livesorin A 75 Clarifieng of hony in an excellent manner, amilian ad llaribea doub 76 To make an artificiall Malmefie. ledge for them. 77 To keepe Gascoigne wine good, a long time. 78 Tokeepe Walnuts good and moift, a long time. 79 To preserue the glosse of Spanish leather. 80 To helpe smoking chimnies. 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 Tokill Rats in a garner. 85 To take away the offence of noisome vaults. 86 Sweet and delicate dentifrices, or rubbers for the reeth. 87 To helpe horse and man that is tender footed. 38 To keepe oysters good ten or twelue daies. 39 Tokeepe Lobsters, Crayfishes, prawnes, &c. good, and sweete, some reasonable time. o To make smooth or gliftering floores or wals. or To make parchment transparent. 2 A cheape morter to be vsed in buildings. 3 A conceited drinking glaffe. 24 To dissolue gold, and to part the same from gilt silver. 75 To know when the moone is at the full by a glasse of water. 6 To melt downe iron easilie. 7 To put seuerall wines in one glasse. 8 The Art of memorie. 9 To make a conceited projection either vpon Sol or Luna.

To IOO

The Table.

Too To nip aglasse, Hermetice. 101 A Waggon to be drawne with men.

102 A delicate foue to sweat in.

103 The Art of refining of Suger.

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The second Booke entreateth of sundrie newe fortes 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 chimicall 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 beaft, hearbe, or flower, or of any patterne of mettall, wax,&c. into golde, filuer, plaister,&c.

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

FINIS.



a Yorkifieldegold, and copare the fame from gift Bluer,

To put leveral wines in one classe,

I's know sheet one moone is at the full by a glalse of water,

To make a contented projection either your Sol or Lunn.

THE PREFACE OF THE Author.

teine newe Inventions (which I have thought good as individua of one and the selfe-same Species, to annex and combine with this conceited Treatise) I made a condici-

onall promise, of some farther discouerie in arteficiall conceipts, then either my health or leisure would then permit: I am now resolued (notwithstanding the unkind acceptation of my first fruits which then I feared and bath since falne out, is a sufficient release in Law of the Condition) to make the same in some sort absolute though not altogether acording to the fulnesse of my first purpose) and to become a building word unto me. And I am the rather per-Swaded hereunto, that I might both second my first labours with a fresh supplie of credit, as also for the better satisfaction, or rather suppression of all those professed enemies of ingenious deuises, who not withstanding those manifold and inavoidable testimonies produced in the same Apologie, for the better supportation of such offers as are therein most sincerely propouded, and doe yet rest at all times (wpon reasonable condicions) to be as royallie performed, doe neuerthelesse without all wit, reason, or humanitie, not onely make a question of the possibility of them, but as occupying the Seats of Iudgement, (wher as some of them have as yet bin scarselie Scauengers in the Warde, many of them not yet come to a face of Foines, most of them understanding no more Latine then Nouerint vniuersi, and none of them able to moderate a Logique question in the Sophisters schooles) have both wtterlie condemned them

The Preface

them in their owne conceipts, and pronounced their fatal sentence wpon the, in the midst of much sacke of sugar. Yet herein I must of necessitie allowe of their grave wisedoms, who being not able to rule their rash and riotous tounges, have alwaies shewed so great a government over their enchanting purses, as that at al times when the question came to be tried by any round wager (which hath beene oftentimes offered them in my behalfe, and shalf il bee maintained in despight of their ignorance) they have presentlie shifted them-selves by an Apostrophe to a new matter, as if they had

Spoken unawares 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 sluggish himselfe, to argue and reason vponother mens labours and watchings. But to leave the se 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 Terme, let us see (since the former ages have brought forth and perfeeted, so manie rare and inestimable inventions for the vse and benefit of man) what cause we have to despaire in our wits who are alreadie ful fraught & furnished with their industrious labors, and yet have the benefit and advantage of our owne conceiptes to multiplie al those learned lines which they have left behind them. Why then should we think so baselie of our selues and our times? Are the pathes of the auncient Philosophers so worne out or overgrown with weeds, that no tract or touch therofremaineth in our daies whereby to trace or follow them? or be their labyrinths fo intricate, that no Ariadnes thread wil wind him out that is once

of the Author.

entred? I cannot think, much lesse beleeve, that Nature hath dealt so niggardly with al the world besides, as first to make her staples and storehouses of skill and learning, onely within Aegypt or Greece, and then also to cut off at trade and traffique with them from all other Nations. Nay rather, why should not little England (whose Angli are so called quasi Angeli in the opinion of som that are learned, and for whose good, the great and mightic Iehouah, hath opened even the windowes of Heaven and powred downe such plentie of his richest blessings) seeke to raunge her selfe in the foremost rankes and troupes of all Mineruaes crew, and not onlie reach with a victorious arme at the golden sleece, in despisht of all the sierie Buls of Thessaly, but also wrest and wring the victorie,

euen 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 propound some liberall stipende for all such of her ingenious Subjects as should bring forth any profitable or rare particular 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 instlie saie unto England, O thou little Island, were either thy manifest wants, or thy secret and hidden tresures sufficientlie knowne unto thy selfe, thou wouldest then as earnestly embrace the one, as thou doost now insensiblie passe ouer the other : yeathou shouldst neither enuie Spaine for hir riches, nor flatter her for her commodities, nor feare her for all the invincible Navies that

The Preface

she could prepare and set forth against thee. I dare boldly say and constantlie affirm, that as our country dooth affoord many carefull fathers that dailie perform their best endeuours 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, yearmore invaluable commodities, then either the East or west Indies are able to associate, then either the East or west Indies are able to affoord, are nevertheless forced to consume their daies in melancholie, & (almost to the hazard of their soules) to burie their talents in the bottomles pit of oblivion. Sed quid ego have vobis nequidquam ingrata revolvo? Dies dabit, quod dies negat. And there I will cast my anchor for this time. Now to the subject we have in had.

It may seem a matter right straunge and admirable to al the excellent Artists of our age, that ayong Nouesle in the schools of Philosophie, a stender Husbandman in the rights and culture of the ground, aman of civilleducation, that hath drawn the longest line of his life within the lists and limits of London, should now (in these florishing though unrewarded daies of skil & knowledge, & after (o many editions of such excellent Authors concerning the same subject presume to bring forth a volume of new inventios, whose novelty might delight the delicat eares of a few, and whose profitable practise might sufficiently fatisfie both the labor and expectation of many thou fads. But when I consider with my selfe, that the God of Nature and knowledge when it pleaseth himselfe to viehis own meanes) is bound to no age, profession, or estate, and that the best wits of our time, are fallen into a deep sumber, or rather into a deadly sleepe, by an excessive dose of Anodinum specificum which they baue greedily swallowed that they might the better passe over these ingrate

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of the Author.

full and barbarous daies in extream silence and oblinion, I am the bolder I say (taking the advantage of the time, and being viged by the great & manifold wantes of my country, that dayly present themselves, & cal and cry for help at their hands, who have or can find out any meanes of succor or releefe to offer and present unto my country amongst many other delightful and pleasing experimets, some profitable practises both of Art and Nature, and among st those, some being also of such kind and qualitie as might best fort, 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, ve quamuis auido parerent arua Colono, and so conclude also with the Poet, Gratum opus Agricolis. Formhat eie dothnot pitty to see the great weaknes 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 ploughmas goad, that she beginneth to faint under the husbandmans hand, and groneth at the decay of hir natural Balfamű. For whose good health and recouerie, and for the better comfort of sundry simple and needie farmors of this land, I have partly undertaken the fe strange labors, altogither abhorring from my professio, that they might both know and practise some farther 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 shooes, shal happily find som varietie of soile in sudry places where their ordinary dung doth faile them, fo those which are ingenious, may gather philosophical mat ter enough, to stirre up their sharpe wits to a higher contemplations

The Preface

templation of Nature, then the bare letter dooth import. And because neither Albertus Magnus, Alexis of Piemont, Cardarus, Mizaldus, Baptilla Porta, Firouanta, nor the rest of that Magical crew, nor yet Wickerus, that painefull gatherer and disposer of them all, (hould here be objected as a matter of terror vnto alnew professors of rare & profitable inventions, I have thought good (for the better satisfaction of the wiser sort) in a word or two to set downe some of the wants of those ancient Authors (for what one man could ever attaine to al things in their ful 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, wherby the vulgar fort of people, who have most need of some profitable inventions to helpe them, can not possiblie put them in practise, although al which they have written had bin true. Second lie for that I think that most of their friendes and followers (although good Latinists) doo nowe at length suspect and charge many of them with much vntruth in their best and most especiall receipts, although in matters of ordinarie distillation, sublimation, calcination, &c. of their Arsenick, Antimonie, Mercurie, and the rest of the seuen bodies in their violent maners, and for those grose vses wherin they are most emploied, as also in their hand ling of bewties, coulours, perfumes, and such like, manie of them have dealt faithfully enough, although not so ful lie, but that they may well endure some newe additions both inmatter & in the maner of their discourse. Third lie, some of them having written divers particulars, only by a theorical and speculative kind of contemplation, and not drawne from the infallible grounds of practife, have published whole Volumes by imagination onely, in their prinate studies, which when they come to be tried either

of the Author.

in the glowing forge of Vulcan, they vanish into smoake, or to be committed to the earth the common mother of al inferiour creatures, they bring forth nothing else but ordinary fruit, not answereable either to their promises or to our expectations. Others are so astronomicallie conceipted in their rare and admirable magisteries, which they intreat of, as that if the practiser being very religigious both in the letter and sense, & yet not performing the secret when hee hath doone his best they would per-Swade vs that he hath not made his true election of the season and planetarie houre wherin to actuate so great a mysterie. But the best and most approoued Authors of the rest, have written altheir learned experiments so siguratiuelie, and wrapped them up in such clouds of skill (and that maketh them so often to tel vs, Scribimus nobis & Philosophis, scribimus filijs artis, calling their minerals by the name of Aurum nostrum, mercurius noster, stibium nostrum, &c) as that no man, without a manuel maister that may even lead him by the hand thorough altheir riddles, is able either to make the sweete oile of Antimonie, or to dulcifie Mercurie as it ought to be, or to bring any mettal to be medicinable by making it irreducible to it selfe. Here hence it commeth to passe that the most part of our chimical and paracelsian practisers, not being able to open those fast locked bodies of the mettals, wherby to make them by many rotations fo volatile as they ought, do therefore give them in their grosse Natures, with their earthy and poisoned parts, not becing able to make a true and philosophicall division of the. Andyet persuade themselves, that they have greatlie profited in Hermes school, bicause they are able to make Oleum sulphuris, Oleum vitrioli, flores & vitrum antimonii, Flores fulphuris, crocum Martis, and manie sorts of precipitate, and of late a Borax christalinus, with their

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their Anodinű specificum, but wanting both Oleum solis and the oile of Pearle and Coral, which considering the maligne qualitie both of Opium and Hyoscyamus without those helpers, I knowe not with what warrant they dare minister the same so often as they doe. Seeing then that al thefe ancient & new Magicians (not withstanding their studious endeuors of inestimable expence both of time and treasure) durst never as yet presume to rase out that olde enuied sentence Plura latent quam patent, being written in capitall letters, by the hande of Nature, even in the forhead of the least and meanest of al her creatures. Why should not I, having spent som of my sweetest hours in reading of many of them in coference, and more in practife, but most of alin contemplation, in regard of al my charge & travel, adventure as boldlie as the rest, to commend the slowers of my youth, to the courteous view of al well disposed Readers, who may either to their great good make vie of my labors, if they have beene welbestowed 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. Tet presuming of their favorable censures (not with standing I must leave the same in equal ballance for a time) or aduenturing to measure other mens delights by mine own, I hope I shal find no Stoick so seuere but that I shall content him in some one particular at the least (if not in the general (ubiect 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 readie to present such choice and varietie of matter, as that not with standing they may happily faile in gesture or action, yet I doubt not but that they wil either procure a friendly of thankefull plaudite, which is the most that I can desire, or a most free & liberal pardon, which is the least that I can deserve.



Diuerse new and conceited Experiments, from the which there may be sundrie both pleasing and profitable vses drawne, by them that have either witte, or will to applie them.

Sundry new and artificial wayes for the keeping of fruits and flowers, in their fresh hew, 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 euerse of which fourmes place one flower, Cherrie, Plomme, or Peare, hanging by the stalke in

fuch maner as it grew, let these fourmes be well sitted 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 grauellie ground, about 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 every severall fruit or slower in his severall earthen pot well leaded

The Jewel-house of

leaded within, and couered with earthen couers, well burnt & leaded likewise, cementing or closing them togither with the Goldsmiths waxe or cement, confilting of stone-pitch, rosen, powder of bricke, and fuch like (although some content themselues with molten Brimstone, and others with yellow waxe and rosen, molten and well wrought togither.) These litle pots you must place within greater, and these greater within vessels of wood, stopping vp euerie breathing place that you can imagine (for here I can affure you that the aire will be a player, vnlesse you can keepe it out of the Alley perforce.) If you would afterwardes burie these woodden vessels, then were it requisite to pitch them well, both within and without: but if you meane to place them onely in coole and fresh vaults, or Sellers, then may you verie well spare this defenfatine, so as the caske be strong and tight of it self. Yet some commende the keeping of fruite or flowers in Glasses made of purpose for them, to be the best of all others, so as the Glasses bee made with long neckes, and bee nipped (hermetice) with a paire of whote tongs, the maner whereof you shall find hereaster set downe num. 100. I dare not commend in anie high tearmes, the dipping of fruite in wax well tempered with some Turpentine, Pitch, Rosen, sweete suet, or Barrowes greace: where also some woulde haue the fruit first wrapped in paper, to keepe it the cleaner, although I know there is somewhat to bee performed this way in some kinds of fruit which begin to rot fro the outward partes inwardly. But if the fruit begin to rot first at the Core as the Katherin peare, and diners other forts of fruit doe) then all the outwarde couers and enclosures whatsoeuer (yea though they were dipped in dissoluted Ambre which is counted the pureft rest and most defensative garment of all the rest) will neuer beable to turne Nature out of her bias. Here also some sharpe wittes have imagined that if spirit of wine wel rectified, were glutted with thimbibition of anie flower, vntill it coulde worke no more vpon the same, that thereby it were possible to preserue anie flower of the same kinde, a long time therein. But this is to bee vnderstoode onely of the drie leanes which bring nothing else but the Tincture and strength of the hearbewith them, and not of the moist leaves which will leaue a putrifying phlegme behind them, which in time will helpe to corrupt the spirit. Nowe methinkes I see a whole troupe of gallant dames attending with their listning eares, or rather longing with their great bellies, to learne some newfound skil, how they may play at chopcherrie, whe cherrie time is past. Wel, to give these Ladies some content, I will vnfolde a scroule which I had long since as carefully wrapped vp as euer any of the Sybels did their fatall prophelies, wherein I will make them as cunning as my selfe (sauing onelie that I will referue one strange venue to foile a scholler withal if need be.) The secret is short, let one element be included within another, fo as the one may have no accesse nor participate with the other. But this paraduenture is too philosophical for women. Then receive it Ladies with plaine tearmes into your open lappes. For want of Glasses with broade skirts (whereof notwithstanding I doe thinke there are inough to bee had if you can bee fo gracious with master Iacob of the Glashouse) cause new Pew ter vessels of some large content to be made and of the fashion of bell Saltsellers, with diverse eies or hookes hanging in the infide, at the which you must fasten the Cherries, by their stalkes, and hang The Hewel-house of

them fo as that one maie not touch an other, the skirts of which vessels you must compasse with leaden rings of such weight as may be able to presse the downe to the bottome of some leaded panne, wherin 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 muste bee carefull that the Cherryes hang within the ayre of these inner Vesselles, not touching the Water, which may happilie rise one inche or somewhat more within the innermost skirtes of them. And thus the ayre beeing kept coole, and defended from chaunge (vvhole 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 receyueth in charge for two whole Moneths at the least as I have long fince prooued. And peraduenture if you make choyle of founde fruite gathered after two or three fayre dayes togither, the deaw being sufficientlie drawne from them by the Sunne, you may yet keepe them somewhat longer. But the onely pleasure of this secrete is perfourmed in Glasses through whose perspicuitie after some reasonable quantitie of water first remooued or deuided, one may discerne weekely in what plight they are. It seemeth very probable, that if Cherries as they hang vppon their braunches, and before they come to their full maturitie were included in an earthen vessell of some receipte, having a partie couer with a hole in the middest, deuided into two equal partes, and enerie breathing place well stopped or luted, and the Sunne sufficiently defended from the pot, that so the

the fruit would keepe fresha long time vpon the tree whereon it groweth. This secrete extendeth generallie to all fruite. And it is not much vnlike to the spreading of a Tent ouer a Cherrie tree about fourteene dayes or three weeks before the Cherries were ripe, practifed by a Surrey knight not many yeares sithence, whereby he did greatly backward the tree in his bearing, now and then watering the tent in a funnie day with colde water, whereby the strength of the Sun beames became verie weeake vpon the tree, and when he was disposed to ripen them speedily, he withdrew the vaile, giuing a freer passage to the hote and scorching beames of Phœbus. 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 Iohn Allet L. Maior of the Citie of London 8. greene and fresh Artichokes vpon the twelfe day, with a score of fresh Orenges, which I had kept from Whitsuntide 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 fundry of my ghestes who would have bin right glad to have dined with the fecretonely. It may be that at my next inpression 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 inferred in my conceyted booke of gardening, wherein I have fet down fundrie observations, which neither M. Tuffer though hee haue written sharpely, nor Master Hill though hee have written painfully, nor Master Barnabe Googe though hee haue written foundlye, applying himselfe in his vyhole discourse both to our Joyle and Clymate, hath as yet discouered to the

vvorld,

The tewel-house of world, though peraduenture he may know them as well as I, and referue them for himselfe, and for his fe-

crete friendes. All which are readie for the Presse, and doe onely attende to see if Noahs Pigeon will returne with an Oliue branch, feeing his Rauen hath

as yet brought nothing with her.

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

Christall stone or Glasse of the bignesse of a two pennie peece of filuer, or thereaboute, beeing the iust halfe of a rounde Baall or Globe, and cutte hollow within, having a good foyle fweetlie conueyed within the concaue superficies thereof, and the stone it selfe neatly polished within and without, will give a livelie representation to the eye of him that weareth it, of all fuch Cardes as his companions which are nexte him doe holde in their handes, especiallie if the owner thereof doe take the vpper ende 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 discouered this secret rather to discorage youg Nouesses from Card-play, who by one experiment may easily ghesse, how maniesleights & cousonages, are dayly practifed 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 have taught old knaues newe schoole-pointes. This secrete is as yet meerly French, but it had beene long since either denized or made English, if there coulde have beene found any fufficient workman amongst vs, that could haue

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

3 Howe to carrie Gold in a most secrete maner.

MElt downe some Golde, and mixe therewith a fufficient quantitie of Leade (but then you shall bee forced to telt the same before you can recouer your Golde againe,) and this is the most secret waie 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 vvoulde carrie golde about you in such manner, as that vvithout 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, which you may so aptly hang within some molde of greater boare that maie fitte the peece vvhich you carrie vvith you (vvhich vvill bee also a good meanes to remooue all suspicion of art) as that by povvring of Leade rounde about them, they may ferue in stead of coares to your greater bullets, which with a small heate are soone parted in funder. But if you vould carrie coine, then dip your Angels or Crovvnes in molten Lead that is not ouer hote, and conuey them artlie within some small and feate Leaden vyeightes, that may agree with the Auer de Poiz. Some commende the povvder of Marble, mingled with moltenrosen to lap angels or other coine in, before it be through cold. There be also diuerse philosophicall wayes for the secretting of Sol and Luna, but those are reserved for higher purposes. How

4 Howe to keepe or preserve anie fowle or other peece of flesh sounde, and sweete for three weekes or one whole Moneth together, notwithstanding the contagious nesse of the weather.

Make a strong Brine, so as the Water bee ouer-glutted with salt, and beeing scalding hote, perboyle therein the fovvle or flesh which you would preserue some reanasoble time, that is to say, according to the greatnes and grofnesse therof, then hang it vp in a conuenient place, and it will last a sufficient time without any bad or ouerfaltish taste, as I can testific of mine owne experience. This I thought good to publish both for the better preservation of mutton, Veale, and Venison, vvhereof a great deale in this lande is yearely lost, in hote and vnseasonable Sommers, as also for the benefite of our English Mariners, vvhich are forced sometime to vittaile themselues in such intemperate Clymates, where no flesh vvill last svecet foure and twentie houres togither, by reason that they have no meanes to make the same to take falt, which without all question will enter this way and make penerration verie speedily by reason of the hote and fierie spirite of salt thus prepared. Some doe vse to perboyle their fowle, after they haue taken out the garbage, and then do dippe them in Barrowes greace, or in clarifyed Butter, till they haue gotten a newe Garment ouer them, and then they lay them one by one in stone pottes, filling the stone pottes vp to the brim with Barrowes greace or clarified Butter, wherein they doe pricke some Cloues, and sprinckle dried falt vppon the vppermoste face thereof, placing the pottes in fome

fome cooleroome. Some thinke that fowle being filled ful of good wheat & after buried allouer in wheat, will keepe good a long time. I have also heard it verie crediblie reported, that a side of venison hath by a kept sound and sweet one whole month together, by lapping the same in a course thinne cloath, and then covering it with bay salt. Qreisit were first perboiled in the aforesaid manner, and then covered with salt as before. I could here adde one line more, whereof everie letter should be worth an angel to divers good housekeepers in this Land, but that the same would breed both offense and detriment vnto others, for the which cause onely, I have thought good to keep the same vnder hatches a little longer.

5. How to defend fresh Water along time from putre-

His is performed by the addition of some small proportion of the oyle of Sulphur with it, incorporating them both togither, whereof I have long fince made a sufficient triall. Some commende the oile of Vitriol to the same end: and seeing my penne hath so vnaduisedly slipt into an Element of so great necessitie, I wil make the Sea-men a little beholding vnto me at their first watering, which being spent, I must leave them to their brackish waters againe, vnleffe by the helpe of some distillatorie vessell (wherin as also in divers other of the same kind and qualitie, I hauefound maister Sergeant Gowthrowse, the moste 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, having sufficient leisure to make his prouilion

uision of fresh water, before hee beginne his voiage. prepare his water in this manner. First let him fill eyther some Rhenish Wine fattes, fack buts, or White wine pipes, fuch as haue beene fawed through the midft, onelie with faire water, these halfe tubs having tapholes within three inches of the bottome, at the which after the water hath passed his first putrifaction, and is become sweet againe, he may then drawe it from his residence into a cleane Caske, and by this meanes it will last much longer at the Seathan other wife, and yet if there were but two or three handfuls of falt diffolued in a pipe of the fame water (vvhich would not much offend either the tast or stomach)it would preserve it much more then the bare preparation of the water will doe in the aforesaid maner. Sir Fraunces Drake that Spanish scourge & Magne spes altera Troia, who hath sought for all the helpes which he might, either in his water or his victual, for the better comfort and reliefe of his Mariners, in one of the last conferences which I had with him, did affure me, that the most putrified and offensive vvater that could happen at the sea, would by 24. howers agitation or rolling vp and downe, becom sweet and good beuerage. And Captaine Plat in whome fir Frances Drake for his good partes did alwaie repose great trust and confidence, did vsuallie carrie certein long and thicke peeces of theet lead with him, which he would cause to bee hanged by lines at the bunghole euen to the verie center of the veffel, wherby he did attract much of the fecicall part of the water, and the Leades would become very flimie therwith. This he did with often change and iteration, alwaies clenfing the leades as they grew filthie, and so with much adoo, he found the water a great deale more pleafing

then before. These fewe conceiptes I haue thought good to impart for the benefit of the whole Nauie of England, for the which I have provided more daintie cates, then it hath been hitherto acquainted with all, I doe onlie keepe them in my breast, vntill an honest purueyor may bee rewarded with some honest pencion. 2re. what proportion of spirite of Wine, or Aqua vite well rectified, will defende water from corruption.

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

TAsten a large vane, to a long yron rod, let the same rife thorough the middest of the roofe or some other part, that may best agree with the roome wherin you mean to place the same, and let the yron stele thereof, come through the feeling of your chamber, and at the end of the rod, let there be a sharpe index, that may point ypon a table of wood (which for that purpose must be drawne, with althe parts of the wind vponit like a mariners compasse) to that wind which bloweth. You must have divers 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 sides, wherein to fasten nailes to a long post, which for the same purpose must be placed within the garret, betweenethe feeling of your chamber and the roofe thereof. Note that the Index and the edge of the vane must alwaies stand vpon two direct contrane points.

Suppriently

7. How to feed & fatten Hens, Chickens, Geefe, ducks, &c. with divers other forts of fowle, in a more cheap manner, then hath as yet beene made knowne or common to the world.

TKnowe divers that have contented themselves, to I feed and fatten them with graines onelie, whereof they have made a great benefit vnto themselves; by reason of the easy price for which they are sold. But if you take the bloud of beafts, wherof y 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 meanesof the flie-bloes and putrefaction together, wholie conuerted into white and glib worms (which the anglers call Gentils) which will fatten them exceedinglie, & make them eate most tenderlie. A Dutch manthat first practised this secret in a Noble mannes house of England, (whose fowle for the tendernesse of their flesh, was highlie commended of all his ghestes) had a year elie stipend of twentie nobles conferred vppon him by his Lord, during his naturall life, for the difcouerie of the fecret. Yet I couldewishe, that these wormes did first scoure themselnes, either in mosse, lome, or bran, before they were scarred amongst the fowle: And if notwithstanding this helpe, the foode shall seeme offensiue to our weake stomaches, especiallie being made acquainted therwith before hand, then receive the same in a better form and in a sweeter manner at my handes, who have alwaies defired to give all the grace which I might to any fecret of good vie. Boile this bloud with some store of branne amongeit

amonstit (perhaps graines may suffice, but bran is the better) vntil it come to the nature and shape of a bloudpudding, & therewith feed your foule fo far as you please, and this wil be both a wholsom & a clenly feeding for them. Som commend, carrots, turnips, Parlenips and pompeons, first sodden and then some bran or course pollard mingled therewith. You may feed Turkies with brused acrons, and they will prosper exceedinglie with them. Some to fatten their capons speedily, put them into coopes wherin ech bird hath a feueral roome deuided from the rest, being so straight and narrowe as that the hen or capon may onely feed himselfe and rooft therein, not being able to turne his bodie, thereby perswading themselues that wanting motion and exercise he wil soon growe to be fat and of greace. Some do vie to keepe fowle 2.or 3. daies without meat, til they be exceeding hugrie, and then they give them their fill. Others doe foke chippings and other crustes of bread in broken beere, or flatten milk, wherewith they do afterwarde feed their capons: out of al these a good huswife will easilie choose both the likeliest and the best.

S. How to write a letter secretlie that cannot easilie be discouered, or suspected.

Rite your minde at large on the one side of the paper with common inke, and on the other side with milck, that which you woulde 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 wil shew blewish on the other side. Or else rule two papers of one bignesse with lines of an equal distance, make the one ful of glassewindowes, through which you must write your mind vpon a second

The Jewel-house of

cond paper, the fil vp the spaces with some other idle words: but if all were made to hang togither in good sense it would carrie the lesse suspition. Each friend must have one of these cut papers to read all such letters as shalbe sent vnto him, & this maner of writing will trouble a good decipherer to bring in to perfect sense. Also you may first write an ordinary letter that may carry some good sense to your friend, but let the lines be wide afunder. Then betwene these lines write your fecret letter with gall water onely wherein the gauls haue bin infused but a small time (for if after you haue writte therwith there be any sensible colour left behinde vpon the paper, you must throw away that water and make new.) This being drie and of one colour with the paper, will give no cause of suspition, & the rather because the letter purporteth a sufficient sense already. Now for the discouery therof, you must dissolue some coppres in faire water. & with a fine calaber penfill first dipped in y coppres water, you must artly moisten the interlining of your letter, and thereby you shall make it sufficiently legible. This is one of the most secrete waies that I know. But yet the finest conceited way of all the rest in my opinion, is y close cariage of a letter within a lawne or Cambricke ruffe or handkirchief, which a man may weare for his neceffary vie without the defacing of any one letter cotained therein. And this serueth most fitly for a loueletter, which may without all suspitio of friends be eafily presented in a hakirchief, to any gentlewoma that standeth well affected to her secretary. There is also a redy way without changing of the Alphabetto write ones mind speedily vpon 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 reafons best knowne vnto my selfe) I may not so boldly impart as otherwise I would.

9 How to brew good and wholfom Beere without anie

Hoppes at all.

Ince my profession is this booke is in some fort to Sanotomize both Art and Nature, without any regard of private mens profits, whom it may either efcentially, or accidentally touch: I am bolde therefore without crauing any leaue to do good, to renue or rather to confirm & ratifie an ancient opinion & practife, which long fince in the great dearth and fearcity of hops many Brewers of this land, haue bin forced to put in vie fory better supportation of their weak & declining estates. But because they failed in proportion (without the which there can be nothing coplete or absolute) they suffered a good conceit to die in the birth. And no maruel then if wormwood notwithstading it be a simple so highly comended of all the anciet & new Herbarists for his great & singular effects in physick, be in a maner vtterly abandoned of all the brewers of our time (except a few y can make a difference betweene 5. s. and 5.li. charge when hops are fold for 50.s. the hundred, feeing as yet not any one of them hath so clarkly wrought vpon this simple as to couer & hide the tafte therof, from y wel mouthed Ale-conners of our comon 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 have thought good to set 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 even 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 feeded, or being feeded that it is cut into short peeces, whereby there may be made an equall mixture of the whole bulcke togither (for you must note that the seeded toppes are much stronger and more oyly then the rest of the leanes or stalkes) make first a decoction of soure ounces of hops with nine gallons of water (which is the proportion that some Brewers in some forts of drink doevse) and when you have gotten out by ebulition the full strength and vertue of them, keepe the same apart, and begin likewise with some small proportion of Wormewood to the like quantitie of water as before, and when you have bestowed as much time and fire herein, as you did about the hoppes, then taste each of them by it selfe, and if you finde the same to exceed the first in bitternesse, then begin with a lesse proportion of Wormewood, and so reiterate your worke, vntil you have equally matched the one with the other, then may you fafely proceede by the rule of proportion to a barrell, and from thence to a tun, and so to a whole brewing. Neither let the excessive bitternesse of Wormewood in his present taste anie thing difmay you, for if you did but tafte the decoction of hoppes onely before the mixture of the ground mault (which doth wonderfully sweeten the same) you would think it a verie vnapt liquor to be wrought vp into so pleasing a drinke as our ordinarie Beere doth shewe it selfe to bee. For it is the Hoppe onelie which maketh the effentiall difference betweene Beere and Ale, and that by allaying of the exceeding lusciousnesse of the mault with his bitternes, whereby both vniting themselues together, become a sauorie and wholfome drinke for mans bodie. Which

which may bee as well in euerie respect perfourmed with Wormwood as with the Hoppe, yea and peraduenture with Centuarie, Artichoke leaues, or Aloes hipatique, as some workmasters have confidently affirmed vnto me. And though the Hoppe be viuall 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 answere to that objection, that it is the dose onely that maketh the difference herein. For I can affure 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 Fredish hoppes, to an ordinarie guile of strong beer you shall find the fame to be a sufficient preparative to your bodie for the best purgation that shall be ministred after. And this can one of the right honourable Peers of this lande sufficiently witnesse, who togither with some good part of his retinue auing well tasted at a dinner of such Beere, as (b) misprission of the Brewer of English hoppes for He hish hoppes) was so ouerhopped, that both him ele and the rest of his family that was then about hims were fuddenly furprised with a great loofnesse. And this is the reason why Venice Turpentine which being ministred in a small dose is given for the Arengthening of the backe, and to stay the running of he reines, yet if it be taken in y quantitie of an ounce conce, 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 wee shall finde no difference in effects, but such as shall commend and grace the wormwood beyond the hoppe, 10

or else lee beere be advaunced with the hoppe to the bitternesse of wormwood wine, and so we shall finde the hop farre to exceede the wormwood in his maligne qualitie. Neither woulde I have any man to thinke, that I doe either wrongfully intrude vpon other mens possessions, or presumptuously vndertake a charge which I cannot performe, for I am in by difcent, and have continued five yeares in possession at the least, and therefore am not easily to be removed without aphilosophicall action commenced against me. And because you shall farther knowe that I have fome reasonable skill in my trade, I dare vndertake without the helpe of any yeast at all, to bring y woort either of Ale or Beere to his perfect workemanship (wherin it shall cotinue at the least either fix or seuen daies togither) without any intermission, & that only by a philosophicall stirring vp of the fire of nature which shall extend and spread it selfe a centro ad circumferentiam, till it have digested the whole body to his perfect ripenesse or maturitie. Thus much I have thought good to publish for ycredite of wormwood, and for the benefite of this Iland in fundry respectes, which I shal not need to particularize at this time because they are so commonly knowne to all men. And though I know I may bee ouerweyed either with the Fraunders Merchants, or with the great Hoppe-masters of Englande whose foundation is so deepelie laide, that a feweloose lines can neither shake nor stirre the same: yet either knowing, or at the least perswading my selfe to maintaine the trueth, before I give it over I will crave the libertie of the schooles, guod flat controuer sia. And in the meane time those which will not bee fatisfied, of the wholesome and rare medicinable helpes of the one, togither with the

the weake and feeble vertues of the other, (which was but a Hedgebirde the other daie, though nowe it bee perking fo prowdly vpon his poles) I will referre them to the learned Herbals of Dioscorides, Matheolus, Doctor Turner, Dodoneus, Turnizerus, and the rest.

no 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 discoverie 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 esse in the water that hath lien long vnder a Grindstone, into the which such yron as hath beene from time to time ground away, hath sallen, and there setled. This hath beene found to bee a secret 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 advantage; and remember where thou hadst them.

II A conceipted Chaffingdish to keepea Dish of meate long hote upon the Table without any coles therein.

L'Chasingdish to bee made of such shape as may best receiue the same, into the which you may conuey a peece of yron red hote, the same beeing of an apt forme to lie in the bottome of the Chasingdish.

E. 2

This

This will continue his heate 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 serue to heate beddes with, and to cast one into a kindly sweat. The like deuice is also vsed by others in conueying 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 vie to write or studie in colde weather, or in their coches to keepe their feet warm. The now distressed king of Portugall caused a paire of wooden foles to bee made for a paire of shooes. which he had to fit in, which he would warme at his pleasure with Mars well rubified.

then we now do in our common maner.

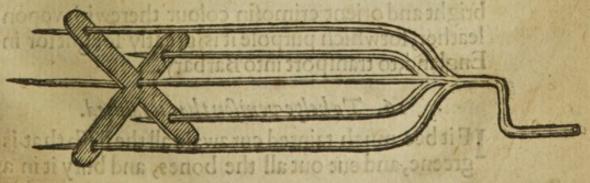
Make a square and concaue boxe, or else of the sashion of a Cilinder of iron plates, or else of wood
lined with those plats long inough and large inough
for such and so many joynts of meat as you meane to
rost at once, within which Cilinder let the meat turne
as it roasteth. For the resexion of the heate that is gathered within the boxe will make great expedition.
Note that the boxe must onelie couer the meate, because you are to leave a fire (if neede be) to hang on a
pot or kettle over the same fire. It must also be close
on every side saving onely agaynst the fire, and at
the sides thereof you must have slittes to let in the
spitte. I have heard of the like deuise heretosore
executed

executed by an outlandish potter in burnt clay, for the which he had his priviledge, but his device wanted a cover, it was exceeding heavie, very apt to bee broken, and not so strong in reflexion as this metalline devise, especiallies it be kept cleane and bright.

13. To make a new peece of Walnut tree or Wainscot to be of one selfe-same 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 peeced out with nevve wainscot by a good workeman, and both becam verie suite able and of one colour.

14. How to turne 5. spittes at once with one hande, whereby also much sier is saued.



Fasten 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 iointes of meat that you would roast vpon them, (I take them to be most apt for sowle) you must also have a crosse of yron, having a hole in everie corner therof, to receive the ends of these spits, which may be propped with a staie behind that it fall not backeward. Vsing these spits, you shall not neede to rayse your fire vppon such high raunges as otherwise you shall be forced to doe, when one spit is placed direct-lie above another. This secret I have borrowed out of Pope Pius the v. his kitchin and a mile and a placed of the place of the pope with a v. his kitchin and a mile and a placed of the pope with the v. his kitchin and a mile and a placed of the pope.

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

I Am verilie perswaded, that the essential part, is not the whole bodie thereof, is made of the gum Lacca, peraduenture refined a little, or incorporated with some other apt bodie. For I have sealed therewith oftentimes, and doe find the same to agree with hard wax, in the persect 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 have heard that the Barbarians doe make a bright and orient crimosin colour therewith vppon leather, for which purpose it is greatly sought for in England, to transport into Barbary.

16. To helpe venison that is tainted.

IF it 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 practise.

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

A Pistoll of the afore said 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 source inches at the least, and after driven downe with the skowring stick, will deliver his bullet at such distance. This of an English Gentleman of good note and for an appropried experiment.

18. A peece whereby to performe jome extraordinarie service either by Sea or land.

Ca Tennis ball, of fine or fixe footin length and well stocked, having within twelve inches of the mouth thereof, a hooking iron of foure inches in length, forged to the neather part of the peece, by which hooke you may staic your peece by som raile, or other peece of timber, whereby you may safelie discharge the same, without feare of any recoile vponyou. I leave the full vse thereof to bee found out by Martiallmen. This invention I hadde of the fine lymaer of Lambith, beeing a Gentleman of good conceipt in all ingenious deuises.

19. To make greene wood to burne cleere, at the farther end of the Ouen.

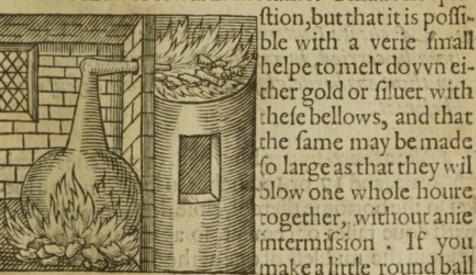
IF you burne greene wood in an ouen, it burneth formwhat cleere toward the mouth of the ouen but commonly black&deadish at the further end, wherby the ouen is neuer sufficientlie heated to bake well. You shall find a remedie thereof in this manner. Deuide the mouth of the ouen into foure equall partes, and cause a bar of yron to be made as long or somewhat longer than the mouth of the ouen, & in bredth one exact fourth part thereof. Fasten this bar ouer-thwart-wise in the middle point of the ouen mouth, and this will make a partition, betweene the fire and the aier, so as the ayer will passe vnder the bar to kindle the fire, and the slame will issue ouer the barre, and so the smoke which before did choke the fire will also have his passage.

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

This is easilie performed 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 search, and ouerturneth the braine. By this means I have heard that the English man which displayed an ancient upon a scassold neere the top of the pinacle of Paules steeple, did helpe himselfe in his desperate attempt.

the fire verie stronglie, onely by the attenuation of water into ayre, which deuice will also serue to perfume with.

M Ake a round ball of Copper or Latten, of y bignesse of a small bowle, soder thereunto a rounde pipe or necke, of three or foure inches in length, and fomwhat leffe than a goofe 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 ioints and sides be sodred with siluer soder, heate the same well in the fire, and then put it into a vessel of cold water, and it will fucke some of the vvater vnto it, you may heate the same so 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 shall finde the same to give a very strong blast against the fire which you mean to kindle, directing the nofe of these bellowes towards the same. I make no que-



offiluer in this maner, only with a small and streight pipe, rising out of the bodie therof, you may put some

The Iewel-house

rosewater or some other sweet senting water therin, and therewith persume your chamber, and by this meanes a small quantitie of sweet water will be a long time in breathing out.

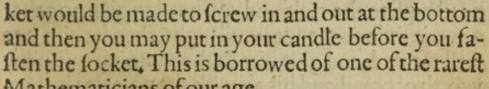
22. How to erect or build ouer any brooke, or small riuer, a cheape and woodden bridge, of 40. or 50. foote in length, without fastening any timber work within the water.

Pecce the timber work in such sort, as that it may resemble an arch of stone, make the ioints strong, and binde them fast with crampes or dogs of iron, let this bridge rest vpon two strong pillers of wood at either end, both being well propped with spurres, & at either ende of your bridge make a strong buttresse of bricke, into the which you must let your pillers and spurres, that by no meanes they may shrinke or giue backewarde, then planke ouer 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 defensative, before it.

Maie, and 17. or 18. inches in length, with a socket in the bottome thereof, close the sides well either with doue tailes or cement, so as they take no aire, leaue in the middest of one of the sides a slit 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 bredth, place your candle in the focket, and though it stand open and naked to the ayre without any defense, yet the winde will haue no power to extinguish the same. 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 closenesse thereof. The soc-



Mathematicians of our age.

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

Take anula campana, Comminseed, Turmericke & annis seeds, of each a pennieworth, and seeth them well (with three heades of Garlile amongest them well stamped in a gallon of Ale, then streine it and expresse as much of the substaunce as you may well wring out, and give your Horse to drinke therofbloud-vvarme a full quart at once, then ride him til he be how 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-

28

saide ale with the rest of the ingredientes. But if you keep him in the stable, give him to eat in his provender the rootes of anula campana with some commen feedes both beaten togither, or y anula campana smal shred, for 14. daies together, and it wil make a leane Iade to thrine more in one moneth, then otherwise he would doe in three. And when you ride abroade vpon 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 handfull 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 bee well meated, and give him in the morning two peny worth of bread, and his ale with the povvder, but water at night. This a friend of mine yet liuing, did learn of a good fellow that had beene a ranke-rider in his daies, by whose meanes though his hackney tired at Bristow, yet this companion for his better encoragement, seeing him out of all heart, by reason that hee was like to lofe fo good companie as then was gathered together, he exchaunged Horses with him, and brought the Hackney (by the meanes aforesaide) verie quicke and liuely vppe to London. Alfo if you tie a prettie bunch of Peni-royall about the bit within the Horses mouth, the Horse champing thereon, will foame gallantlie, and trauell with muche more courage. Another Gentleman, who also attendeth vppon a verie Honourable personne, tolde me, that whenfoeuer hee founde any lade to tire vnder him, hee woulde presentlie take off his Saddle, and with a good quantitie of Arfesmart (which is an hearbe that Water) rubbe him well on the backe vnderneath the Saddle, and afterwarde lay a good quantitie of Arsesmart vnder the saddle, and so ride him any reasonable iourney. These secrets I thought good to discouer for the benefite of all English travellers, and I hope they are true because my authours are aliue, and speake of their own experience, and not by bare report from others, they doe also carrie great probabilitie with them. But nowe from the horse to the Ri der.

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

TAke a quart of good water, put thereto fine or fix I spoonfuls of good Aquacoposita, which is strong of the Annis seedes, & one ounce of Sugar with a branch of Rolemarie, brew them a pretie while out of one pot into another, and then is your drinke prepared. Or if you leave out Sugar it will be pleafing inough. I haue bene crediblie enformed, that diverse gentlemen of good credit when they trauell abrode, and cannot like the tafte or relish of their drinke, that they vse no other then the aforesaide 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 gine a delicate taste vnto it. It were not amisse for all sea-men to carrie some store of AquaVita with them, that when their Wine, Sider, Perrie, and Beere are spent, they may transmute their water into the faid drinke.

The fewel-house of

26 How any man may safely put his finger or hand into

molten lead, without any danger of burning.

Ake of quickefiluer one once, Bole Armoniack I of the best two ounces, Camphire half an onnce, common Aqua vita two ounces, first beate, and then mingle all these well togither with a pestle in a brazen morter, then annoint your hands al ouer thrughly well with this ointment, & be fure that your hands are cleane without itch or scabbe. I did see a Dutchman called Haunce, a prety nimble Chimift, who after he had set some lead on the fire in a melting pot, till it became blewish and exceeding hot, hee stirred the same first with his forefinger vp and downe, pretending to fee whether it were not too hot to endure in the palme of his hande, and afterwards telling his fellow that it was of a good temper, he caused him to poure the same out being some half pound in weight into the palme of his hande, first prepared as before, and prefently he poured it into his other hand, and fo out of one hand into another fine or fixe times together, till in the ende he threw the same cold vpon the ground. This hee did for a pot of the best Beere in a garden in Southwarke about ten or twelue yeeres fithence, in the presence of my self and divers others, at which time I writthe receit euen as I did both fee him make it, and vie it my felfe, disburfing 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 g'ewe/take heede the glew be not too hot) & presently strew the powder

der of horne burnt to ashes vpon the glew, then dip your hand againe in the glew, and strew more of the said powder thereon. Note that the thicker your bar is, the thicker crust you must make vpon your hande. This Hearned of an olde and skilfull man that yet liueth, and assured me that hee had made often triall thereof. Qre. if this be not a good deuise to defende mantletrees, and other peeces 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 sirst dissolued in wine vineger, then parget ouer whatsoeuer 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 dilicate Cakes made without either Spice or Sugar.

SLice great and sweet Parsnep rootes (such as are not seeded) into thin slices, and having washed and scraped them cleane, then drie them and beate them into powder, searcing the same through a sine searce, (2re. if there might not be som means sound out for the grinding of them, whereby to make the greater riddance or quantitie,) Then knead two parts of sine slower with one part of this powder, and make some cakes thereof, and you shall sinde them to taste veried daintilie. I have eaten of these cakes diverse times with verie great good liking:

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

Chuse a round & double Glasse to bee made of a large size, & in fashió like a globe, but with a great round

The fewel-house of

roundehole in the toppe, and in the concaue part of the vppermost Glasse place a Candle in a loose focket, 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 giue a great and wonderfull light, fomewhat resembling the Sun beames. Note that this Glaffe is not much vnlike to those Wine drinking bolles that hauefalse bottoms, wherein Sacke, or Claret wine may bee conneyed with faire water onelie in the vppermost part of the Cup, whereby a plaine meaning man may easilie be deceyned. This conceipt of a Candle, a Gentleman of good account, and my especiall good friend didlearne in Venice, where hee was shewed the secrete for a fewe French Crownes. 2re. 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 gliftring, the same being inwardly garnished with diverse steele Looking-glasses, so artificially placed as that one of them might reflect vnto an other. I knewe an expert Ieweller, dwelling (whilest heliued) in the Blacke-friers, who had a Glasse with a round bellie, and a flat backe standing vpon a foote, with a Lampe placed fo at the backer part thereof, as that the light thereof was inft 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.

wolf og round & double Gialle to becomede o

30 Howe to make great postes and peeces of timber that are to be driven into the earth, or piles for water works to last much longer then otherwise they would.

Haue heard that the Venetians whose houses doe fland vpon piles of wood, do vse to burne or scorch the timber in a flaming fire, continually turning it round with some engine, vntill they have gotten a blacke and hard colie 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 woorth did also assure me, that they vie to burne in this manner the endes or poyntes of their postes, which they drine into the grounde when they make their pales and other enclosures. This fecret carieth great probabilitie with it, for that by this meanes the outwarde part of the wood is brought both to fuch a hardnesse and likewise to such a drinesse, vt, cum omni putrefactio incipiat ab humido, for want of moysture and sappinesse, neither the Element of earth, noryet of water can make any penetration into it.

3 1 To make all the choppes and cleftes of greene timber to close againe.

A Nnoint or supple well the greene timber which you doe expose into the ayre, with the fatte of powdred beese broth, and soake it well with sponges or pensils into the cliftes or choppes thereof, do this twice ouer, and you shall finde the same to answere my report. Some Carpenters doe vie to close vp the great choppes of Wood with Greace and Sawdust mingled together, but the first I take to bee the

better way, for that I have thereby seene the timber to come so close togither, as if it had never beene windshaken at all, but note that the timber must bee thus prepared in time, and whilest it is greene.

an egge shel, how to through-cut the same, with diuers works and fancies, which will seem very strange to such as know not the maner of the doing thereof.

Ippe an egge in suet being molten, first the one halfe, and then the other, holding the same betweene 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 iron, worke or graue in the fuet what letters or portrature you wil, taking away the fuet clean, & leaving the shell bare at the bottom of your worke. Then lay this eg thus engraued in good wine vineger or strong alliger in a Glasse or stone Pottinger, for some sixe or eight houres, or more, or lesse, according to the strength and sharpenesse of the Vineger, then take out the egge, and in water that is blood warme difsolue the suet from the egge, then lay your egge to coole, and the woorke will appeare to bee grauen in the shell of a russet colour. Sapius probatum. And if the egge lie long inough in the vineger after it is fo grauen, and couered with fuet as before, the letters will appeare vpon the egge it selfe being hard sodden, or else if you care not to loose the meate, you may picke out the same when the shell is through grauen, and to you shall have a straunge peece of worke perfourmed. Those two latter conceiptes I learned of late, but I have not prooued them, but in all likelihoode they

they should seeme to bee true.

33 An apparance of strange formes in a Glasse.

Rind an Angellweight of fine leafe golde, with Itwo ounces of Sal armoniacke vpon a marble till you can scarcely discerne any golde, then take two parting Glasses 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, set both these glasses in warme ashes vpon some furnes, till both the bodies be dissolued, then take a parting glasse of a quart, and whilest the substances being dissolued are yet warme, poure the same into your quart glaffe, but first you must put in your strong water wherein the Mercury was dissolued (I write according to the practize which I did fee) and then poure the other water vpon that, and prefently you shalfee an extreeme thick blacknesse, which a Dutch Alchimist and practiser of phisicke that died of § last yeres plague (vpon the discouery therof) wold maintain to be that nigru nigro nigrius, so much spoken of amongst the philosophers, & after a while when the water began to cleare, then he termed it calu christallinu, after that did appeare a continual rifing & falling as it were of flakes of fnow which continued certaine houres, & then as it were a hil al couered with pearle, & that he called fepulchru Mosis. Al which composition having stood one night, there appeared diverse spires like blades of corn or grasse but of a whitish colour in the bottome of the glasse, yet in the end, by a reuerberatory furnesse hee turned al this great matter into a precipitate, and therefore it must needes

36 The Jewell-house of

beea Philosophicall woorke 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 woorke to bee perfourmed in filuer, whereby I have seene severall fourmes and shapes of things somtime to spring vp suddenly, and fomtimes in a night or two, the same somtime reprefenting trees, shrubs, hedges, and flowers, and diverse other shapes, and notwithstanding many practises to find out the reason of the differences of these forms, I could neuer yet make any one forme twife, but that Nature would play so infinitly, and at her owne pleasure herein, as though I did obserue a iust proportion of all the ingredients of this magisterie, yet (because the found some difference of peize when thee weyed them in her owne ballance) I had alwayes a feuerall and differing forme from the last which I made.

34 Aportable ynke to be caried in the forme of a powder in any paper, leather purse or boxe.

IN Foster lane or amongst the refiners of golde and silver, get a large panne, such as they make their testes of bone as the sin, it is a deep dish made of burnt clay, into this put so much of the fattest and best coppress that you can get, set the same vpon a trevet over a reasonable fire of charcole, at the first it will dissolve into a water, & after by continuing of your fire it will grow drier and drier, stir the same continually with a wooden spattle into the midst of the pan, and keepe it from burning or hardning to the sides of the pan, and when it is throughly calcined into a whitish powder

powder and before it become redde, take it from the fire, then weighout of this calcined coppresse one part, one part of the best gals well powdred, and half a part of the cleerest gum Arabicke well powdred alfo, fearce them all through a fine fcearce, the finer the better, and it will not be amisse if you vie a lawne fearce herein. Keepe this powder in close boxes and in the warmest places of your house, and when you wil write therewith, put some of the powder into a spoone, adding thereunto some water, wine, beere, or vinegar, and stirit well together a prettie while, and when it hath setled a little, you may write therewith, and as it drieth, it will growe blacker and blacker vpon the paper till in the ende it become verie legible. This I have often proved. Some commend dry Litmas scraped in water, and forced to a solution, wherwith to write in stead of a blew Inke. But I thinke it not amisse, first to dissolue some Gum Arabick in the water to keepe your inke the better from finking. These sortes 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 wil thicken exceedinglie, and then euerie man knowes how troblesome it wil be to the writer. I could here set down fome other forts of inkes that be not common, wherof some will fall from the paper in a few daies, and others would corrode or fret the paper in peeces, but because I know but one good vie of them all, and for that I feare so many bad vses, 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 purpo-

G 3 35 How

35. How to write both blew and redde letters at once, with one selfe-same Inke and pen, and vpon the same paper.

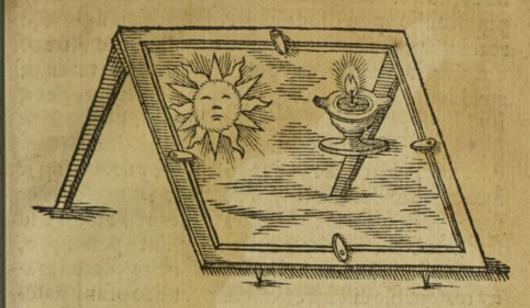
Post the quantitie of a Hasell nut of Lytmas blewe to three spoonfuls of conduit water, wherin some Gumme Arabicke is dissolved, and when it hath setled the space of one hower, if you write therewith you shall have perfect blewe letters, and if you dip a pensill in the juice of Lymmons, that is drained from his residence, and do wet some part of the paper ther with, 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 fansies, if you wet your paper accordinglie. Sapius probatum.

36. To keepe Inke from freezing and moulding.

PVta few drops of Aqua vita therein, and then it wil not freeze in the hardest VVinter that can happen, and in Sommer time if you put salt therein it will not waxe mouldie as I have beene crediblie informed.

37. How to draw any grose pattern of any Beast, sowle, Tree, Fruit, Flower, Personage, or other picture what soeuer.

You must have a deske of the cleerest and evenest glasse that is to be bought, yet I have seene our Sussex



Suffex glaffe to ferue the turne sufficientlie (and som vse the skinne of an abortiue Lambe, finelie dressed and streined stiffe vppon a frame) vppon this Deske you must fasten the patterne at the foure endes with a little vvax, 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 fun shineth) and the pattern wil shewe all the lineaments thereof very perfectly through the fine paper, vpon y which you may trick, either with a fine pointed cole, black lead, or pen. 2re. Of a sufficient light to be placed under the deske by seuerall lampes, if thereby also in a darke night, you may not discerne howe to performe your worke perfectlie. Some in steade 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 paterns of beasts, birds

The Jewel-house of 40 birds, flowers,&c. prickt out in paper, and those they pounce also vpon 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, housinges, &c. But there is a waie by a perspective glaffe (which because it is consecrated vnto Arte, I dare not profane the same too much by deliuering it into vnhallowed hands) whereby a youngscholler may by one houres demonstration exactlie draw and set downe the lineamentes of any line personage, Beast, or other fowle whatsoeuer, being placed at any reasonable distance from him, and so of any statelie edifice or building, fort, bulworke, or fortification, and of al manner of engines, what soeuer 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 whatfoeuer, bee they neuer fo great, may by the helpe of this glasse (wherof I haue gotten the vse at the hand of my deare friend) be lefsened and brought within as narrow a Compasse as a man would reasonablie wish or desire. And whosoeuer shall aduisedlie practise by the helpe of this glas, may in one moneths space be able to drawe any patterne by hand onely, without praying in aide of the same any more. So likewise it is possible by waie of reflexion, for any man to behold in a looking glaffe, and that also in his private studie, althe gestures and actions whatfoeuer any perfonne shall make or performe, in any roome or corner of his house, as also to see euen in the bottome of his seller, whatsoeuer 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

41

because I doo see that everie Author is in danger to be censured according to the particular judgement of every Reader, and because Stulterum plena sunt omnia, I will not extend the credit of this secret to his vetermost bounds, but this shall bee sufficient for the weake faith that reigneth in the world at this time.

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

Corthespeedier attaining to any written hand, let I some perfect wrighting maister, (and I knowe not whom I should heere commende before mine olde Schoolemaister, Maister Conradus, that teacheth oueragainst saint Anthonies schoole) deliuera sew copies written, or rather broken in this manner. Let him divide or breake each letter into fo many partes, as he hath cause to make any little pause or addition before hee finish the same, which is nothing else but the vidooing & disioining of the same, that a young scholler may the better see, which waie the same was made vp and brought togither. As for example, the Secretarie small a, hath fix partes before it bee made vppe, the b. c. and d. haue four eand some more, and some lesse, and for the better vnderstanding of my whole meaning, I would have caused the whole Al-

a. g. g. g. p. q. g. p. m. s. s.

The Jewel-house of 42 phabet to hauebeene cut, and so printed in this manner, but that I could not staie the doing of it, and also for that I knew that maister Conradus will sufficiently performe the same with his pen, to any that shall bee willing to requite his paines, and hee hath alreadic 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 ouer, with great lines, drawne with a text penne, vpon which ruled paper, you must laie a leafe of the finest paper that can bee gotten, such as they doe commonlie sell for two shillings, foure pence the quiere, 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 middest, and hee shall finde great vse thereof. Some draw the letters first in black lead or red inke, and then let their scholler run ouer them with blacke inke, till they have brought their hande in vie with the shape and fashion of the Letters. There is no doubt, but that some willing and carefu'l Schollers will finde some of these helpes, as good as the Ace of heartes in their wrighting, thogh other heedelesse Drones, will scarce make the Ace of Diamondes of the best meanes that any maister or Teachershall discouer, J. 2. 6. 2 d. 3. b. d. 0 6. 2. 9.

39. A Gall water very necessarie to mingle with your Inke, as it groweth thick in your standish or inkhorne.

Slice or beat some of the best Galles, and put them Sin a glasse of faire water, and when they have given 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 over olde and out of date, you must then throw away the same and make fresh.

of sight. The state of sight.

This is performed by rubbing them ouer carefully with the gall water aforesaid being well prepared, 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 himselfe, and the first I can warrant by mine owne trials.

41. How to speake by signes only without the vittering the of any word, shall a thin storadidy the sound and a shall be of any word of the country and the order of the country and the order of the country and the country a

D'Euise 24. signes, whereoseuerie 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 less thand E. vpon y tip of your foresinger on the same hand, & so of the rest, so as when you lay the index or for singer of your H 2 right

The Jewel-house of right hand on the tip of your thumb on the left hand, the party with whom you shal conferre in this maner may alwaies note the fame for an A. the rest of the letters which be consonants, may be vnderstood by rouching of seueral parts of your body, or seueral gestures, countenances, or actions, as an hem for a B. a crosse made on the forehead for a C. a phillip for a D. and so of the rest. I have seene a gentleman togither with a gentlewoma that were very ready in their conceited alphabet, to deliuer their mindes each to other in this manner, when as not any of the standers by vnderstood either word or letter of their meaning. And I hold the same a necessarie arte to be practised of fuch as doo naturallie lacke their speech, whereby they may be understood of others, which otherwise could have no mutual conference with them.

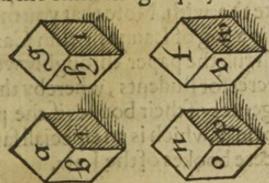
42 How to paint or limne with the colours that are taken from hearbs or flowers.

Some drie the leaves of hearbes or flowers, which Scarrie any deep colour in them, and if there be sequerall colours vpon one lease, they deuide them, and keep each colour by it self, grinding the same vpon a Marble, and after keepe it in close glasses or leaded pots, sufficiently defended from the aire. 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 lease of the flower deluce, ground with a little lime, yeeld a good and perfect greene. Some expresse the inice of herbs or flowers, and then evaporate ither in balneo or in the sun so much as will ascend, spreding y rest thinly vpo the bottoms & sides of small dishes, & after, then set y same in the sun to dry, & then grind it with

with gumme water as they have cause to vse it. Some insuse the moist, and some the drie lease with faire water, and so some as the beautiful hew of the leaves begin to vade, they dreine away the water, and make an addition of fresh leaves thereunto, and so change their leaves often, that they may purchase to themselves nothing else but the livelie and bright tincture of everie 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 Areadie way for children to learne their A.B.C.

Cand vpon euerie 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 be-



ing alwayes tolde what letter chaunceth, wil foon gain his Alphabet, as it were by the way of sport or pastime. I have hearde of a pair of cards, wher-

on most of the principall Grammer rules have been printed, and the schoolmaster hath found good sport thereat with his scholers.

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

First couer 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 H3 portrai-

The Jewel-house of portrature you please and of some reason

portrature you please and of some reasonable largenesse, then poure some strong water in those emptie
places, and when you find them deep inough grauen,
mingle Orpiment and Masticke melted togither for
a yellow colour, and Vermillion with Masticke for a
red, and so of all other colours. Now when your Mastick hath bin molten togither with any of the aforesaid colours, let it coole, and beat the same into powder, and lay of that powder within the grauing, & after lay the mettal vpon the fire, til the mastick melt, &
it will remain sast and sirme therein a long time. This
of a lew that yet liueth for ought that I know.

45 Tomake bad paper to beare ynke in some reasonable manner.

R Vb your paper wel ouer with the fine powder or dust of Rosen and Sandrach mingled in equall parts before you write therwith. Note that you must tie the powder hard in a rag of Laune or thin Cambrick, and therewith rub the paper throughly well. This is a necessarie secret for students, whereby they may note in the margentes of their bookes if the paper thould happen to sinke, which is an especial sault in many of our late yeere bookes of the Law.

46 To make an egge to stande vpon an ende without anie helpe at all.

There is an olde tale of a good work eman who made an egge to stand in salt vpon an ende, but here the same is more artly performed, and yet without any such supportation. Holde an egge in your right hande, and with your fist give three or source good strong blowes vppon your leste arme, or vse

Art and Nature.

vse anie other deuise by agitation or shaking, vntill you have broken the yolke, and so made the white to mingle consusedly with it, and then it will presently stand vpon the broad end on an even table. It should seeme that before the breaking of the yolke, that the yolke did hang playing or totteting within the white, whereby the egge could not be made to stande speedlie without this deuise. And yet I heard a Gentleman whom I dare believe in a greater matter than this, affirme that hee hath diverse times caused an egge to stande alone by peyzing it to and sto betweene his handes, till in the ende it stoode vpright without anie other helpe. But the first is the readier way.

47 To harden the white of an egge into an artificial gum.

BEate the whites of diverse egges into a thinne and cleare Oyle or water, put the same into bladders, and hang them in your kitchin Chimney where a fire is vsually kept in the day time, and in a few dayes the same will become as hard as gum Arabicke. This I have often proved. Some performe the same in the Sun onely. 2re. to what vse this gum will serve.

Multa ouorum albumina simul exagitabis, iis vesicam impleas, inde in ollam aqua plenam feruentis immittas, ac diu cuoqui sinas, detrahe, & per multos dies
desiccari curabis loco tamen non puluerulento, & sic lapidescit vt in vitri duritiem transeat. Wickerus in libro de secretis fol. 532. citat. Bap. Port. authorem
istius secreti.

Heere wee may note the diverse and sundrie effects wrought by the severall degrees of syre. We see a continuall whote fire dooth roast an egge till

it become extreeme hard but yet the nature of foode remaining, an intermissive heat bringeth forth a gum altogither vnsit 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 vrge this philosophicall point of sire any further, onely I wish that he that is a true maister of this element were my manster also for a time.

48 A cheape Candle or Lampe for the poorer sort to vse in their howses.

Ip Candleweeke 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 vpon 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 sortalready published by meane persons both in towne and countrie, and given over by the inconvenience of the excessive smoke onely which annoieth the whole room exceedingly wherin 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 hauing 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 woorst weeke candles that are to bee bought.

But for those that can content themselves with the light of a Lampe (and I am fure the same will serue for watching Candles, and yet bee much easier in price) let them buy Rape Oyle, which for the moste part is to bee had after two shillinges the Gallon, and therwith maintaine their Lamps, vling a small weeke of a fewe foldes onelie, or rather a Candle-rush in the Socket of their Lampe, and so they shall finde that one pint of oile wil last them an hundred hours, whereas a pound of watching candles will bee spent in threescore, or threescore & ten houres at the most, and yet they are dearer by one pennie in the pound. Note that the weeke or rush must stande a little sloping in the nose of your Lampe. Or if you would vse your Lampe in steade of a warching candle, and to maintaine a light onely, then may you take a prettie large beere Glasse, placing your weeke vpon a wier, being platted like a trefoile in the bottom, the wier it selfe being first thrust through a litle round flat peece of Leade of the bignesse of a two pennie peece of siluer, to make it stande the steddier. The weeke must befastened to the wier with a thred of Cotten losely bound about it. When you have placed this weeke in the middest, then poure in either oile or suct round about it, and so kindle your Lampe, and it will give somelightalsothrough the Glasse. Note that your Glasse may not be too large, least that the week grow to a cole before the Oyle can consume away fast inough to giue it passage vnto fresh weeke thereby to maintaine his light the better. But if you woulde haue 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 Bason or potte of water, thereby to keepe the Oyle the cooler, and so it will also

The Iewel house of 50 alfolast the longer. And it is not amisse, nay it is verie requisite 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 paffe ouer in silence that one more speciall vse of a Lampe than anie Candle can affoorde, which is the fafetie of your light from beeing caryed to and fro in the nighttime with Rattes and Mife, which have oftentymes fet Mattes on fire with the flame of a Candle as they have fought 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 gining 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 have store of that Oyle of Beech-maste (which a late Writer dooth vndertake to produce in great quantitie from the Nutte, and which I have knowne expressed in England, but not with such yeelde, the difference whereof maie peraduenture bee found in the distinct natures of the English and the Naple Nut) or of that Oleu Palma, 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 fundrie nightes wherein I vsed no other watching Candle in my bedde Chamber. Let this suffice to have spoken of Lampes for this time, and vntill I may obtaine more leyfure and more libertie to lighten a newe Lampe that will give more

light then a Cresset in some of the darkest corners of

this lande.

And Home to refresh the colours of olde peeces that bee wrought in oyle.

Some vse to beate the dust off them with a Foxe Staile, or with a brush offeathers, and after rubbing them ouer with a Spunge and warme Vrine. This way was commended vnto mee by master Bateman, sometime parson of Newington, a man whom for diverse good partes that were in him, I can never 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 speedier drying they do put some burnt Alom or powder of glasse finelie ground. Some do vse first to wash over the pictures with sope, and presently after they be drie to vernish them over. Note y all this is intended in pictures not vernished before. Vide poste a, num. 72.

so 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 singlew you can get with a hammer till it begin to waxe cleare, and then cut the same into verie small and short peeces, suffring the same to dissolue vpon a gentle fire in a little leaded pan with a sewe drops of Aquavita. Then let some other that standeth by, hold both the peeces y are to be cemented ouer a chasing-dish of coles till they be warme, & during their heat lay on the dissolued glew with a sine pensil, then bind the glasse with wier or packthred, & let it rest till it be

colde. With this cement I did see a Dutch Ieweller (dwelling then in the Blackfriers, but since departed this world) cement two of her Maiesties christal cups that were broke. Some comend vnsleakt lime, wheat floure, and the white of an egge. Others like fishglew, with Aquavita and Ceruse, or with the teares of Masticke, Aquavita, and Ceruse. A singular workeman did highly commende vnto mee Rennish wine, and Isinglasse or fishglew for this purpose.

51 How to drie gunpowder without all danger of fire.

A Lthough I do not hold this for any great secrete, yet because there hath much mischiese & spoile of men happened onely by the retchlesse drying of powder, I haue thought it requisite and necessarie in that respect, and for the preuention of all daungers to come, to publish the same. Cause then a veffell either of Lead, Pewter, Latten, or Copper to be made, having a double bottome, betweene which bottomes you maie conuey scalding water at a pipe, which water may also bee heated in another roome, for the more fafetie 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 Vessell, and so give passage for more scalding water into the Vessell by an other Cocke which may be fastened in the pipe that runneth into the velfell. Or having a little pipe in the fide, you may from time to time with a funnell poure in scalding water at your pleasure, & this is done both with lesse cost, and also leffe circumstance. I do vse when I would dry my powder in haft, to heat a fireshouel by discretio, & the Llay Ilay a paper thereon a prettie while, and if I see that the paper burne not nor take fire, then I doe spreade my powder vpon the paper, stirring it vp and downe till it leave smoking. And this I have alwaies found to be a verie readie and a safe way. Some dry their powder in a stoue, where no fire can come neere to endaunger it.

52. To draw Fish to a certaine place in the night time, by alight or candle.

D.Vt so much filed lead into an vrinall as will make it finke, and vpon the lead strew some hearbes, and vpon those hearbs some glo-worms, couer the glasse with a corke and lute it well, and about the necke of the vrinall tie astring, which must beeput through a. great corke that may keepe the vrinall swimming in the water at what deapth you please. Note that with some pipe or quill, you must conuey 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 fantasticall that are drawne from these distilled wormes and Mercurie togither. Some nip or lute a glasse having crude Mercurie therein, and so hang it in the water as before. Also a candle helde either euen with the water, or sunke a little way into the water, will amaze and drawe the fishes vnto it, so as if you have a little hoope net, vpon the ende of a cane or pole, you may ealilie take them, and bring them to the brinke-fide. All these experimentes are best performed in a darke night.

53. A Bait to carch fish with.

To halfe a hotte halfe penie white loafe, take one ounce of Cocle seed (2re. if Coculus india 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 peeces, of the bignesse of a graine of wheate, and cast in a handefull of them at once, somwhat about the place where the fish doe haunt, if it be in a river. This serveth especiallie when you see the fish to flote, but for the cheven you must make your baites as big as cherrie stones, and put them in little cossins of paper, & then throw them you the water. This secret I have not proved.

54. How to drive fish into a Tramell.

PItch a tramell ouerthwart a river 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 fides of the river. These vnslaked limestones wil make fuch a crackling in the water, that no fish dare return backe againe vpon them, but will run forwarde and mash themselves in the tramell. This I had of John Hester, one of the most auncient chimists of my time in London, in exchange of one other fecret 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 tasting the strength thereof in the water, may bee the more affrighted.

Fill a sheepes gut with smal vnsleakt limestones, and tie the same well at both endes, that no water get therein, and if any pike deuoure it (as they are rauening fish and verie likelie to doe) she dieth in a short time, you may fasten it to a string if you please, and so let it flote vpon the water. Also the liner of enery sish is a good baite to catch any sish of the same kind. Past made of vvheate flower, a little saffron and some sugger, and tempered with water, is a good baite to angle withall for roche, dase, &c. Also if you gather dunghill wormes, or from under a block, and take the earth from them, and put them into sine clean mosse, suffering them to scowre themselves three or soure daies therein, the sysh will bite the better at them.

56. A readie waie to catch Pigeons, and other great birdes.

Makefinall coffyns of paper, (fuch as the Confitmakers vie to put their confites in) not exceeding the length of ones finger, pass the sides & endes with some starch, clip the vpper part of them round with a paire of sheeres, then annoint the inside of the vppermost 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 heere & there with a few peason in eueric one of them a little sloping or declining, and strewe some other peason amongst them. And when the Pigeon pecketh at the pease within the coffyn, shee is immediatlie masked or hooded, not seeing which waie to slie. And soyou shall synde verie good sport, and take them easilie.

57 A

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 shal soone take birds therewith. But I take this rather to bee the worme wherein the Nightingale dooeth so much delight, which is found in a mil-case, or where Bakers vse to boult their meale.

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

COrthe taking of pigeons, you must make a shrap I three or foure daies together, laying lose lines amongest the pease vntill the Doues bee acquainted therwith, then in som euening tie at those lines great store of strings, which with a needle before, you must thrust through the pease, being first sodden softe for the purpose, and at the end of enery string tie a little knot, when a pigeon hath swallowed downe one of these pease, together with the string, she cannot possiblie get it vp againe, but she is easilie taken. Perhaps some other birdes may also be taken in this manner. It is not amisse to hide the threeds neare the pease with grasse, earth or straw, or some such like matter. Also if you throw gobbets of flesh or cheese curds abroad in the fieldes where there be store of Rookes, Crowes, Dawes, or Magpies, within the which there is conveied some of the powder of Arsenicke or fublifublimate, you shall soone dispatch your barnes and other Garners of corn, of al these wastfull birds. But take heed that none of your hogges doo eat of these dead birds, least they happen to poison them also.

59. How to kil Seapies, Seaguls, & other rauening waterfowle.

Ome 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 themselues, and be easily taken. Also for the taking of store of seapies, you may lime some twigs which may be fastened at small fishes, and then laie the same vpon large leaues, fo as the lime touch not the water, and the seapie striking at the fish is taken with the lime twigs. And hauing taken one or twoe of them; then clippe their winges and so leave them in the water, and all the feapies thereabout that are within hearing, wil come to helpe them, and continuallie flie houering ouer them, fo as having your pecces charged you may difcharge at the whole flocke as fast as you can charge, for they wil not be driven awate.

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

K

The Jewell-house of 58 any reasonable compasse, into the roome where you haue 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 great lie. 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 commaundeth 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 fuger, or any other fweet wine or compofition in them, leaving these pottes or glasses three partes emptie, they will not forfake these sweeteliquors, vntill they have drowned themselves therein.

1. How to keepe garments of cloth, or hanginges of Tapistrie, Dornickes, Saie, &c. from moath-eating.

BRush your apparell with an ordinarie brush, and so likwise your hangings, or else you may vie a brush made of a figge frale, vntill you have gotten all the dust out of them, then brush them ouer throughlie wel twice or thrice everie yeare as they hang, with a brush made of wormwood tops. And yet I thinke it to be the surer waie, if they were also wel rubbed with wormewood on the backsides. I have heard that it is an vsuall practise amongst the Italians here in England in summer time to cause great store of Walnut tree leaves to be hoong vpon a thread, so as one may

not touch another, and when they are throughlied rie, 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 euery garment.

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

Ome put a handfull or two of ground malt into a Dbarrell 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 sower beere 24. houres in the earth, and thereby recouer it. Others adde new ftrong 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 handfull of falt into a barrell of dead beere. A Ladie in this lande hath alwaies vsed to put in a handful of ote-meale into enery barrell of beere, when it was first laide into her seller, whereby hir drink did alwaies carrie with it a quicke and a lively tast. It is also very good to tilt your beere, when the vessel is little more then halfe drawn off, for To you shall draw your beere good even to the latter

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 y help of two e or three persons, let the same bee held close both aboue and below vnto the mouth of the chimney, so as no ayre may enter, and if you canne come easilie to the toppe of the Chimney, couer the same close also, either with a sitte boorde, or else

K 2

with

with wet woollen clouths, & so the fire wanting aire wil presentlie go out and be smothered.

ble, without repairing to the sea for them.

SYr Edward Hobbie (as I have heard) hath stored Scerteine dikes in the Ile of Sheppey, with sundric kindes of Sea-fish, into which dikes by sluces, 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.

IF you place a Bee-hiue somwhat before swarming time in the midest of a great beech tree, so close as that it may not be discerned for seare of stealing, the Beeswilresort vnto the same, especiallie if it beefirst wel sprinkled within with water and honic.

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

A Neopolitane hath written, that falt mingled with oile will make it to double his lasting, but I thinke the practiser herof will find it somewhat troblesome to make a good solucion of salt in oile. For oile is an improper subject to reteine salt. I have heard an Irish practici-

ther.

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 vpon their stickes, that by this meanes onely they will last 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, (fuch as is viually called the Goldsmiths candle) and the fame 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 wil last as long as two candles of the same length and bignesse, alwayes supporting it selfe aboue 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 set on fire) vntill it have wrought a passage or entrie for the water into it selfe.

68 How to tell the iust number of Apples, Nuts, Shillings, &c. as they lie in bulcke togither, how great so euer the heape be.

Cheape in this maner. First will him to lay downe two, then let him double that number likewise, and so continue in the rule of duplation vntill hee can double no longer, laying all the odde ones apart by themselves, then shall you easily ghesse 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 soever it bee, every reasonable eye will ghesse, the bulk of the one number dooth so much surmount the o

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

69 How to preuent drunkennesse.

DRinke first a good large draught of Sallet Oyle, for that will floate vpon the Wine which you shall drinke, and suppresse the spirites from ascending into the braine. Also what quantitie soeuer of newe milke you drinke first, you may well drinke thrise as much wine after, without daunger of being drunke. But howe sicke you shall bee with this preuention, I will not heere determine, neither woulde I have set downe this experiment, but onely for the helpe of such modest drinkers as sometimes in companie are drawne, or rather forced to pledge in sull bolles such quasting copanions as they would be loth to offend, and wil require reason at their hands as they terme it.

70 An excellent tent for a Diamond.

BVrne Iuorie in a crusible or melting potte, being close luted, into a blacke powder, then take a little of the sine 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 Vernish to drie speedily.

This is done first by boyling of the oile to the confumption of the one halfe, or one third thereof, and then by the putting in the ashes of the backbones of Shads or Mackerell. Also diverse Shaddes heades heades dried in the winde, and hung vp in a darke place, will glister like Glow-wormes.

72 A strong Lee that will fetch out any steyne as also refresh an olde Oyle Picture, and make it verie fure againe.

Ake of the ashes of the Vine one handfull, of white coppres and burnt allom of each the quantitie 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 verie strong, fet the said water on the fire, and put thereto the quantitie of an hasill nut of good Sope, then take the faide 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 peece or picture though neuer so olde will become verie fresh. 2re. if this secrete do not onely extend to such oile peeces 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 mountbanke, and they came so hardly from him as if hee had beene extreemly costiffe. Vide antea.num.49.

73 To helpe Wine that reboileth.

IF anie sweete Wines happen to reboile in the hot part of the Summer (as I have often seene, and as manie Vinteners to their great losse have oftentimes

The Jewel-house of 64 times felt) then Placentius willeth a little peece or cantle of Cheese to be put into the vessell, and prefently a strange effect will follow . Hoc ex anchora famis & sitis. I beleeve that the corporation of Vintners would give twentie pound yearely to have this secrete warranted to beetrue. For the best remedy which they have, is to draw the wine of from the lee into other cleane caske, thereby perswading themselues to coole the wine, and to stay the boyling therof. But after a while the inward fire oftentimes beginneth a fresh workmanship, and frustrateth all their labour. I would esteeme him for a learned Vintner, and worthie to haue the next anoydance of Bacchus his chaire, that could give me the true reason of this reboiling of wines. But because I have allotted so great a place of honour to him that can but shewe the reafon onely thereof, therefore I will not presume nor professe to knowe the cause efficient, but I durst vndertake to perfourme the remedie, if I thought my rewarde would not bee somewhat like vnto his, that within this few yeares taught diverse of the companie how to draw out of a Hogges-head of wine lees, 10 gallons of cleare wine at the least, which beeing trickt, or compassed, or at the least mingled with other wine, hath euer since by diuerse Vintners beene retailed for wine, whereas before it was wholie solde for lees to the Aqua vita men. And this is the reason why there hath never fince been the like store of lees to make Aquavita of, as before the discouerie of this conceit, and that the lees of many Cellors which before 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 practize thereof began in Pater noster row, and within these few yeares, but I

but I feare by this time, it is a parcell of manie mens Creede that wil neuer be left til the worlds end. Wel, the poore fellow got hardly a good fute of apparell amongst diverse of them to whom hee disclosed the fecrete, although some one of them could tell which way presently to raise 30 or 40.li.per annu vnto themselues. And therefore I see it is no offring of skill in these dayes to Vintners. But the better course were to take a Tauerne and get a Hollibush if France were more open, and a litle more freed of the excessive impost, and so to draw wines as artificially as the best of them. For I can affure you I have almost the whole art as it is this day in vse amongest the Vintners, written in a prettie volume entituled, Secreta dei pampinei. And if I durst here so boldly as I could, both truly & largely write of those iumbling sleights, that are to too often practized in our naturall wines by some of the Coopers of London, to the great benefite of the Marchant and Vintner, although themselues, poore foules, get nothing thereby but the hooping of the vessels, and now and then a Can of wine for their labours, a man would wonder from whence such great varietie of jugling should growe or spring, and howe these plaine fellowes that neuer read their Grammer, nay scarcely know their A, B, C, should be able to run through Ouids Metamorphofis as they doe at midnight. And yet I cannot altogither blame either the Cooper, or the Vintners man for practifing of these alterations, transmutations, and sometimes enen real translubstantiations, of white wine into Claret, & old lags of Sacks or Malmelies, with malaffoes into Mufkadels. For we are growne 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 vnleffe

lesse it bee perfect, fine and bright, will satisfie our wanton eyes, whereupon (as I haue beene creedibly enfourmed by somethat have seene the practize in Spaine) they are forced even there to enterlace 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 naturall vnto them, or then the Spaniardes themselues will brooke or endure, who will drinke no other Sackes them fuch as be of an Amber colour. This makes the Vintners to tricke or compasse all their natural wines if they becalittle hard, with Bastarde to make them sweeter, if they pricke a little they have a decoction of honie with a few Cloues to deceive the taste, if they be clowdie or not perfect fine, they give them either the white or the yellow parrell, according to the naturall colour of the Wines, wherein they must vse Egges, Milke, Baysalt, & Conduit water well beaten and laboured together with a stubbed rodde, and then wrought foundlie together with a parrelling staffe, which parrell for the most part in one night (vnlesse the Wines happen to haue 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 wholesomnesse of these Lees to make Aqua vita withall. But when the Wines doe rope or beginne to faile or faint in themselues, either in substaunce or in colour, either by age, by the fault of Caske, foyle, falt water, or other accident, then manie tymes the Vintener is driven to his hard shiftes, and then hee hee helpeth himselse with Allome, with Turnsole, Starch, and with manie other Drugges, and aromaticall ware which hee setcheth from the Apothecarie, the particulars whereof I coulde set downe and appliceuen as they have beene a long time (till within these sewe yeeres) 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 leave all vnwholesome practizes for mans bodie, least 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 English and naturall drinke, without raunging so farre

for forreine Wines.

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

Pytone part of simal Alewoort that is blood warm with one part of clarified Honie according to the maner set downe num. 75. but put no Cloues therein in the clarifying. For the making of one Hogesheade of this Bragget which is aboute 63. Gallons, you must take nine Gallons of this clarified Honie, and 54. gallons of strong new ale: when your clarified hony hath stood one day, then mingle the same with your newe Ale in a Hogshead, first filling your Hogshead halfe full before you put in your honie, and then hang this aromaticall coposition following

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 fil vp the veffell 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 haue foure or fiue gallons or more of the fame newe ale, to fill vp the hogshead as it purgeth ouer continuallie. There is a leffer hole neere the bung hole in beere hogsheads, which must stande open whilest it purgeth, you must also be carefull in the beginning to give fome little vent to the hogshead whilst it worketh:in three or foure moneths, it will bee readie to drinke. You must have a hazell sticke of the bignesse of a good cudgell, fo great as may well enter in at the round bung-hole, and when your hogshead is abour three quarters full, put in this stick, being sawed croswife 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 togither a good prettie while, & when you have finished this agitation, fill vp the vessel 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 midft of the hogshead or somewhat more, stop the ende thereof and make fome holes in the fides, 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 conucie any liquor or composition into a vessell of wine without troubling of the fame, or turning vppe the lees, wherby

whereby you may draw the same fine presently.

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

PVt a gallon of water blood-warme to a gallon of honie, put in your honie first, and with a sticke take the depth thereof in the veffell 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 confumed, which you shall ghesseat by the marke on the sticke. Your hony must be pure and simple not mingled with woort, flowre, or other bad composition, euen 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 serueth 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 preserve fruit therewith in stead of Sugar. These two receits I had of an Oxeford scholler, who assured me that hee had often made proofe therof in the Citie of Oxford, and I know the man to be both of good conceipt, and verie carefull in the commendation of any secrete to his friend otherwise then may well stand with his owne credite.

Malmefey.

T Ake four gallons of conduit water, into the which put one gallon of good English honie, stirre the honie well till it be dissoluted in the water, set this water in a copper pan vpon a gentle fire, & as there ariseth.

feth any skumme take it off with a goofe wing or a Skimmer, and when it hath simpered about an hour, then put in a new laid egge into the water, which will finke presentlie, then continue your first 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 finketh no more, then put in another new laide egge, which wil finke likewife, & when that second egge doth also swim aloft with the fyrst egge, let the water continue on the fyre a Pater noster while, then take it off, and beeing colde, put the same into some roundelet, fylling the roundelet brim ful. And in the middest of this roundelet hang a bagge, wherein first put some reasonable weight or peize, and to euerie eight gallons of liquor two nutmegges grosèlie beaten, twentie Cloues, a rase 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 funne shineth continuallie for three whole monethes, couering the bung-hole from the raine, and now and then fylling it vppe with more of the same composition as it wasteth. This I learned of an English trauayler, who aduised me to make the same alwaies about the middest of Maie, that it might have 3. hot moneths togither to work it to his ful perfection. But least this way should happen to faile you, I have thought good for thy better fecurity, to fet down mine ownefansie, for the easier stirring vppe of this Malmesey to his workmanship. Let your vessel bee such as hath alreadie conteined some muste or other liquor that hath wrought therin (for he that knoweth not the vie of a worker is butaslender Artist)stop the same very close and lay it in a convenient Seller til it have wrought fuffyfufficientlie, 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 vsuall manner of ale and beere.

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

A T euerie vintage you must drawe off almost a fourth part out of the hogshead, and then rowle it vpon his Lee, and after fyll 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 have heard that an Essex knight vseth this practise, and hath Wine of nine or ten leaves (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 sul, these will last some two or three moneths as I have beene credibly enformed by a gentlewoman that hath made proofe thereof.

79. How to keepe the glosse of Spanish Leather shooes, or buskins, along time.

ofTo high ting of his Candle. Note receiver your

The blacking of a Lampe tempered with the oyle of Almondes or some other sweete oile, is verie good for this purpose. I know a gentleman that doth where to rub his spanish leather shooes with the backeside of a peece of freese-leather, but you must have care to keepe this kinde of leather verie drie. Some maintaine the glosse of this leather, with a peece of black veluet onely.

So. How to helpe smoking Chimnies.

IF the Chimnies beelarge, 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 betweene the olde backe and the new, raise this new worke a foot about the mantletree. Warranted by a Gentleman of Ireland, being a great practiser in artificiall conclusions, 2re.

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 woulde doe Linnen rags, after the slame is past, in a stone pot. Then laie another thin shauing thereon, and with a steele and slint stone strike fire into this tinder, and blow therein 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 have seene a Dutch Ioiner vse often times 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 maner. Cut or thwite a number of small Iuniper 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 Iuniper 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 Flaunders tile, which you shall make by rubbing one against another. Boile them well together til they become like pappe or birdlime. This will last a whole yeare. You must onely have care to bestowe good labour vpon the vessel if you meane to vse this scowring.

83. To defend a Horse from flies in his trauaile.

STeepe Arsmarte in water, making the water verie strong of the hearbe, and therewith wash your horse before you meane to trauell.

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 about the boords which you must place shelping wise, or in the maner of a penthouse throughout the garner, about halfe a yard or two soote from the corne, so as when the Rats haue leaped downe into the bulke of corne, M then

The lewel-house of they shall not be able to rise or bolt vp againe before you have 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 conuenient height, for so the offensive ayre as fast as it riseth hath issue and stayeth not in the passage

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

dult of Flaunders rile, which you (ball make by rub-Is Is I warme water, three or Joure drams of gumme Dragagant, and in one night this wil become a thicke fubstance like gellie, mingle the same with the powder of Alablaster finely ground and fearfed, then make up this substance into little round rowles of 4. or 5. inches in length. Alfoif 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 rosewater, ciuet, or muske. But if your teeth be verie scalie, let som expert Barber first take off the scales with his instrument, and then you may keepe them cleane with the aforesaid rowles. And heer by those miserable examples that I have seene in some of my nearest friendes, I am enforced to admonish all mento bec. carefull, how they fuffer their teeth to be made white with any Aquafortis, which is the Barbars viuall water, for vnleffe the same be both well delaied, and carefullie applied, a man within a few dreffings, may be driven to borrow a ranke of teeth to eate his dinnor

their

ner with, vnlesse his gums doe helpe him the better.

87. To helpe either man or horse that is tender in the foote or hoose, whereby they cannot endure any great trauell.

L'mitie, put in each sock before he draw on his hose a new laid egge somewhat groselie broken, and so let him trauell vpon them. So likewise you must put in two egs a little beaten into either hoose of the horse, and clap cow dung vpon them, and then wrap them well one night that they fal not out, and after you may trauel him any reasonable journy. This is much vsed in Italie.

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

Some hold opinion that if you barrel them vp whilest 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 all manie daies good. Qre. Of dissoluing of some salt in fresh water til it bee of one strength with the brackish, which conteineth some eighteenth or twentith part of salt, peraduenture it wilnot be amisse to change your brine now & then. Some pile them vp in smal roundelets with the hollow parts of the shels vpward, casting salt among them at eueric laie which they make. This is a good deuise to send them far into the Countrey, where oy sters are deintie and sold by tale.

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

M 2

Thefe

76 The Iewel-house of

These kind of fysh are well noted to bee of no durabilitie or lasting in warme weather, yet to prolong their daies a little (though I feare I shall raise the price of them by this discouerie amongest 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 sande, 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.

go. An artificial composition, wher with to make smooth glistering and hard floores, or to plaister wals with.

TEmper Oxe-bloud and fine clay together, and lay the same in any stoore 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 vse in Italie.

gs. To make parchment cleeve and transparent, to serve for divers purposes.

Make choice of the finest and thinnest parchment you can get, scrape the same ouer with a knifetill 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 drie 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 in windowes in steade of Glasse, especially in such roomes as are subject to ouerseers. You may draw anie personage, beast, tree, slower, or coate armour vpon the parchment before it bee oyled, and then cutting your Parchment into square panes, and making slight frames for them, they will make a prettie shew in your windowes, and keepe the roome verie 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 cheapemorter for building, wherin either no Lime, or small store of Lime shall bee requisite.

Wife, wealthie, and ancient Sopeboyler, dwel-Aling without Algate, hath for the better encouragement of others, long fince erected a faire and stately edefice of brick for his owne habitation, vpon the good successe whereofhe hath also verie latelie built one other house of some charge and good receipt, the morter whereof did confift of two loades of waste sope ashes, one load of lime, one load of loame, and one load of Woolwich fand. So likewise one other of the same facultie, being likewise of good credite and great experience, hath vsed onelie loame and sope-ashes tempered and wrought together in stead of morter, whereby he hath laid both the foundations, chimneys, and their tunnels in his dwelling house in Southwarke, and they have endured those stormes alreadie which have overturned manie other both new and olde tunnels that hath beene built with the ordinarie morter. Ir may be that many limemen, and some of those Bricklayers that are in fee with M 3

The fewel-house of with them may bende their force against this newe practize, and labour to discredite the same by all meanes 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 vppon reasonable request and warning, backe and confirme them, with threefcore more at the least, which I can produce alreadie made and executed within the Citie of London and the Suburbs thereof, infomuch that who foeuer will take a carefull view of all our late buildinges that confift of Brickwoorke (especially within the Subnrbs of the Citie) hee shall finde great store of these waste ashes to be imployed in them.

93 Aconceipted drinking Glasse wherein many sortes of fish will seeme to swim up and downe.

IN the middest of a good large drinking-glasse, and of a bole fashion, let a short piller of Glasse arise, upon the which a rounde Globe or Ball of Glasse must be placed, upon which Ball there must bee diuerse sortes of small sishes 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 sishes seeme to play up and downe within the Glasse.

94 Howe to dissolve golde, or to part it from guilt silver, without melting downe the silver.

hath first beene vied amongst vs Isolue some Sal Armoniacke, in some good Aquafortis, whole fæces (fixes the Goldsmiths vnproperly tearmethem) have beene first striken down with some fine filter, or else still by retort the faide Aqua fortis, from good store of Baysalt first calcined; fet some of this water in a parting glasse vpon warme imbers, and put therein your guilt siluer, and it will standin 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 amalgame with it, which Mercurie will foone flie awaie in fume, being put into a Crufible, and leaue the Golde behinde. I doe hold this to bee a verie profitable fecrete for the Goldsmith, vnlesse the Mercurie in the first guilding of the siluer, doe convey some part of the Golde so farre within the filuer, as that the water can make no fufficient penetration vnto it. For by this meanes all the charge of testing and parting wil be saued, which (as I take it) will not bee much leffe then foure pence vpon euerie ounce. But whereas it hath beene obiccted by some Refiners, that by this meanes there will be much golde loft (especially in such auncient plate as hath beene made and perhaps melted down againe before the arte of refining which is of a puijne date was found out, for that this water doth only take holde of fuch gold as doth enuiron the outfide of the filuer) I holde this to be a weake objection to difcourage 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 withall, he may follow the old refining rules and in fuch guilt place as hath beene made fince the arte of refining hath III.

80 The Fewel-house of

hath first beene vsed amongst vs (which is the most vsuall plate that is bought and sold in these dayes) he shall finde the same a most beneficiall practize, if the first doubt may be salued. Which may easily be proued in one ounce or two of guilt siluer, making a straite observation howe much golde was bestowed thereon.

glasse of salt water. Moone is at the full by a

IT hath beene creediblie reported vnto me, that if an ordinarie drinking glasse bee filled brim full, a little before the full of the Moone, that, even at that instant when the Moone commeth to the full, the water will presently boile over.

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

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

97 How 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 toppe, then powre therein some faire water,

an

an inch or two in height, vpon the which lay a round trencher that is almost equall in compasse with the Glasse. Then out of a long spowted Glasse or pot, poure gently some milke vppon the Trencher, and after that some Rochell or Connyacke white wine, and then some Gascoigne Claret wine, and after Sacke, and so you shall have each liquor or wine to flote vpon the other without mingling togither, because the fall thereof is broken by meanes of the gentle pouring vpon the trencher. Some holde opinion that the same may also bee persourmed with a round toste. But I thinke that you must have a speciall care herein, that the heaviest liquor do lie in the bottome, and that you proceed from lighter to lighter, so as the lightest or most aereous or fierie beeplaced vppermost, for each thing desires to bee in his naturall place.

os The Art of memorie which master Dickson the Scot did teach of late yeres in England, and wherof he hath written a sigurative and obscure treatise, set downe briefly and in plaine termes according to his owne demonstration, with the especiall wees thereof.

You must make choice of some large edifice or building, whose Chambers or Galleries bee of some reasonable receipt, and so familiar vnto you, as that euerie part of each of them may present it selfe readily vnto the eyes of your minde when you call for them. In euerie of these roomes you must place ten seuerall subjectes at a reasonable distaunce one from the other, least the neerenesse of their placing shoulde happen to consound your Memorie. Your subjectes must consist of Decades, whereof the first N is a

is a man, and the fifth a woman, or rather the wife of that man which beginneth the Decade. And by this meanes your first, your fift, your tenth, your fifteenth, and your twentieth subject, &c. Both forwarde and backewarde is eafily brought to minde. The rest of the subjects in enerie Decade may be such as are meerly differing the one from the other, vnleffe you shall like to have some few of them refembling 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 subiectes in that Decade. But if you place too manie fubiectes of one nature within one Decade, you will finde themverie troublesome to remember. These subiectes woulde bee such as are most apr either to bee agents or patients, vppon what soeuer you shall haue cause to place in them. And therefore a fire, a Dunghill, a Carte, a paire of Bellowes, a Tubbe of water, and Ape, a Shippe, a night-gowne, a Milstone, and such like, are apt to make your subjects of, wherein you may place all fuch thinges as you woulde remember, and as Maister Dickson tearmed it, to animate the umbras or ideas rerum memorandarum. But heerein euerie man may best please his owne witte and memorie. Noweto proceede to theplacing of these tenne subjectes, in their tenne locall roomes; you maie beginne with a Souldier, whomeyoumay place eiten in the doore or entrance confronting with a sterne and warlike looke all such as shall offer to enter that roome, whereof hee taketh the charge, you maie also imagine him with Flaske, Touch-boxe, Morion, Peece, Sworde and Dagger,&c. Because you may happile haue occafion in the placing of some harde woorde, to vie fome isa

fome one of these more fitlie then the other. Your seconde place maie bee your Bed-steed, (if that do happily standenext your doore) at the heade whereof, you maie by a strong imagination place an extreeme burning fire, and at the feete thereof a great and smoaking Dunghill. In your Chimney (if that likewise beenext your bed, and of a competent distaunce from the bedde) you maie imagine a Tubbe full of water. Then in your window beeing the next fitteplace you may imagine Bellona staring with her fierie eies, and portraied in all points according to the viual description of the Poets. Then vpon 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 faile with all her tackle. Vpon your Chaire you may imagine a night-gowne furred with Foxe skinne, having wide sleeues, and great pockets belonging to the same. Then vppon your Table standing in the middest of the roome, you may place a Milstone, or a Drumme, and in the top of the seeling ouer your Table, a Target, a sword, ora 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 heere you must haue an especial 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 practize of this arte you may perfitely (as your Pater noster) remember enery place, and what subject you have placed therein, which you shall the better perfourme if you make a full and a livedie description of euerie subiecte in your minde before you place the same. Nowe having gotten all these subjectes, with their severall placient ces,

The Tewell-house of

ces memoriter & ad unquem, suppose you are to remember a Car, a Lute, and a hande, you must alwayes remember to place your first worde whatsoeenerit bee, and howe vnapt so enerit beein the first fubiect, and the seconde woorde in the seconde subiect, and so forwarde. And therefore you may imagine your Cat scratching the Souldier by the face, till the blood runne downe his cheekes, he himselfe fwearing and staring and strugling with her. Your Lute beeing layde in the fire, you may imagine the fame burning to coles, and all the strings cracking in funder to your great greefe. Then you may imagine for the better remembrance of your third word, a hande raking in the dunghill till it become foule and lothsome in sight. In the like maner you may passe through the whole decade. And if you have more words or Capitarerum to remember then ten, you must beginne with the next decade of your locall subjectes wherein you may place other tenne woordes, and so you may proceede to what number you list, having subjectes inough to receyue them. Beholde heere that great and swelling Arte, for the which Maister Dickson did viually take of euerie Scholler twentie shillings, making one whole Moneths 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 censure hereof, according as I have found therein, I must of necessitie confesse, that although it doe neither answere his great promises, nor the expectation of those his Schollers, whose good opinions he did entertaine fo long with fuch golden hopes in the bettering of their weake memories, that yet not with standing the same is verie sufficient CCS.

cient to procure an affured and speedie remembrace of any 10. 20. 30. or 40. principall thinges more or lesse, that we shall take in charge to perfourme, and therfore verie necessarie for him that is charged with many errandes, and would discharge them all in such. order as they are deliuered vnto him, as also for the remembrance of all fuch pleasant tales and histories as shall passe in table talke, from conceipted wits. In which two especial vses, I have often exercised this Art for the better helpe of mine owne memorie, and the same as yet hath neuer failed mee. Although I haue heard of some of Maister Dickson his schollers, that have proved such cunning Card-players heereby, that they coulde tell the whole course of all the Cardes, and what enery gamester had in his hande. So readie we are to turne an honest and commendable invention into meere craft and cousenage. And if there be any that doe either make doubt of this art, or shal thinke that I have dealt too compendiouslie in so large a Subject, I will according to my ancient promise, be at altimes readie, and that freely, aswell in this as in any other fecret which I have disclosed alreadie, or shal hereafter by any publique impression disclose vnto my Countrey men, be readie to manifest the same by plaine tearmes, or manuel demonstration, to their best contentment.

99. How to make projection, either uppon Mercurie, Venus, or any of the rest of the base bodies, with a medicine so exalted, as that one shall extend upon a hundreth, either ad album, or ad rubrum, and abiding both the touch, malleation and coppell, the golde being 24. Carots high, and the silver 12. ounces fine. Amultisamatur Alchimia & tamen virgo eft. NPOR

Coulde neuer yet receiue any sufficient warrant or allowance from the true and ancient chimical Philosophers of al 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 reuelabis cuiquam. And Comes Treuisanus, dooth so religiouslie 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 al fuch happie Alchimistes, as haue alreadie accomplished their golden desires in this Art: Quod si materiam, pondus, aut colores noueris, adiuro te per Deum viuum ne cuiquam reuelaueris. But because I purpose not to prophane or violate those Sacred groundes of Nature in this discourse, but onely to particularize a fewe proiections, 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 euerie Arte hath gotten his Counterfeite in these daies. Howe Logike is turned into Sophistrie, Rhetorique into flatterie, Astro. nomie into vaine and presumptuous Astrologie, that ancient and divine science of Alchimie into Cementations, Blaunchers, and Citrinations, ending commonlie either in coosenage, quoinage, or in Capistro, which made Petrarke to give a Caucat in these wordes: Caue Alchimiam, semper rebus aliquid defuerit, dolis nihil. And againe: Chimista qui tibi aurum suum spondet, cum tuo auro improvisus aufugiet. This made Chamcer in his time to play so plesantlie vpon

vpon the Alchimists hollow cole, & this hath made me to touch or glance at a few other fleights of later date, therby to admonish al your gentlemen and others to take heed of al thefe mercenarie hirelinges, Qui cum aliis mille aureos promittant, ipsi drachmam petunt. Locus poscit fabulam. A subtile marchant forting himself of late, with an old smokie Alchimist for his better credit, as they became fellow trauellers in the higher parte of Germanie togither, lighting by chance vpon a young crewe of marchants that were wel monied, and ready for any rich prize that should be offred vnto them, especially for Iasons barke that was laden with the golden fleece; after fome falutation had, and a few words of course enterchangeablie passing betwixt them, this cunning companion of the alchimists began to parlie with them in this maner: My maisters and friends, you seeme 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 secresie which is requisite 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 adventure of one Deniere, vntill with your owne eyes and handes you shall have seene and made a sensible proofe of this my friendlie offer. It is but in vaine to vse manie wordes amongst friendes. You shallmake a perfect proiection your felues vpon Mercurie, ad omne examen; and because my selfe and my partener will bee free from all suspirion of deceipt, you shall bringe the Crusible, the Coales, and also the Quicke-filter with you, and wee will but onelle soulsbut the horne of Antimonic, It is not to bee -duob

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deliuer you one graine of the medicine which shall extenditselfe vppon a full ounce of Mercurie, which you your selues shall likewise let fall into the crusible. A man would thinke that this were plaine dealing, and that vnlesse these men were wilfullie bent to cosen themselues, that it were impossible, to deceive so many young eies, that watched fo carefully for them felues. But now to the practife. The fire being kindeled, one of them fetteth on the Crufible by direction of the Alchimist, vnder the nose of a paire of goldfmithes bellowes, who told him that for the better fixation of the Mercurie, there muste a reuerberatorie blast be made now and then with the bellowes, after the Mercurie was once warme in the melting pot. Now this Impostor had before conucied into the nose of the bellowes, an ounce or somwhat more (to supplie that which the Mercurie with his fume should carrie awaie with him) of Sol so subtiliated by often reiteration of Agua Regis vponit, as that it becam almost an impalpable powder, which when the Marchant by the appointment of the Chimist, had blowne amongst the Mercurie, he was willed to drop in the medicine, being wrapped vppe in a smal paper, and then to leave the crufible in the fire, vntill the medicine and the Mercurie were both incorporated together, and that the Mercurie were sufficientlie tincted into Sol, and within one halfe hour (after he had first caused them to melt downe an ounce of fine golde in an other crufible, and to put the fame to the first worke, for the better fusion of the powder) he willed to be taken out of the fire and conueyed into 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 ioyful of this good successe, desiring nothing more then to become Lullistes, offering to exchange their freedome both of the olde Haunce and of the newe, for this multiplying Art. Now this geere worketh like wax, and the Alchimist demanndeth 2000. dollers, for the prouision of coles, furnaces, saltes and Minerals, but especiallie to engrose all the Mercurie, that could be gotten, least either it should rise to an excesfiue price, or be transported into Spaine, for the refining of the Indian oare. The money is foorthwith 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 substace of this historie is already deliuered, I will not stande long vpon the circumstance. The Alchimist having fingered the monie, beginneth to erect furnaces, and enterteineth them with a few distillations, calcinations and fublimations, teaching them howe to make Lutum Sapientia, Aquam seperationis, aquamregis, oleum vitrioli, salis, & sulphuris, to congeale Mercurie with the spirit of Saturne, to make saccarum 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 ebulution, to make the fame diverse times to touch equall with our best starling, or higher according to the finenesse of the silver that was mingled with Venus, all this (with an infinite number ofspagiricall experiments) was performed, both to passe away the time without tediousnesse, whilest the Philosophers egge (which required to. moneths digestion, was hatching in Calophilosophorum) as also to

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to gain y more credit with the marchants, wherby a man of these single gifts, might not be feared or mistrusted of his flight, which both he & his companio were dailie practifing, and in the ende finding good opportunitie they put the fame in execution, leaving them that had most need to blow at the cole. I doo verelie beleeue that if the old D. of Florence were aliue againe, he would have outbidden the marchants for this secret, whose distillatorie vessels, surnaces, & other chimicall instrumentes, were all of silver as I haue heard it often reported. But now to give a few Items more against these Impostors, before I conclude, Let cuery man that is beforted in this Art, and dependeth whollie vpon other mens practises (himselfe not beeing 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 fome of these variettes doe vie to stirre the mettall and the medicine together, of all Amalgames or Powders, wherein any Golde or Siluer shall bee craftilie conueyed, of Sol or Luna, first rubified and then proiection made vpon it, as if it were vppon Venus hir selfe: but speciallie of a false backe to the Chimney or furnace, hauing a loofe bricke or stone closely ioynted, that may bee taken awaie in an other Roome by a falle Sinon that attendeth onely the Alchimistes hemme, or some other such like watch-worde, who after the medicine and the Mercurie put together in the Crufible, enterteineth Balbinus with a walk and with the volubilitie of his toung, vntil his confederate may have leyfure enough to convey some Gold or Siluer into the melting potte, which were able to deceine the best sighted Argus in the world.

03

By these sewe legerdemaynes, I hope many thoufandes will be sufficientlie 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 Iuglers of the Lande, yea infinitelie woorse than they: For that our auncient Juglers would shewe all their jugling trickes for a groat or a Teastern, and though nowe and then they made sheweto transmute siluer 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 pursse againe, whereas these Rascalles doe not onelie conuert other mennes monie wholelie into their owne purses, but procure also a great loffe and expence of time, which might have beene many waies better, but no way worse employed, and can neuer bee redeemed againe. Wherefore to conclude with Petrarch, Die vtea sibi prastet que promittit aliis, primumque suam pellat inopiam. Est enim fere mendicum genus hominum, cumque se pauperes fateantur, ditare alios volunt, quasi aliena illis quam propria molestior sit paupertas : sic vt miseri se atios misereri dicere sole ant impudenter, & ignotis etiam interdummagna promittere: O turpis promissio, & Ostulta credulitas. The guined esieve shem liwyods locke, bolt, and hinges, and yet they are finch as the

hot tongues, which is commonlie called Sigil-

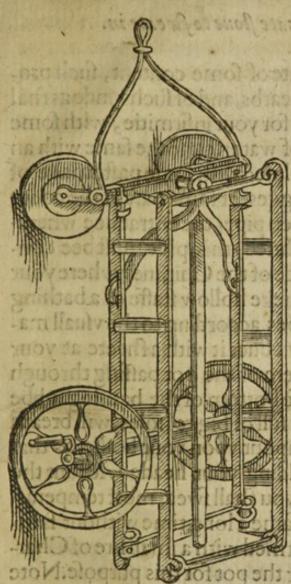
Place a violl or other glasse hauing a long necke, in a pan of ashes, suffering one inch of the neck only to peer aboue y ashes, then lay charcole round about the neck, & close to y same (som do also couer the viol

The Jewel-house of

92 with a round glaffe fitted to the mouth, both to keep out the ashes and also the extreame heate of the fire from striking downward into the belly of the glasse, couering also the verie toppe or sumitie of the glasse with charcole, two or three inches about the fame, then make fire at the toppe and let it kindle of it selfe downeward, and if that heat be not sufficient, vie also the blatt of the bellowes, for you must force the neck of the glasse euen to a heat of fusion, and when it is readie to melt, then nip the same close together with a paire of tongs beeing red hot, which for the same purpose must be kept in a strong glowing fire, and if you can take it in his iust time, you shal close the sam fo stronglie, that it is impossible for any ayre to issue out. You may fafelie keepe any distilled oile or water in a glaffe fo nipped. But take heed how you keepe the invoce of any strong or fierie plant, as also of any decoction that is apt to worke it felfe into a bodie, as new must, or the strong worte either of ale or beere, least you doe not one lie mispend your time, lose your liquor, and breake your glasse, but also get a shrewde turne your felfe, if you happen to be within gun-shot. For there be certein wilde spirits within, who can indure no imprisonment, 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 vie of them.

> lam Hermetis. IOI CA

Lace a violl or other glaffe having a long necke, in apan of athes, fuffering one inch of the neck only ro peer aboue valhes, then lay charcole round about the neek, & close to viame from do also couer the viol



Heioynts and other parts of this. wagon are so knit togither with hookes & pinnes, as that it may eafily bee disioynted and taken in funder. whereby many of the may be couched in a narrow roome, and will lie close togither in a ship. It is to bee drawne with fix men, whereof two of them muste labour at the fore-cariage thereof. and at either wheele other two, which must woorke by winding of the handles, (which are of purpole fastened both to the folsog sris Naire of the wheele,

and axletree) either forward or backward as occasion ferueth. The vie therof is to conney their vittails and other necessaries from place to place when the mariners or souldiers have cause to land in some coutries where the place affoordeth no horse or other beastes that are sit for labour or cariage. I know not the Authors of this muention, but because it cance so happille to my handes, and casteth some good conceipt of a with

The fewel-house of with it, I thinke it necessarie to be published amongst other serviceable deuises for the sea.

-obas 102 A delicate stoue to sweate in.

DVt into a Brasse potte of some content, such proportion of sweete hearbs, and of such kinde as shall bee most appropriate for your infirmitie, with some reasonable quantitie of water, close the same with an apt couer, and well luted with some paste made of flowre and whites of egges, at some part of the couer you must let in a Leaden pipe (the entraunce whereof must also bee well luted) this pipe must bee conueyed (through the side of the Chimney where your pot standeth) in at a thicke hollow staffe of a bathing tub croffed with hoopes according to the viuall maner, 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 fit therein) you shall sweat most temperatly, and continue the same a long time without fainting. And this is performed with a finall fire of Charcole maintained under the pot for this purpose. Note that the room would be close wherin you place your bathing tub, least any sudden cold should offend you whilest your body is made open & porous to the ayr.

103 The Arte of refining of Sugar.

M Akea verie strong Lee of vnsleckt Lime wherein dissolue as much course Sugar as the Lee will beare, beare, then boyle the fame a little, and presently put in the whites of egges first beaten into Oyle, which will make it to give vp a scumme, which must bee taken away as long as anie ryfeth. Then poure all the liquors through a great woollen cloth bagge, and fo the filth will remaine behinde in the bagge, then boyle the liquor againe, till it beeripe, which you shall knowe by taking two or three droppes of the liquor and putting them vppon a plate of colde yron, letting it coole, which when it is congealed a little like falt, or as a meane betweene sirruppe and hard Sugar, then take the lyquour from the fire, and poure out the same into the earthen Potte or Moldes made for the same purpose, having a hole in the smaller ende which muste bee stopped for one night after, and after that night open it, letting all the substance remaine in the Potte, vntill the fyrruppe beginne to leave dropping (into the nether Pot wherein the Moldes stande) or droppe verie soulie at the little hole, this Syrruppe (as I take it) is that which they call Malassoes,) Then take Potters Claie, and Clay the broade endes of the Potte ouer therewith, and as that Claye finketh downe by reason of the thrinking of the Sugar, fill them vp with more Clay, repeating the dooing thereof till the Sugar shrinke no more. Then take the Sugar-loaues out of the Moldes, and pur them in a Stone, till they bee drie and harde, and after binde them vppe in Papers according to Arte. Note that if the Sugar after the first boyling, and beeing powred out into the Moldes. and beginning to congeale, appeare to bee ouerblack or foule, and shall not become white at the first in the same Moldes, but some secical part remaine therein,

The Jewel-house of 96 therein, then it must be newe boyled with Lee in all pointes vt 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 ful of holes vppon the bottome of the Suger loafe, for the foftnesse 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 shoulde seeme the matter of substaunce is sufficiently vnfolded herein. I had the same of a Gentleman of good Worthip and a transit man our che fame into che Mittarang te or Moldesmade for the fame purpole, having a hole in the fina ende which muste bee stopped for occurring sire; and after that night of I I I I I of he all the substance remaine in the Potte, vntill the lyrruppe beginne to leane dropping (into the nether Pot wherein the flande) or droppe verie floulie at the little hole, this Syruppe (as I take it) is that which they call Malafoss,) Then take Potters Cloic, and Clay the broade endes of the Potte over therewith, and TONDE OF THE STATE to Arre. More than if the Sugar a fee the field mg, and beeing powred out into the Mole in the lame Molder, but fours feeled battremaine

