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of rare

Chemical Secrets

and

EXPERIMENTS

in

Philosophy

As Also

RARE AND UNHEARD OF MEDICINES, MENSTRUUMS and ALKAHESTS.
with the True Secret of Volatilizing the flixt Salt of

TARTAR.

collected

And experimented by the Honourable and truly learned Sir KENELM DIGBY

Kt. & Chancellor to Her Majesty the Queen-Mother, Eng.

Hitherto kept secret since his decease, but now Published for the good and benefit of the Publick by: GEORGE HARTMAN.

PRODUCED BY:



1983

TO THE

RIGHT HONOURABLE

ROBERT, Lord Paston, Baron of Paston, Viscount and Earl of Tarmoutk.
My Lord:

It is not my intention, nor indeed my Talent, to Celebrate those Excellent Virtues, which shine so eminently bright in your Lord-ship: For they are Themes only fit to be treated on by the strongest Pen, and their Native Worth and Resplendency are their own sufficient Panegyricks.

Yet, such is the Veneration I have for the Excellent Qualities and Endowments of your Noble Mind, and those Heroick inclinations, that move your Honour to make such exact diligent, and curious search into all the Secrets and Mysteries of Nature, and encourage all others that Labour therein, that I cannot forbear being so vain as to publish my resentmens thereof to the World. These Reasons, My Lord, together with the consideration of your inbred Candour and Generosity, encouraged me to the boldness of committing this small Treatise to your Honours Patronage and Protection: To whom I know it will be more welcome as containing in it the Choice Observations both in Physick and Chymistry, of that Famouns Man, and great Privy Counsellor of Nature, Sir K.D. A Name, My Lord, that hath peculiar Charms with it, to recommend all that are under its great shadow, to the value and consideration of all the diligent, the Learned, amd the Honourable: So great a Person (may I assume this vanity to say sol I had the Honour and Happiness for several years to serve, beyond the Seas, as well as in England, and to attend on him more particularly in the Production of many of his incomparable Experiments, and so to continue to his dying day; when he left with me those Choice things contained in this little Treatise.

And since I fear they suffer diminution of their Worth and Beauty, by passing through my mean Hands, and weak Managery, I thought I could make no better atonement, then by recommending them to receive Recruits, and Reinforcements from the Splendour and Emminence of your Illustrious Name. To that end therefore I take the Boldness to prostrate them at your Honours Feet, where also in al humility lyes

Your Honours

Most Obedient, and

Most Devoted Servant,

George Hartman,



TO THE

READER

Courteous Reader.

This Treatise contains some of the Choicest Collections of the Famous Sir Kenelm Digby (some whereof have been wrought by his own hands, some communicated to him by Learned Men of all Nations) in praise whereof no more need be said, but, that they are his; either of his production, or of his approbation. I shall, therefore, omitting other Artifects and Insinuations, only satisfie the Reader with all the clearness and ingenuity I can, how I came by them; and thereby I question not, but I shall bery successively recommend this Collection of them to all Ingenious Lovers of Art, whose Ears the Fame of the Worthy Author hath reached.

To this End, I must acquaint him, that I had the Honour several years to wait upon Sir Kenelm, and to have several of his Manuscripts in my Custody, more particularly this with others was committed to my Charge, when my Worthy Master intended a Journey to France for his Health's sake and to settle his Af-airs there: And he had progressed in his designed Journey as far as Cittenburn, when a violent Distemper forced him back to his own House in Covent Garden; and in three days after his return, left the Learned World to lament the loss of so great a Man. And here besides his incomparable self, his Friends and Countrey 1st the benefit of his Famous Library he had in France (which for want of his being Naturalized) fell into the French Kings hands, who bestowed it upon a gentleman, and it was sold (as I was credibly informed) for ten thousand Crowns. In which no doubt were manuscripts of his own, of very great worth and rich value, and might have obliged the world, had they fallen into the hands of Generous and Communicative Men.

But it was my happiness to have, among some other Manuscripts of his, the sole Propriety of this Choice Manual, which contains rare and profitable Secrets in Philosophy and Chymistry, delivered with more perspicuity and plainness than is yet to be found in any Chymical Book: Yea, such that any understanding Reader may with great facility be conducted as with an Ariadnean Line into the most intricate and hither-to fatigating Arcana of Chymistry. Here are the true Menstruums and Alkahests, and that hitherto hidden Secret of Volatizing the fixed Salt of Tartar without any Heterogene Substance, being the true Vegetable Menstruum; with many other rare and unheard of Medicines, some whereof I had a mind to reserve for myself, and not to Publish them during my Life, because of the great Experience, and the good success I have had with them in desperate cases; but Impium est sacere quae promulgata essent, multorum misere decumbentium, in levamen extarent. 'Tis Impious and unchristian to forbear the Publication of those things, which being rendered Publick, will effectually redound to the Advantage and Comfort of miserable Man.

I have translated most of these Secrets out of the Latine, French, German and Italian Tongues. And if I have committed any indecencies against the Idiom of the English Speech, I hope the Candid Reader will forgive a Foreigner. As for any Ornaments and Embellishments of Language, as the Work requires no such a Painting, so the Publishers Foreign Stile and mean Talents are not able to afford it.

I have no more to acquaint the Reader with, but that these Secrets had been Communicated to him long before, but that I have been most part of my time since my Excellent Masters Decease, abroad: However, I hope they will be now kindly entertained. For it is the height of my Ambition to make the Memory of my incomparable Master to Live, who was my private, and the World's Publick Benefactor, which can no where do with such Advantage as in his Learned Works, for thereby being dead, he yet speaks and instructs.

And though it be no addition to his Glorious Name, yet for the Wit and Smartness of the thing, and the Readers diversion, I shall conclude here with that Elegant Epitaph made on him by the ingenious Dr. Farrar, which is as followeth.

AN

C PITAPH

UPON

The Honoruable and Truly Nobel

Sir Kenelm Digby, Kt.,

Chancellor to Her Majesty

THE

QUEEN MOTHER

Under this Tomb the Matchless Digby lies;
Digby the Great, the Valiant and the Wise:
This Ages Wonder for his Noble Parts,
Skill'd in Six Tongues, and Learn'd in all
the Arts

Born on the Day He Dy'd, Th' Eleventh of June And that Day Bravely Fought at Scandaroun: 'Tis Rare, that one and the same Day should be His Day of Birth, of Death and Victory,

R, F,





CHEMICAL SECRETS

Digby

HOW TO FIX $\mathfrak D$ INTO $\mathfrak O$ BY $\mathfrak P$ AND $\mathfrak P$ PRECIPITATE.

Having written so many processes, and made so many tryals, and heard so many discourses of learned men upon this subject, I will give you an account of an easie method that I have resolved upon for accomplishing this work. Namely; That all imperfect metals and common may be transmuted into by one and the same method; to wit, by maturation and coction, and not by generation; for that which is generated, is no more that which it was before it was generated: And that which is corrupted, is no more that which it was before it was corrupted.

But the baser metals, after they are transmuted into \mathfrak{I} or \mathfrak{I} are still metals nevertheless as they were before, and the transmutation of their kind is done by changing their accidental form, not their substantial, the perfection whereof is Maturity; for by maturation the metal is brought to a higher degree of perfection.

Now, imperfect metals are maturated by external heat, which digesteth their crude humidity; yea, it self may be further perfected, and exalted

in colour, as when the Stone is made of it, it will communicate this Maturity to imperfect metals.

And common $\begin{picture}(1,0) \put(0,0){\line(0,0){100}} \put(0,0){\line$

By cementation, the humidity of $\mathfrak D$ is brought to maturity. There are several sorts of cementations, namely by Salts, Alloms, Vitriols, and Metalline-waters. But often-times instead of digesting $\mathfrak D$ they burn it; so that this way of making $\mathfrak O$ is with more loss than profit.

But there is no better way than and red Precipitate, which I have learned by the afore-mentioned operations.

MY PROCESS IS SUCH.

Take $\exists ij \text{ of } \supset$, make an Amalgam of it with Mercury by A. F. as you know, wash this Amalgam very well in several waters, then press out so much \bigotimes , that there remain but $\exists iiij$, of it with the \bigcirc which maketh $\exists vj$, in all. Add to it $\exists vj$, of good red Precipitate, and grind all to an impalpable Powder; which put into a mattrass, and digested it with a gentle heat in Sand, so that the \bigotimes do not sublime, but that it may calcine the \bigotimes and leave it in powder, for if you give too great a heat, it will reduce the \bigotimes into a body.

After three days digestion, take out your powder; and grind it as before, so that if there be yet any quick it may be mortified. Digest it again as before, and with the same degree of heat for three days more; then take it

out and grind it again, then digest it only for two days by four degrees of heat, which you must change every two hours, to the end, that by the last degree of heat all the and precipitate may precipitate the powder of which will begin to grow white.

Reiterate the addition of and precipitate in the same quantity as before. Digest two days more by four degrees of heat, as before, and the powder will grow perfectly white.

Then by the same operation reiterated it will begin to be of a Citrine colour, and fixed.

And thus by reiterating the digestions, you may give it what degree of this colour you please; for the oftner you digest it with the said and precipitate, being separated from it again by the last degree of heat, the more the powder will be of a Citrine Colour.

Then melt your powder with Borax, and you shall have o at 24 Carrats, without diminution of the first weight of the which will be rather increased. All may be accomplished in the space of One and Twenty days.

A WORK WITH ① AND ② THAT MONSIEUR DANDRE HELPED TO WORK IN PIEDMONT, IN GREAT QUANTITY: GIVEN ME BY HIM, JUNE 1660.

Monsieur Dandre saith, he wrought thus: Make carefully an amalgama of $\S j$, of \odot in Calx, with 7 or 8 of purified $\bowtie j$, then squeeze out so much $\bowtie j$, that there remain $\S iij$. of $\bowtie j$, and so there be $\bowtie j$ iiij. in the Globe: To this add $\bowtie j$ of Sulphur-vive, which is clear and transparent in pieces, (in Italy, where he wrought this) and grind all very well together, (in this

consisteth the main part of the Secret, for at every time you are to employ three or four hours in grinding) then put the matter into a matrass, and give a gentle heat, the Glass unstopped, till the moisture and smoak is exhaled out. Then let the fire go out, and when the matrass is cold, seal it hermetically, and set it to sublime by degrees of Fire, till all that will, be sublimed, which will be done in 20 or 24 hours. Then the Vessel being cold, break it, and take out the Matter, and grind all together a long time, both that which is sublimed, and that which is in the bottom, adding 3 j. of new Sulphur-vive, then sublime in the same method as before; repeat this seven times at the least, adding 3 j. of Sulphur-vive every time, and the matter will become a brown yellowish reddish powder, which will be very fusible, and even in the grinding it will relent, as though it grew moist: You will have 3 iiij. of fixed Matter, which project (in parcels) upon 3 x. of 3 in good fustion, then put it to the Coppel, and separating ∇ and you shall have **3** iiij. of pure **0**.

You can work but **3** j. of ① in one glass, but you may put 50, or more glasses in one Sand Furnace with a large bason of Copper in Sand.

SOME OBSERVATIONS ABOUT THE SAID MONSIEUR DANDRE'S WORK.

The operation was made in an Athanor, with the Registers at the end, the hole through which the heat was communicated, was about the bigness of a brick, the plate which held the Sand was of Iron, and contained 32 matresses, sixteen on every side: The Tower was in the middle, wherein the coals sunk down by degrees. They did not mix the powder with wax, nor

any thing else in projecting, but only wrapt up in paper, it did enter, and disappear immediately without smoaking. The matrass ought to have 2 third parts empty.

The Amalgama was made thus: They took 3 ix. of 4 and heated it in a Crucible, until it begun to smoak, then they set it upon hot Ashes, and cast therein 3 j. of Dacats cut in small pieces, and made hot in a crucible, then stirred it until the 6 was swallowed up by the 4: Then took it off, and let it cool. They did not wash the said Amalgama: They used common 4 only mixed with Quick-lime, and then Distilled in a Retort.

The Sulphur was transparent and yellow like Amber, in pieces, and to be had at Carmagnole, Turin, Cony, Mondevie, Saluce, Genes: It is a Sulphur-vive, cost four, five, or six pence a pound. The Sand they used was round River-sand, and the matrass was never red in the Sand: They never put above 3 j. of 1 in one matrass, nor never above 3 x. of 2 at every projection.

(Hartman) These observations were communicated to Sir Kenelm by Abbot Boucaud, but the Process was written by Sir Kenelm himself from Monsieur Dandre's Mouth.

MONSIEUR VAN OUTER'S SECRET, PHYSICIAN OF BRUSSELS, WITH

AND BUTTER OF ANTIMONY.

Take equal parts of mineral, and sublimate, and a little Salar-moniae, make butter thereof: Draw the spirit from this butter, which rectifie again. (Note, that this butter, being exposed to the Air, draws from the same what it needeth in an hours time, and thereby is much increased

in quantity: That which it draws is the hidden food of the Life of Man, and all the Beings in the World. And this butter is the true magnet which draws it in its purity.) Then put this spirit into a glass cucurbite, of a convenient bigness, fit a head to it with Limbec and Receiver; lute well all the junctures, and put it thus to putrifie in Ashes for two months, in which time the matter will become as red as Blood, and afterwards very black, sticking to the sides of the vessel like glutinous Soot, and the Ethereal Spirit ascendeth and passeth into the recipient in form of a Spirit, and in Body of fusible salt, whereof you must also draw the spirit, and separate them by distillation with a very gentle fire, until you see a red and sparkling fire upon the matter, which is a sign of its maturity, and that you have obtained the philosophical , which is the true universal dissolvent, then let it cool. That which resteth in the bottom of the cucurbite, is the Terra damnata.

Take \S vj. of this Manstruum, and put it upon \S j. of \bigcirc in very thin plates, which will speedily be dissolved, and they will unite intimately, as being of the same nature. You must take great care that you lose nothing of the spirits; it must be done in a matrass with a glass stopper, exactly fitted; and being well sealed and luted, digest it with a Lamp fire, with a very gentle heat in the beginning. After fifty days digestion, you must feed and imbibe your matter with the said Manstruum, whereof you must have store, for to multiply your work. So soon as you have put in the said dissolvent, you must stop it again immediately, and seal it as before, then digest fifty days more, the heat a little increased; which time being expired, you must again feed your matter with the Virginal Milk a little more than the

first time, continuing the digestion, the heat a little stronger. Reiterate the Imbibition seven times, and your matter will become more vigorous. and will be able to bear stronger food from time to time, and to bear stronger heat, which nevertheless must not be hastened, but well governed, after the example of the operation of the Rays of the Sun in the Spring and Summer, for the nourishment and maturation of vegetables. But you must observe, that at the two last imbibitions, there must be but 35 days distance from the one to the other instead of 50 before. At the five first imbibitions you shall see from time to time the wonderful effects of Nature. by the internal vertue of the matter, and by all the signs written in Flammel, Le Tourbe, Rosaire, oor Jubilation of the Souland in all those Authors that have possessed this rare Knowledge, which will appear infallibly; to the proportion whereof you must increase the fire, and that is left to the discretion of the operator. You must observe, that as the matter multiplieth in vertue and quantity at each imbibition, and always more and more. it might become so fusible, that at last it might penetrate the glass; so that if you judge convenient, you need not imbibe quite seven times, that you may run no hazard; for you may afterwards multiply the powder in the same manner, and carry it ad infinitum. And to perform all this, there needeth no more than about nine months time, and without much trouble or care.

THE MULTIPLICATION OF THE POWDER.

Take 3 j. of the powder to 3 iij. of . melt them together, and leave them until all be reduced to a powder, which will be done in three days at the most; and thus you may carry it ad infinitum, and that which is made thus,

hath the same vertue as the first.

THE PROJECTION.

To project upon β you must heat it in a Crucible, until it cast a black smoak, then cast one grain of the said powder upon ten or twelve ounces of β . And projecting upon other metals, they must be in fusion, and they will render in proportion according as they abound in δ .

A CONSIDERABLE WORK WITH \bigcirc AND otag .

Take 3 viij. of . melt it in a crucible with three times as much Tin-glass, mix them well together, then cast it out, and beat it into as small pieces as you can: Take three times the weight of your mixture of good sublimate, which put in the bottom of a large cucurbite, and upon that put the said mixture; set the cucurbite in an earthen pot, which put into an Iron pot with Sand; fit a head with a Limbeck and Receiver to it, lute all well, and give a gentle heat at the beginning for two hours; then increase the heat by degrees, at last a very violent fire of reverberation, during eight hours; then let it cool, and open the vessel, and you shall find your Tin-glass in the receiver in the form of Crystals, with the sublimate, and the . will remain in the bottom of the cucurbite, in the form of light dry flowers, very fair to behold, and will be much opened and attenuated.

Dissolve this ① in eight parts of A.R. Distill it, and put the same quantity of new A.R. upon it, and distill it off as before. Repeat this three times, at the third time the ② will be so opened, that it will ascend with the water, and stick to the sides of the head of the Alembick; so the same

will seem to be full of golden Stars.

Dissolve this again in eight parts of A.R. Dissolve also by itself twelve Marcs of in A.F. Put these two dissolutions together, and let them stand to settle 24 hours, the and will be precipitated indistinguishible, in the form of a black spunge, and will be effentially and radically united.

Distill off the water to dryness, you will find at the bottom a gray powder, which take out, and put it into a matrass, and pour upon it good Oyle of Vitriol, so much as may cover it the breadth of four fingers; Seal it hermetically, and digest for twenty days. Then open the matrass, and let the humidity exhale by a strong heat in Sand: Break the glass, and grind the matter with a little Borax, then melt it, and you shall have at least eleven Marcs of ① (a Marc is ten ounces.)

Monsieur Carrier gave this work to his Uncle, Monsieur Ferrier, having had it from an intimate Friend of his, who had arrived to great wealth by it.

(Hartman) The said Monsieur Ferrier did communicate this Process to Sir Kenelm at Paris, 1660. When he returned from Germany, at the time of the Kings Happy Restauration.

A WORK COPIED OUT OF THE ORIGINAL OF MONSIEUR DE LA VIOLETTE'S OWN HAND, WHEREOF HE MADE GREAT ACCOUNT.

Take **3** iiij. of the purest and finest **4**, and **3** viij. Spanish **3** purified with salt and vinegar, make an Amalgama. Then take red Mi-

nimum and Aesustum of each 3 iiij. Danzick Vitriol lbj. reduced to half a lb. by calcination, grind and mix these all well together, and put them into a retort coated, and pour upon it one pound and a half of the following A.F.

Take Vitriol two pound, which reduce to one lb. by calcination, which put into a retort, and pour upon it a good A. F. made of Vitriol and Nitre, Distill it S. A. and you shall have an A. F. fit for this work, which having poured upon the said matter, distill it off, and it will be very ponderous. Break the retort (being cold) and you will find on the sides of it, and upon the Caput Mortuum, a very red and ponderous sublimate, which take off.

Take the half of the Caput Mortuum, and as much of Bay Salt decrepitated, reduce all to a fine powder with the said sublimate, and then put all into a new retort, and pour upon it the distilled A.F. Distill it as before, and the said A.F. will come off very red, and the sublimate will be more red, and more ponderous than before, and will rise very high at this time. Keep this water very carefully, break the retort, and take both the feces and sublimate, and reduce it to powder, and sublime it by itself without A.F. and the sublimate will mount but upon the surface of the feces, which separate, and it will have acquired more redness, and will be almost fixed. Put this sublimate into the said A.F. and it will dissolve it speedily: Distill or evaporate the A.F. in sand, and the sublimate will remain in the bottom like a deep-red Oyl. Put into this Oyl 3 iij. of the fixed Sulphur of Vitriol, made according to Art; put it into a matrass with a short neck, and digest in sand, until all the moisture is exhaled.

•

Then take an Amalgam made with one part of ① and two parts of ② calcined with salt, and four parts of Spanish ② (washed with salt and vinegar;) then squeeze out so much ② as you can from the Amalgama, then wash and dry this Amalgama, and pour upon it by little and little of the above-said A.F. let it stand half an hour, then pour on more of the water as before, and you will see the Amalgama dissolve visibly, and will be reduced to a very red powder.

Note, that once in half an hour you must pour on some of the said water, and all will be done in less than half a day. Digest it half a day longer in sand; then break the vessel, take out this precipitate, and melt it with a little Borax, and you shall have ① at 24 Carats.

Note, that if you take equal parts of o and to your Amalgama, you shall have increase yet fourty or fifty per cent more.

SYNDER'S SECRET, AS HE GAVE IT ME HIMSELF THE 22 OF JULY, 1664.

Take Nitre eight parts, Sulphur four parts, and Tartar two parts: Reduce all into a fine powder, and mix them well. Then melt one part of pure and three parts of purified Regulus of Antimony in a crucible; then add to them three parts or more of the said powder, let it stand in the fire until you see a light skin upon it, then pour it into an Antimony-horn. Take the Regulus in the bottom of the Horn, and melt it again, and cast more of the said powder upon it: Repeat this so often until all the Regulus be consumed; dissolve all the scums of the said Regulus, and make a laver thereof, which filter, and precipitate with an Acid, which edulcorate; edulcorate

also the feces which remained in the filter, put these things edulcorated together, with half the weight of flowers of sulphur, and calcine them well:

Then draw the salt from it with distilled vinegar (which will be a golden salt) draw as much of the said salt from it as you can.

Take one part of this salt, and two or three parts of good butter of Antimony well rectified, mix them well in a matrass, one part filled, and the
other two parts empty: Seal it Hermetically, and digest it with a gentle
heat; it will grow black and putrifie in the space of three days; continue
the digestion until the powder be fixed.

THE FOLLOWING OBSERVATIONS ARE FROM ANOTHER
LEARNED MAN, WITH WHOM SIR KENELM DID CONFER
AT HIS RETURN FROM BRISTOL, CONCERNING THE SAID
SNYDER'S WORK. WHO SAITH THUS.

This operation may be abbreviated, in fermenting it with ① as followeth: Make a Spirituous Regulus of Ö, as you know, which is precipitated butter of Ö and Ö, adding to them soap and salt of Tartar.

Take of this Spirituous Reg. three parts, and one part of ①, melt them together, and cast it by little and little into the Sulphurous Salt Enixe, & totus solvitur, effunde, solve, filtra, precipita totam

materiam in Sulphur pulcherimum: Reverberate this Sulphur with flowers of Sulph. or if you will, dissolve it again, and precipitate; draw the salt from this Sulphure with distilled Vinegar; add to this salt or Golden Vitriol, three times its weight of butter of Ö; digest them together (domo cossent colores) You may multiply the work in quality, in dis-

solving the powder in Salt Enixe, and precipitating often: And you may multiply it in quantity, in mixing it with new Butter of $\overset{\bullet}{\circ}$, wherein you have dissolved the said salt, or Golden Vitriol. Note, That this work will be more excellent if it be done with $\overset{\bullet}{\circ}$ of $\overset{\bullet}{\circ}$, and Spirituous Reg. It may be also abbreviated in purifying very well the Butter of $\overset{\bullet}{\circ}$. Note, that this work in a mineral water, which is coagulated by its own Sulphur. Note also, that if you take the Golden Sulphur without Reg, the work will be yet shorter. Note, that in the multiplication, if the powder only be dissolved in Butter of $\overset{\bullet}{\circ}$, the operation will be shorter.

A GREAT SECRET OF THE SAID MR. SNYDER'S POWDER.

Dissolve \bigcirc in Sal Enixe, and exalt it with Sulphur of $\overleftarrow{\Diamond}$, then cast in conum, in salem rubicundum (see that no Coals fall in.) Keep the salt so long in the fire, that it remain fusible: Grind it, and let it melt in a matrass; add a grain or two of the powder, let all melt in a strong fire twelve or twenty hours, and this powder will be multiplyed; pour out, dissolve, and filter, put therein \bigcirc and $\overleftarrow{\Diamond}$, they will be transmuted into fine \bigcirc .

Or, precipitate the Liquor with salt into a Golden Sulphur, which digest longer with Butter of $\overset{\bullet}{\mathbf{C}}$. Or, preserve the Sulphur, and ferment it again with dissolved $\overset{\bullet}{\mathbf{C}}$, as is said, in Salt *Enixe*, and in a matrass, that the powder may go ad infinitum.

MATTHEWS HIS WORK.

Take Common Cinaber 3 xij. Crystals of 3 ij. Common 2 precipitate, made by A.F. and reverberated until it be red, 3 j. Oyl of

Vitriol 3 xv. First, reduce the three hard ingredients into a most fine powder; then grind it upon a Marble stone with a little of the Oyl of Vitriol, adding the said Oyl by little and little, until it become like Pap; which put into a low cucurbite (taking care that it do not touch the sides of the said cucurbite, because it would endanger it to break) and put upon it the rest of the Oyl of Vitriol, and stir the matter well with a stick of glass (which must be massy and not hollow) that all may be well mixed together; digest it with a gentle heat for eight days, so that nothing may go over through the Limbeck: Then distill as much as you can of the Oyl of Vitriol, and take the matter out of the cucurbite, and grind it again; put the distilled Oyl upon it again, and distill as before, without digesting it; repeat this fourteen or sixteen times. At last, distill as much of the Oyl as possibly you can; and that the remaining matter may be thick, and conveniently handled, put into it 3 v. or vj. of filings of 3. Then melt twenty ounces of), and project your matter upon the same (being in fusion) in fifteen or twenty parcels, staying every time, before you project until that which you projected be well entred and incorporated with the), and that it be very clear: After all is projected, leave it in good fusion for an hour or two: then put it to Coppel, and afterwards to Separating ∇ , and you shall have about $3j\beta$. of pure \odot .

The Crystals of Tare made thus:

Upon filings of of put Oyl of Vitriol, then pour common ∇ upon it, and the filings will dissolve; filter the dissolution, and evaporate the Liquor usque ad pelliculam; set it in a cold place, and it will shoot into

Crystals, which require no further Purification.

The Oyl of Vitriol for this work is made thus: Take Dansick Vitriol, dissolve it once in ∇ , filter and congeal it; then calcine it gently, until it be white: Then distill it in retorts S. A. forcing it very strongly at last. Dephlegm this Oyl in a low cucurbite, and that which remaineth in the cucurb. (which will be of a dark red) must be passed through a filter of wool in a glass funnel, and the wool will imbibe the unctuosity of the Oyl, which if it were not separated from it, might hinder its operation.

TO FIX) INTO ().

The 15th of November, 1660, Monsieur John Commandair told me, that Signor Lucca (from whom he now came) had taught him a shorter, and easier way of doing his work, thus:

Take the Mother-liquor of Salt-petre, V.P. 122 (which is the salt ∇ that remaineth after as much is shot into Nitre as will shoot) and let it run once through a filter of washed sand to purifie it; then evaporate it to dryness: Grind the remaining salt very fine, and set it in a cellar, or other moist place to dissolve into ∇ by the Air; filter that by a woollen Languette, coagulate, grind, dissolve, and filter it. Repeat this seven or eight times, that all foulness may be severed from this fixed salt of Salt-petre. Then it will easily give its pure Spirits, and not before. Put this into retorts, not above half a pound into each retort; distill first with very gentle Δ , increasing it by degrees, at last, strong Δ , as when you distill A.F. The distillation will be performed in twenty four hours: Then dephlegm it carefully; when the drops come Acid, cease. In the mean time purifie the fixed

salt remaining after the distillation, by grinding it small, dissolving in humido, filtering, and congealing. Repeat this twice or thrice; then put one part of this fixed salt to three parts of the spirit, and to this composition put a tenth part of pure ①, and though it were in an Ingot, it will dissolve it speedily. Put this into an Egg, and seal it Hermetically, and digest it, it will putrifie, and grow entirely black; then pass all the due colours, during which time increase the heat by degrees, and when it requireth strong heat, use Coal.

AN OBSERVATION ABOUT VOLATILISED 3.

Monsieur de L'oberie, and Mons. de la Nouë wrought the first process upon (which is after those upon ()) that is in the handgrif of Basil Val. which maketh the fourteenth Book of his Test. But instead of a due Calx of), they took one made with A.F. (the ordinary made of Vitriol and Nitre) and precipitated it with salted ∇ (Salt dissolved in Common ∇) and for the rest, did as the process teacheth; which was reported to me thus. Put upon this Calx of (they had iv.) (after it is well dulcified by often ablutions with fair \(\nabla \), till no saltness or spirits appear to remain) so much fresh A. F. as to swim four fingers breadth over the Calx of): Distill off the A.F. then cohobate again; do thus four times: At the last distillation give strong Δ , you will have a gray substance like marcasite. Beat it to powder, and put distilled vinegar upon it, to swim four fingers over it; digest two days, then boyl it three or four hours, after which, distill away all the distilled Vin. and there should have remained blew Crystals, but they were white without tincture: So having failed in their expectation,

they would reduce their \mathfrak{I} back in a body, therefore dulcified it well with distilled vinegar and fair ∇ , and put it into a Cruc. to melt with a little Borax, and a little Nitre, and a thick smoak flew away, and in the end there remained but \mathfrak{I} ij. of \mathfrak{I} .

Consider, if this course, and, if need be, digesting longer (at last) with distilled vinegar and Oyl of Tartar, #, and salt of Urine, & c. Then distilling with Tartar and Calx-vive, might not make 2 of 3.

A PROCESS FROM MONSIEUR VIGNAULT, WITH OAND

4. . .

Take ξ j. of Ω , $\dot{a}\dot{a}\dot{a}te$ it with $\dot{\xi}$ iv. of $\dot{\xi}$; grind this $\dot{a}\dot{a}\dot{a}$, and wash it well: Then put it into an earthen Pot with its cover to shut it very close, which cover must be like a funnel at the top: Put it to a gentle Δ in sand for twenty four hours, then give it a strong Δ for twenty four hours more, that the matter may ascend and descend; then take out your matter (loosening it from the bottom where it sticketh fast) and grind it, and $\dot{a}\dot{a}\dot{a}te$ it again with the same δ , and proceed all as before. Repeat this work six times, always with the same ξ , which, by degrees will become earth, and will stick no more to the bottom; you must leave it in sand every time twenty four hours before you grind it again; after the sixth time give it strong Δ , so that it may be red-hot in the sand for fourty eight hours, and it will be a red powder, which multiply by mixing with it its weight of \mathbf{g} , grinding and digesting it as before; and in three times twenty four hours it will be in powder; and if you will multiply it again, proceed as before, with equal weight of ξ . And to make it into a Tree, do thus: When

you have made the $\dot{a}\dot{a}\dot{a}$, and ground and washed it, then put it into a matrass, which stop only with paper; then digest it continually, and the said $\mbed{\psi}$ will ascend and descend: And when you see that at last it becomes hard and heavy, sticking to the neck of the matrass, put it down with a quill, and it will become a Tree, which will be red. Note, That your $\mbet{\psi}$ must be well purified first, and then sublimed with $\mbet{\phi}$ and $\mbet{\int}$, taking \mbet{J} ij. of $\mbet{\odot}$ to one pound of $\mbet{\psi}$, for it will be much the better, and will be sooner done. If you mix \mbet{J} \mbeta . of \mbeta with \mbeta of the said powder, and grind it well with \mbeta ij. of \mbeta revived from Cinaber, and animated with \mbeta , as is said, and digest it fourty eight hours, you will do more in fifteen days, than otherwise in two months, and the \mbeta will not stick to the bottom of the pot: You must continue the digestion as is said above, and at the end strong \mbeta . The \mbeta will serve for to animate the \mbeta , and to melt it, and reduce it into a Calx, for to $\dot{a}\dot{a}\dot{a}te$ it with animated \mbeta , taking \mbeta , to four of \mbeta .

FIXATION OF , WROUGHT BY FATHER BENING DE BAUNE, AND BY HIM COMMUNICATED TO ME.

First, he animated common a for this work, thus:

Take 3 iv. of Common Sulphur, melt it in an Earthen Poringer, then cast into it by little and little lbj. of 4 (purified with salt and vinegar, and squeezed through Chambo-leather) stir it continually; then take it from the fire, and keep it stirring untill it is reduced to a black powder, which grind, and add to it lbj. of 5 in powder, and lb 6. of Quick-lime also in powder; mix all together, and put it into a coated retort, of such a bigness, that a third part may remain empty. Distill it, and let the nose of the re-

tort lye in a Poringer full of ∇ , distill by degrees of Δ , as you do A.F. the \mathfrak{P} will distill into the ∇ : Mix this \mathfrak{P} again with new materials, and distill as before. Repeat this operation with the said \mathfrak{P} seven times, every time with new materials.

Take \mathfrak{Z} viij. of this \mathfrak{Q} , $\dot{a}\dot{a}\dot{a}te$ it with \mathfrak{Z} j. of a light spungy-calx of \mathfrak{Q} ; wash this $\dot{a}\dot{a}\dot{a}$ well with warm \mathfrak{Q} , then dry it, and put it into a matrass; seal it Hermetically, and digest it in sand the space of twenty four hours: Then grind it again with \mathfrak{Z} viij. more of \mathfrak{Q} , and digest as before. Repeat this operation once more with \mathfrak{Z} viij. more of \mathfrak{Q} , so that there be \mathfrak{Z} xxiv. of \mathfrak{Q} to one of \mathfrak{Q} . Put them into three several matrasses, which seal hermetically, and put them to a suppressing heat in an Athanor, for the space of two months: Then put all into a retort, and distill it in sand, with a heat of suppression, so that the \mathfrak{Q} above be stronger than that below, and if any of the \mathfrak{Q} remain in the bottom of the retort, you must $\dot{a}\dot{a}\dot{a}te$ it with twenty four parts of \mathfrak{Q} , and distill it as before, untill all the \mathfrak{Q} be distilled over. Repeat the same as before, untill the \mathfrak{Q} hath taken in sixty parts of \mathfrak{Q} , and if it taketh but twenty four of \mathfrak{Q} , the \mathfrak{Q} will be better, and your \mathfrak{Q} will be animated.

the coppelling-place with two bricks, (I use two bricks, because I can lift up one of them to put the metal into the coppel, and leaving the other brick, the coppel is not all uncovered, as it would be if it were covered with one whole stone.) Then having kindled the Δ in the furnace, cover it as before, and blow the bellows, and the flame finding no way out, is forced and driven into the coppelling-place, where it reverberates upon the coppel, which when you see that it is well healed, lift up one end of the hithermost brick, and put in the λ , the quantity whereof must be proportioned according to the impurity of the matter you mean to coppel: if it be Sterling), you must take four parts of \$\overline{\lambda}\$ to one of \$\igcreat{\lambda}\$; if it be any other mixture of impure metal, you must take five, six, or seven parts of $\overline{\lambda}$ to one of the metal, according to the impurity of it. Govern the Δ so, that the coppel may always work and flow, and you may have a little space between the two bricks, through which you may look into the coppel to see how it worketh, and if you see that it requires more flame than the Sinders, or Charcoal will afford, you may put into the furnace a round thick piece of wood; but you must observe, that when the coppelling-place is come to be red-hot all over; and the bricks also that cover it, the coppel will then work with a very gentle Δ , so that then you must blow but gently; for if then you should give strong Δ , the matter in the coppel would boyl too fast, and would spatter about.

Instead of an iron hoop, many times I use but an earthen porringer, to make a coppel, filling up the Coppelling-place with any ashes round about the coppel, and find that it doth altogether as well, only that it serves but

for once. Note, that whilst you coppel, or neal the coppel, you may make Regulus, if you have occasion, or melt any other metal at the same time. This furnace doth far exceed any ordinary wind-furnace; for I can at any time make a parcel of Regulus, or melt any metal before the Δ would kindle in an ordinary wind-furnace, and that with much less charge. In this furnace you may distill with a luted retort in a naked Δ , by leaving two little holes in the wall of it to put two small iron bars in, to set the retort upon; you may also distill in it, in sand, both in a retort and in a cucurbite, by putting an iron pot into the furnace with sand, and laying some brick with clay about the pot, to inclose that part of the pot (or luted retort) that stands out of the furnace, and you may give what degrees of Δ you will, from the first and lowest, to the fourth and highest degree.

THE END OF THE FIRST PART.



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Take $\fine{3}$ j. of Calx of $\fine{3}$, and three or four of your $\fine{2}$ animated, $\fine{a}\dot{a}\dot{a}\dot{a}te$ them together, wash the said $\fine{a}\dot{a}\dot{a}\dot{a}$ with warm $\fine{7}$, then divide it into two parts, and put them into two matrasses; seal them Hermet. and digest in an $\fine{Athanor}$ with very gentle heat for fourty or fifty days, then increase the heat for fourty or fifty days more: Then continue the digestion with the third degree of heat (stronger yet) unto the end of eight months, counting the time of the first and second degree already past. Then digest a month longer by the four degrees of $\fine{\Delta}$, which will make it nine months in all.

The Calx of) is made of equal parts of) and Regulusof of melted together, and reduced to powder. Note, that the Reg. is not to be reckoned; so that you must take 3 ij. of this powder.

OBSERVATIONS.

The Athanor was of a digestive furnace, with a tower for the coals, and between both, there were two registers of heat, the one gave the heat under the vessels, and the other above: The matrass stood in sand in a bason of copper, which held ten or twelve matr. At the beginning the \triangle was given only below, and so gentle, that the \bigcirc never sublimed. The bason with the matr. was covered with a cover like a Dome, and after that the heat was given also above, and that stronger than before: And it ought to be always continued without interruption. After nine M. digestion, all the \bigcirc will be transmuted into \bigcirc , and besides that, you shall have an augmentation of a third part of \bigcirc .

Note, that you must not put above 3ij. of matter into each matrass.

The • which he used in this operation, was three times purified by

He told me since, that the greater proportion of Reg. you put to the , the better your work will succeed, and you shall have the more . , and the sooner.

(Hartman) The said Father B. deB. was the Apothecary in the Convent of the Capuchins at Lyons: He was an able Chymist, and had been for some years operator with the Chancellor of France, in his Laboratory. When I went from Paris to Italy, after Sir Kenelm's death, passing through Lyons, I went to see him in the Convent of the Capuchins, where I had some discourse with him concerning this work; he confirmed it to me, assuring me that he had done it, and that it was a real truth, and that is all I know of it.

A ∇ WHICH CHANGES \mathcal{Q} AS RED AS BLOOD, WHICH ABIDETH THE FIRE.

Make an A.F. of equal parts of Vitriol and Nitre, which cohobate and distill three times upon its Caput Mortuum.

Take of this A.F. 3iij. 3j. of 3i, and 3ij. of Sulphur-vive; put all into a retort, let it stand twelve hours, then distill it, and cohobate so often, till you see the 3i as red as Blood, which will be in five or six times; then bring it into a powder, which imbibe with Oyl of Roman Vitriol, dry and imbibe it three times: Then divide this powder into eight parts; then take 3i, of 5i, which put to Coppel, when it boyleth, put into it a Ducat of 5i, then put into it one of the eight parts. Drive it off, and you shall have

3 j. of fine O.

(Hartman) This process was written in the French Tongue; at the bottom was written Probatum, the 2nd of July, 1658. The process saith it must be done on Thursday and Friday, and at the Full of the \mathfrak{I} .

SAUNIER'S WORK, AS I WROUGHT IT.

Purifie of three times by 5; then reduce it into a subtil Calx, by calcining it five times with Sulphur and 2: Then burn S.V. upon this Calx, and reverberate it again, that all the extraneous Spirits may be driven away.

- 3. Make an A.R. S.A. out of the fixed salt, after the extraction of salt-petre, which after some days must be dephlegmed with great care, and rectified, so that it have neither phlegm nor terrestrial feces.

Dissolve 3j. of your in as small a quantity of this A.R. as you can, keeping the vessel well sealed (and therefore it ought to be large) in a very gentle heat in B.M. where it must be digested (after the dissolution) for some days: The dissolution being very clear, decant it from the white residue.

Dissolve \S 6. of fusible salt in as small a quantity of the said A.R. as you can (which is not done suddenly, but by digestion) and being clear, mix these two dissolutions together, namely, that of the \odot , and of the salt, and if any thing \Longrightarrow tate to the bottom; keep it in digestion with a gentle heat (the vessel close stopped) until all is dissolved and clear; then keep it

in the same digestion for fifteen days. Then with a very gentle heat abstract the phlegm, until a spirit ascend; then cease, and put into the vessel \$\mathbb{G}\$. of the mate before mentioned (in very subtil powder) shut the vessel again immediately, and put it in digestion as before, until the mate is well dissolved. Then dephlegm again the dissolution; in doing of which you ought to attend very diligently, lest there come over some part of the and \$\mathbb{Q}\$, which now easily will be raised with the A.R. And this you may know, not only by the drops falling yellow, but also by trying with a white woollen cloath, which the drops will stain yellow if the ascendeth. Then seal it hermetically, and digest in horse-dung: After six months we opened the vessel, and with a gentle heat distilled off the liquor, and the remaining Golden Salt we projected upon restricted \$\mathbb{O}\$, and for \$\mathbb{J}\$; of \$\mathbb{O}\$ we had seven. Another vessel, after twelve months digestion, rendred \$\mathbb{X}\$x. of \$\mathbb{O}\$ for one put in: And so to two and twenty for one.

I do not remember all the time precisely, but I should think, it would be better, after sufficient digestion in horse-dung, to coagulate the matter in dry heat until all be compleatly fixed, and then multiply the matter by the same process, as you did with •• .

The fusible Salt is made thus: Dissolve salt (first well purified) in the said A.R. distill and cohobate until it is fusible.

The restriction of you will find in a book published by John Saunier which he calleth, the almost fixation of), because it hath the weight and sound of ().

(Hartman) This process was wrought by Sir K.D. himself, as the Title

sheweth; it was written in Latine in his own hand, and the words are his own.

Abbot Boucaud told me at Paris, that he knew Sir K. had wrought it.

THE DANES WORK.

Calcine plats of O and O with Sulphur; then grind them to subtile powder, which boyl in ∇ , filter and evaporate, usque ad pelliculum, and put it to Crystallize in a cold place: Then purifie these Crystals by dissolving them in ∇ , filtering and evaporating.

Make also a Sulphur of the said Metals, by boyling Plats with Vitriol and ∇ in a kettle, and the Sulph. will adhere to the Plats.

Purifie Strist by distillation and then by boyling it in an earthen pot with Vitriol, ashes, and powdered glass well mixed together, and boyled until you see the appear upon the surface of the matter: Then let it cool, and grind all well together again, and boyl it as before. Repeat this three times: Then take of this four parts, of the Sulph. of and and one part, grind them well together until they be well incorporated; then and grind again what is med with that which remained in the bottom, and mas before. Repeat this seven times: Then is the prepared for this work.

Distill an Oyl s.a. out of the Vitriol of and Q joyned together, which will be Blood-red.

Make a light and spungy Calx of \bigcirc , by calcining it four or five times with Sulphur and \lozenge . Take of this Calx \Im j. and of the \lozenge prepared \Im iv. Make an $\grave{a}\dot{a}\dot{a}$, which grind very well; then add of the Sulphur of \lozenge and \lozenge

ana Uncia β , grid them well together with the ååå, then put it into a matrass of such bigness, that three fourth parts may remain empty, stop it tightly with paper, that some moisture from the mercury may exhale, (which otherwise might hinder the precipitation of the mercury) give fire by degrees, first in ashes, and then in sand, but so gentle, that the mercury may never rise, but that it may be always in a disposition to sublimation, which you may know by a subtle cloud upon the sides of the glass, such as appears when one breatheth upon a looking glass.

The end of the digestion is, when you see the matter converted into a very solid precipitate and glittering, which endureth a very strong fire. Then take it out (being cold) and grind it with four parts more of the said mercury, and the same quantity of the said Sulphur as before; digest as before, until all be converted into a red precipitate as before, except that it will be of a darker colour: Grind this precipitate with the Oyl of Vitriol before-mentioned until it be like a pap: Then put it into a curcurbite, and digest for fifteen days, then distill it, and the Phlegm will come over, and the matter remaining dry in the bottom, you must grind again with the new Oyl, and proceed in all as before. Repeat this so often, till the Oyl come off as sharp as it was put in which is a sign of saturation: Then digest this matter in sand until all is resolved into a very red Oyl in appearance (which in a cold place will congeal into a hard and brittle matter.) At last give a very strong fire for three days, in which time the matter will be entirely fixed, except a small quantity, which will be exhaled.

Project this matter upon Silver in fusion equal parts. Thus far reacheth

my experience; but the Dane told me, that if this matter were amalgamated again with new prepared, and in all things proceeded as before, taking this matter for the foundation, instead of the which you took at first, it would become a medicine, which in projection would convert a great quantity of into . And the oftner you should do this, the more power it would have in projection.

Out of \mathfrak{Z} x. of this matter, and as much \mathfrak{Z} , I had \mathfrak{Z} xvij \mathfrak{L} . of perfect \mathfrak{L} .

(Hartman) Dr. Astell, an English Physician, shewed me a copy of this process, which Sir. K.D. had given him, who had assured him that he himself had wrought it, and that it was true: And having 3x of fixed matter, he divided it into ten parcels, and having melted 3x of x, he projected the said parcels one after another upon the same; then left it in fusion for three hours, then cast it in Ingot, which having weighed, he found the quantity of x above mentioned.

OPUS MAGNUM EX VIRGINEA TERRA.

Take reddish rich Virgin earth in Υ , impregnate it with \bigcirc , \bigcirc , serene and dew, till the end of May: Then imbibe sprinklingly with dew gathered in May, and dry in \bigcirc , expose all night to the \bigcirc and Air, securing it from Rain. Still when it is dry, imbibe and turn the earth often. Continue this till \triangleq mation. The hot \bigcirc (especially in the Dog-days) will make a pure salt shoot up, which mingle back into the earth, by turning it all over. Then distill by graduated \triangle as A. F. forcing all the spirits over at last; you must give fourty hours \triangle , extream at last. Put all the

liquor and salt that cometh over, to digest and circulate a month in fimo. in a great ballon close shut. Then separate the several substances out of this chaos; first, cometh an extream subtil, ardent, AEthereal spirit, then white ones with veins like S. V. then Flegm. Thus far in B. in a cucurbite, then in a retort: Then white fumes, then red ones, and a reddish brown salt remaineth in the bottom, and a Volatile salt will be med about the neck of the retort, as also to the head and sides of the cucurbite. Then purifie every substance by itself: the fixed salt by solutions in the Flegm. filtrations, and congelations, till it be perfect pure, clear, and cast no more feces: The volatile salt by often sublimations: The first spirit by thrice distilling, and the fixed white and red spirit likewise, both together. Now joyn all the three parts, beginning with the fixed salt, whereof take three parts, and one of the fixed spirit; digest eight days, distill in ashes, and the liquor will come off like Flegm. Imbibe with more fixed spirit, and repeat this till all of it be coagulated with the salt. Then put one part of this to three of the * , taking it all, and humect them with the volatile spirit. Digest eight days or longer, then distill in a cucurbite; a stinking flegm will rise, and a pure salt mup, and if any spirit distill over, keep it, putting it to the rest of the spirit. Then add more of the fixed salt to it which hath not = med, making it one third to the *, which humect with spirit as before, circulate and n, and the will be increased. Do thus till all the fixed salt be med. Circulate the remaining volatile spirit with the * , till all the spirit be converted into * , and nothing but a stinking flegm come away. Then me this salt by itself, till it leave no

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feces, and be most white, transparent, and pure, which will be in four or five times.

Take seven parts of this **, and one of pure () in leaf, seal it hermetically, and digest in B. The matter will become a green ∇ , like an emerauld, with an Oriental esclat: (and in a retort will pass all over, leaving a few grains of brownish-gray stiptick earth, like tobacco-pipe earth) And after a while black like ink, and continue so two and fourty days; when the blackness beginneth to wane, put it in dry Δ in an Athanor. It will pass the colours, and become a red Elixir, and is now best for health; but it will not have good ingression into metals, till it have been multiplyed four or five times with new * , taking every time after the first, only three to one: and it will be done every time after the first in a shorter space. After every fixation of the multiplication, and the first also, give strong Δ for three days, and a black earth will separate from the red powder, lying like a cake under it. Before you project upon inferious metals, ferment anew with three parts of () to one of the Elixir, giving three hours of extream fusion, and all will be red powder.

You may proceed in the same manner for).

Note also, that when the work of \bigcirc is at the white, it will project upon inferiour metals, to make them like \bigcirc , but in truth white \bigcirc , enduring all the tryals of \bigcirc .

If you digest in B.V. ten parts of Pearl in Powder, with one of the perfect **, it will become an Oriental Liquor, whereof a few drops is admirable for health.

If you take four parts of such **, and grind it well with pure red Coral in powder one part, and ==m, putting what riseth upon as much of fresh Coral, repeating this four or five times, the ** will be red like a Ruby, and an admirable medicine. All the Corals will dissolve in a Cellar.

If you grind one part of it with ten parts of green Venice Talc, and put distilled dew upon it, six fingers over, and digest in Fimo, all the Talc will dissolve, and a splendid Oyl of rare effects swim upon it.

(Hartman) Sir Kenelm D. said, that a person of quality beyond the Sea (whom he named) wrought this process, and it happened at that time that his wife was dangerously sick, and like to die; she was given over as a dead woman by the ablest physicians: Upon that he opened the vessel, and gave her one grain of the Elixir; whereupon she recovered, and lived many years after it in perfect health.

This process, and Saunier's work were together in a small bundle of papers tied up together by itself; upon the out-side of it were written the following words, perfumes, curiosities, my great Arcane of this Note.

A MINIERA OF ①, WROUGHT BY A PERSON OF QUALITY IN CHAMPAGNE.

Take Sulphur-vive lb G. melt it in an earthen poringer, then squeeze into it lbj. of G; stir it continually until the G appear no more in the Sulph. Then let it cool, and grind to powder, which digest in a matrass for two days with a strong G. Then take it out, and grind it again; add to it its double weight of filings of G; mix them well together, and put them in a retort, and distill over all the G: Mix this G again with new Sulphur meltable this the French Priest who discovered a great secret? -HWN

ed as before; digest in a matrass as before for two days, in the mean time grind the filing of of (that you distilled the grom) and wash them well from all the foulness and blackness: Then dry them and grind them again with the Sulphur and ${f g}$, and distill them in a retort as before. Repeat this so often, till the filing of Come to be of a yellow Golden colour. which will happen at the seventh distillation: Then take this 2 and put it in a retort, and distill only \$j. of it, and with the remaining \$viij. make an aaa with 3j. of O, digest this aaa in an Athanor for nine months, it will pass all the due colours, and will become a Minieraas followeth. To this **§** ix. of matter put **§** iij. of **§** prepared as before, and digest, and in six weeks you shall have 3xij. ready to melt: And to these 3xij. add 3 iv. more of 2, and digest, and in six weeks you shall have 3xvj. of Miniera. Note, that you must always use a prepared, as was said for the multiplication of the Miniera: For if you should take crude and unprepared \$\frac{\beta}{2}\$, you would have but an ordinary = tate after one or two multiplications.

Note, That the filing of of is to be changed after three times, and new to be taken, which is to serve also three times: After which six times, you must joyn both the parcels of filing, and use them both at the seventh time, and if the sign given you (of the yellow Golden colour) happen not at the seventh time, continue and repeat your operation, with all your filing, until it do appear. When your Miniera is compleated, it will be a deep-red powder, very shining, and at every time it is to become such: If you multiply it with crude \mathfrak{P} , it will lose its lustre after twice, and not increase in fixed

metal.

The first time, you must put into one glass no more than \S_j of \bigcirc , and \S_j of \S_j : But when the *Miniera* is made, you may work even to fifty ounces in one glass, keeping always your due proportion.

FIXATION OF 7 INTO 3, WITH GOOD PROFIT.

Melt lbj. of \mathcal{L} , then put in $\mathfrak{Z}\mathfrak{G}$. of \mathfrak{D} , and some scories of $\mathfrak{C}^{\mathfrak{T}}$, and a little red Arsenic; keep it in a strong Δ for three or four hours or more. Then the crucible being cold, break it, and take out the matter, and put it in a new cruc. which must have a little hole in the bottom; put this cruc. in a wind furnace, and melt the matter again, putting under the furnace a bason with ∇ to receive the matter as it melteth and runneth through the cruc. Take this matter and melt it again with the same quantity of \mathfrak{D} , and new scories of $\mathfrak{C}^{\mathfrak{T}}$; keep it in fusion as before. Reiterate this operation ten or twelve times, until the \mathfrak{L} is very hard, being impregnated with \mathfrak{D} ; then put it to Coppel with \mathfrak{Z} j. of \mathfrak{D} to every lb. of this mixture.

The goodness of the operation consisteth in the fixation of the $\mbox{\ensuremath{\mbox{$\psi$}}}$ which is in the $\mbox{\ensuremath{\mbox{$\chi$}}}$ by the Sulphur of $\mbox{\ensuremath{\mbox{$\sigma$}}}$: Therefore you must keep the matter a long time in fusion, that the Sulphur of $\mbox{\ensuremath{\mbox{$\sigma$}}}$ may act strongly upon the said $\mbox{\ensuremath{\mbox{$\psi$}}}$.

to fix β of δ , or the common β .

Take $\S j$, of \bigcirc in leaf, and $\S iv$. or v. of $\S :$ Make an $\dot{a}\dot{a}\dot{a}$, which put in a retort, and digest it in horse-dung for eight days, then distill in sand, giving strong \triangle at last, and the \bigcirc will go over with the $\S j$, and

if any of it remain in the bottom, aaate it with the same β , and digest three or four days, and then distill as before, and all the \odot will go over with the β , and you shall have a β well animated.

Take \S iij. of this \S , $\dot{a}\dot{a}\dot{a}te$ it with \S j. of \bigcirc ; grind the $\dot{a}\dot{a}\dot{a}$, and put it in a matrass half luted; digest for eleven days by graduated \triangle , and all will be a red powder.

Take **3** iij. of this powder, and project it upon **3** j. of **o** in fusion, and all will be transmuted into **o**.

Then take the remaining $\frac{3}{5}$ of powder, and aaabe it with $\frac{3}{5}$ iij. of the animated; digest as before, and in nine days your powder will be perfected as before. Take these $\frac{3}{5}$ iv. of powder, and unite it with $\frac{3}{5}$ xij. of new $\frac{3}{5}$ animated; digest without $\frac{3}{5}$, and you will have a perpetual Miniera; part whereof you may reduce to a body when you please, by projecting it upon $\frac{3}{5}$; and the other will serve for a ferment, which will never fail, being it self all $\frac{3}{5}$.

This $\mbox{\ensuremath{\mbox{$2$}}}$ animated may be fixed without $\mbox{\ensuremath{\mbox{$0$}}}$, by a gentle heat, being it self a liquid $\mbox{\ensuremath{\mbox{$0$}}}$; but to shorten the work, you may add $\mbox{\ensuremath{\mbox{$0$}}}$.

A REALITY UPON .

Take $\frac{3}{5}$ ij. of $\frac{1}{5}$ in thin plates, and $\frac{3}{5}$ j. of small nails, put them in a cruc. in a furnace, and when they are very red, cast in some Sulphur upon them at several times, that they may melt well; when they are like paste, cast in some $\frac{1}{5}$, and stir it with an Iron Rod to make them well incorporate: Leave it in good fusion for five or six hours, stirring it sometimes. Then take out the cruc. and let it cool; then break it, and you shall find but

a little Reg. at the bottom, but many yellow lumps at the top, which beat to powder. Then melt 3 ij. of fine 3, and project 3 iij. of the powder; stir it with an Iron Rod, keep it in fusion for eight or ten hours. Then put it to Coppel, and separating 7, and you shall have fine 6.

(Hartman) This process is also confirmed with a Probatum.

FIXATION OF THE \mbeta OF \mbeta , AS MONSIEUR DE LA NOÜE WROUGHT IT AT PARIS.

Take $\begin{picture}(1,0) \put(0,0){\line(0,0){15}} \put($

Take Sulphur-vive, and ashes of Alicant anaequal parts, of which make a lixive with common ∇ ; filter and evaporate, and you shall have a Sulphurious Salt: Take of this Salt and of the said powder ana gr. vj. ∇ of ∇ ∇ filings of ∇ ∇ ij. mix and grind all well together, and put them into a matr. with a long neck; make a ∇ about the middle of the neck of the matr. in an Iron pan with a hole in the middle through which the neck of the matr. may pass; let this ∇ be stronger than that below; continue the ∇ for six hours: Then cast your fixed matter into a bath of ∇ .

PREPARATION OF THE POWDER, WITH WHICH CLAUDIUS DE MONTROUGE, AND ABBOT OBERYE AT PARIS FIXED ξ of δ .

They melted 3 iv. of Sulphur in an earthen Poringer, then they squeezed

into it through a leather 3 j. of 3 of 3 made of 3 made of 3, 4, and 3 mate (the 3 of 3 without addition had been better, but they had none) and whilst the one squeezed the 3 into the Sulphur, the other kept stirring continually with an Iron Spatul so long until the 3 did no more appear in the said Sulphur, and that all was converted into a grayish Citrine Powder (the colour is variable, according as you govern the 3, sometimes it will be red like Cinaber.)

To this powder they took \S j. of \bigcirc in Calx, and \S j. of the Salt that is found in the pots at the glass-houses, which salt they dissolved, filtered, and congealed: They grinded all well together, the powder, the \bigcirc , and this salt: Then they put all into a retort, and put upon it \S xxiv. of good Oyl of Vitriol well rectified; to this retort (being put in sand) they adapted a large glass receiver, the junctures being well luted, and the lute dry, they distilled by degrees of heat, at last gave strong \triangle . It was ten or twelve hours before the Oyl came over. All being cold, they broke the retort, and took out the matter which remained in the bottom, which they did put into a new retort, pouring upon it the Liquor with the flowers of Sulphur which were in the recipient: Then joyning again the receiver, and luting well, and the lute being dry, they distilled as before. They reiterated this operation twenty times, grinding every time the matter, and joyning it with the Liquor and Flowers.

At the twentieth distillation, the small quantity of Liquor that came over, was almost all flegm; then they took out the matter that remained in the retort, and put it into a Viol, which they stopped very close, and kept it in a

dry place, because that so soon as it felt the Air, it grew moist.

With this powder they fixed the \bigoplus of \bigodot , which being mixed with the Calx of \bigcirc , and held in the hand, grew so hot, that they were not able to hold it in their hands, no more than a piece of Iron red-hot, as every one of them made experience, casting it into a bason full of \bigvee , which they had standing by for that purpose.

They wrought the said fixation in an iron barrel of a gun, thus. They put about sixty grains of the aforesaid \mbeta only (because they had no more) into the said barrel, then they gave the Δ , first above for two hours, and afterwards below for one hour, keeping that above always stronger than that below; then they heard the said \mbeta begin to roar, and make a noise in the barrel; then they cast into it a little more than one grain of the fixative powder, wrapt up in paper; and then they continued the Δ for seven or eight hours, after which time they heard no more noise at all; then they judged that the work was done, and let the Δ go out; and the barrel being cold, they found about twenty grains of good \odot , which endured all the trials of \odot .

(Hartman) This relation is of Sir K. himself, written in the French tongue.

A PROCESS TO FIX THE COMMON \mbedge By the Salt of \mbedge ; wrought by Captain ziegler at ments, and sent me by him.

Melt it in an iron pan, let it be red-hot, then cast in some salt, stir it until it be reduced to powder; sift this powder finely, and that which will

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not go through the size, must be calcined as before: Then edulcorate this powder with warm ∇ , and you shall have a Calx as white as Ceruse, which put into a matrass, and extract the salt out of it with distilled vinegar s. a. after three or four days digestion, decant the distilled vinegar, and put on fresh; digest as before, shaking the vessel often: Repeat this three or four times, or so often, till the Sp. of V. hath extracted all the salt. Then put all your Sp. of V. together and filter it, then distill it off in a retort, until you see the salt of Λ remain in the bottom like deep-red Oyl, which being cold, will be white like sugar-candy: Grind this salt, and put it into a matrass, and extract it with Sp. of V. as before. Repeat this purification three or four times, and you shall have a salt of Λ well prepared for this work.

AN A.F. TO BE USED IN THIS WORK.

Take salt \mathfrak{Z} iv. Nitre lbj. mix them well together with lbij \mathfrak{G} of powder of bricks; put all in a retort, and distill by graduated Δ , forcing over the spirit strongly at last: The distillation will be performed in sixteen or eighteen hours.

Take $\mbox{\mbox{\mbox{\boldmath Ξ}}}$ seven parts, fine $\mbox{\mbox{\mbox{\mbox{\boldmath D}}}}$ one part; make an $\dot{a}\dot{a}\dot{a}$, which put into a retort, and pour upon it so much of the A.F. as may cover it a large fingers breadth: Let it stand twenty four hours, then distill it in sand, when it is cold, cohobate the distilled A.F. upon it again, and distill as before. Repeat this three or four times; then break the retort, being cold, and take out the $\dot{a}\dot{a}\dot{a}$, which grind to a fine powder, and put it in an iron pan, and hold it over a coal Δ , stirring it continually with an iron rod, until it be

almost red-hot, and that it be converted into a red powder, like red tate. Take of this red powder two parts, and of the aforesaid salt of λ one part, reduce them to a fine powder, which put into a matrass, and digest it in sand for eight days: Then put it to Coppel, and you shall have half your $\dot{a}\dot{a}\dot{a}$ fixed into fine λ .

(Hartman) When Sir K.D. was at Franckfortin Germany, where he lived a year and half, in the year 1659, he went often from Franckfort to Ments (being four German Leagues distance) to visit the Prince Elector there: Then he conversed also with this Captain Ziegler, who was a famous Chymist. And when Sir K. returned to England about the time of the Kings happy Restauration, the said Captain sent him this process written in the German tongue, assuring him that he had done it: He said, that the \bigcirc which he got, he put to separating ∇ , and he had some \bigcirc out of it. He said also, that he thought this salt of \bigwedge would fix \bigwedge , in \bigcirc if the $\mathring{a}\mathring{a}\mathring{a}$ were made with \bigcirc instead of \bigcap .

A WORK UPON CINABER, WROUGHT BY MONSIEUR SAUVAGE.

Take Nitre and #, ana, which dissolve in rain ∇ ; filter and evaporate to dryness: Then grind this double salt to subtil powder; take a large Crucible, in the bottom whereof put a bed of Quick-lime in powder, upon that put a bed of this salt, cover it with another bed of Quick-lime the same quantity as before, taking two parts of Quick-lime to one of salt. Cover the cruc. with another, without luting them; put this in a bakers oven after the bread is drawn, let it stand as long as there is any heat in the oven; when

the oven hath been heated again, and the bread drawn, set it in again; do this three times: Then keep it in a strong Δ for six hours, and being cold, take it out, and put it into ∇ , and let it boyl in an earthen pot eight or ten walms. Then filter it hot, and evaporate to a dry salt, which put in a strong bottle, and keep it close stopped in a dry place: Then take two parts of this salt, and of salt of \mathcal{K} one part, mix and dissolve them in distilled vinegar.

Then take Cinaber, pulverize it, and make a paste thereof with the yolk of an egg; of this paste make little cakes in the shape of the heads of horse-shoe-nails; make them pretty thick, and put them in an earthen pot, pouring upon them of the aforesaid dissolution, so much as may cover them the breadth of three or four fingers; boyl this together until it come to be like Honey: Put more distilled vinegar upon the cakes, and boyl it as before. Continue this for three days; then wash the cakes in fair ∇ , and you will find them something metallized. Filter the ∇ , and evaporate to a salt, which will serve again for the same use, adding salt of λ .

Take of the fixed salt without salt of \overline{A} , and of good *Venice* Ceruse ana equal parts, grind and mix them well together; then put a bed thereof about the thickness of a Crown, into an iron box, then put a bed of plates of \mathfrak{D} upon that, and then the powder again upon the \mathfrak{D} , the same quantity as before; upon that put a bed of your lumps of cinaber, then powder, then plates of \mathfrak{D} , then the powder again; and thus continue stratifying until your box be full, the powder being the first and last: Then put on the cover of the box, which you must fasten, and secure it well with iron hooks. Then you must have another box of iron, made big enough to contain the first,

and that there be the space of a fingers breadth between, at the bottom, on the sides, and at the top; the boxes must be square, and you must have two iron hoops made in the shape of a Crown with crankles; put one of them into the bigger box, turning the teeth or crankles downwards, upon which set the lesser box; put some pieces of iron on the sides, to keep the lesser box at an equal distance from the sides of the bigger: Then put on the other hoop upon the lesser box, keep it down with some heavy thing whilst you pour in some melted ${\cal K}$ into the bigger box, so much as may cover the lesser box a fingers breadth. Then put on the cover of the bigger box, and fasten it with iron hoops and wedges to keep it close: Then the box being yet hot, put it into an Athanor where the Δ is kindled, let the registers be shut, so that there be but a very moderate heat, such as where you may endure your hand; continue the first degree for three days, so that all that while the $\overline{\lambda}$ may be but melted, then increase the heat for three days more; and so increasing the heat every third day, continue in all three weeks; the last three days the Δ must be very vehement. Then let all cool, and take out your lumps, and reverberate them with very gentle heat for twelve hours, and they will be of a whitish-gray colour. Then melt 1/2 in a cruc. and cast these lumps into it, digest this matter together for three days, then put it to Coppel. Note, that if you cast this mass into melted), and digest it three days before you Coppel it, you shall have more profit than if you test it without digesting it.

Note also, that if you will continue your work, you need not use any more plates of $\mathfrak I$, but only the cakes as they are, and before they are

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reverberated, using them instead of the), being pulverized, and they will be the more fixed, and the profit will prove very considerable.

You must have of Jand cinaber ana 3 vj. and of the double salt and Ceruse ana 3 iv.

TINCTURE OF MARS.

Dissolve filings of oin A.F. made of Vitriol, Nitre, Allom, and Cinaber; then pour upon this dissolution distilled vinegar, double the weight of the A.F. shake it well together, and digest in B. for three days, then decant the clear, and filter it; evaporate it gently: Then grind it with two parts of Σ mate, Sublime the Σ from it four times; then dissolve it again in distilled vinegar, and evaporate it gently; then dissolve it in distilled Rain ∇ , and congeal it gently: Repeat this last solution till it is not corrosive upon the tongue; then in Siv. of Rectified Spirit of Vitriol dissolve 3j. of this Sulphur of o, and 3jj. of Sulphur of o made the same way, except the first solution of the 🔾 , which must be an A.R. made of salt, Nitre, and Vitriol; mix these two last solutions together, and digest in Fimo, then coagulate it gently, dissolve again in spirit of Vitriol, and coagulate: Repeat this seven times, and if any feces remain at last, leave them out. Try this medicine upon a hot plate of), if it penetrate and tinge it throughly without smoaking, it is a sign of its perfection; but if it smoak, you must dissolve it again, and gently coagulate. Then melt 3j. of ①, and cast upon it by little and little 3j. of this medicine, and when all is entred and incorporated with the 🔾 , cast it in Ingot, and you shall have a matter as brittle as glass, and transparent like a dark Granade

stone, and fusible as χ . Then melt fine χ and fine χ and project of this medicine upon it, and you shall have pure χ .

TO FIX A QUARTER PART OF DINTO ..

Take filings of \Im \Im j. aaamate it with \Im iv. of \Im , put this aaa in a retort, and distill off the \mathcal{G} ; take the \mathfrak{I} and re $\dot{a}\dot{a}\dot{a}$ mateit with the distilled Ξ ; distill as before. Repeat this three or four times, and the) will be a powder impalpable. Take * and cinaber ana 3j \(\beta \). mate 36. grind and mix them well together with the 3: Then me it with gentle heat, mix what is med with that which remaineth in the bottom, and sublime as before. Then take both feces and __mate and mix it with Sulphur of Q and $Crocus\ Marti$, and of a regulus made of δ , O, and Q, and δ . grind all together with a little \star . Then sublime it four times with gentle heat, adding every time a little *, because it openeth the body of O and Q, and uniteth them with the O. Then grind all well together, and digest it in the following ∇ . Take Nitre, Vitriol, ana lbj. 5, Sulphur, Verdigrease, and Auripigment ana Ziv. Make an A. F. of this, s.a. Or take common A. F. lbj. distill and cohobate it three or four times upon the said materials, giving strong Δ at last: Then put your powder into a retort, and pour upon it so much of the A.F. as may cover it the breadth of three fingers, distill it off with a gentle △, then cohobate and distill three or four times: Then put fair ♥ into the retort, and digest for five or six days in sand; then evaporate to dryness: Then take out this matter and pulverize it, and weigh it. Then melt as much λ as you have powder, and cast your powder upon it by parcels,

melt it with a strong Δ , then let it stand in the Δ until the Δ go out of it self; then take it out, and you will find a *Regulus* in the cruc. which Coppel, and then put the $\mathfrak D$ to separating ∇ , and you shall have a fourth part of fine $\mathfrak O$.

A WORK WITH BUTTER OF 5.

The work. which Monsieur Perdussinof Lyons communicated to P. A Dieudoné, is to make a butter of this to mineral, and material, and material manals. Of this take ij. and digest it in a matrass sealed hermetically in an Athanor, and it will putrifie, growing as black as pitch; then pass the colours: That done, take one part of leaf o, and three of this powder; grind them well together, and digest as before, it will become black as at first, and pass all the colours. This proportion of of for ferment, you may divide into several parcels, for several times, so each revolution will be shorter, when the whole dose of ohath fermented the first stone: This product serveth for ferment to multiply in quantity and quality. The P. wrought the first part, and had perfect putrefaction.

AN EXCELLENT FUSIBLE SALT.

P, Benin de Beaune maketh his fusible salt thus: Decrepitate and reverberate salt, then dissolve it in fair ∇ , filter and congeal. Repeat all this work four or five times: Being perfectly pure, dissolve it in spirit of vinegar, filter and congeal; repeat this with distilled vinegar once again: Then it is perfectly fundant.

ANOTHER FUSIBLE SALT.

Dissolve salt in rain ∇ , filter and congeal; when the ∇ is almost eva-

porated, and that the salt falls to the bottom, take it out with a wooden spoon by little and little, until the ∇ is exhaled: Grind this salt (being very dry) and reverberate it in an earthen vessel close luted; let the vessel be red in the Δ , but the salt must not melt; so soon as you see the vessel red, let it stand until the Δ is gone out: Then grind it and reverberate it as before; dissolve and congeal as before. Repeat this until it is perfectly fundant. Note, that you must not decrepitate your salt.

AN OPERATION WITH A MARTIAL REGULUS OF \eth , WROUGHT BY MONSIEUR TOYSONNIER.

He made a yellow martial Regulus thus: Ignifie 3iv. of Nails in a crucible, then put upon it 3viij. of good 5, and give strong 4 in a wind furnace, to make all melt well, which to promote, cast in some saltpetre, then cast it in an 4 Horn, and separate the feces from the . Ignifie 3ij. of Nails more, and cast thereon the feces (this work must be done presently after the first) adding salt-petre to make all melt well and clear: Then cast it in a Horn, and separate the scories from it, and wash it clean; it will be first white, but after a day or two will be yellow within as well as without.

Take of this Reg and of \int and \int melt them well together (he poured a little \bigcup in them when they were near ready to congeal, and stirred with an iron rod, but the mass took in little above \int of \bigcup Deat it to powder, add to it eight or ten parts of \bigcup and grind exceedingly till they incorporate, (which required about twelve compleat hours, often heating the matter and instruments) Then squeeze away so much \bigcup that there

remain only six parts; digest it three days in sand by degrees, at last, very hot. Put the remaining Calx to Coppel with four charges of λ , adding a little fresh $\mathfrak D$ to make it work better. Put the mass, au depart, and you shall have twenty six gr. of good $\mathfrak O$.

(Hartman) The said Monsieur Toysonnier was Sir Kenelm's operator; he was a French-man, and a very able Chymist, Sir K. brought him over with him from Paris, 1660. ("Our Luna" per Bacstrom- HWN)

BUTTER OF δ TO EXTRACT THE TINCTURE OF \odot .

Digest butter of δ six weeks or two months, and then put it upon a well opened Calx of \odot , and digest it, and the B. will extract the tincture of \odot , which digest, etc,

TO FIX DINTO O; GIVEN ME BY AN INTIMATE FRIEND, WHO TOLD ME THAT HE WROUGHT IT AS FOLLOWETH, TAKING HIS HINTS OUT OF LULLY'S EXPERIMENTS.

In Lully you may find directions to make all the things that were used in this work. The salt of Tartar, was but the fixed, reduced to its highest purity; but it should have been Volatilised, and made to pass over with the Mercurial ∇ , to acuate and animate it. He believeth the great work is to be made with a Mercurial ∇ , animated with a volatile salt of Tartar, to serve for a Menstruum or Alcahest to dissolve \bigcirc and \bigcirc . Weigh well what Lully saith of these things.

MALLUS HIS PROCESS TO FIX **)**: WROUGHT BY MON-SIEUR FERRIER. AND GIVEN ME BY HIM. 1660.

Take an A.F. made of equal parts of Vitriol and Nitre, pour of it upon Sulphur and #, ana (four parts of A.F. to one of powder) distill it off to dryness, and make sublime what will. Melt \Im iv. of \Im , cast upon it \Im of sublimed salt when the \Im is in good fusion: After it is entred cast in Ingot, melt again, and project a new packet of salt, doing all as before: Do this four times, so spending \Im ij. of salt upon \Im iv. of \Im . Then put it au depart.

TO FIX) BY A MERCURIAL WATER.

Make Mercurial water by means of an earth retort that hath a pipe or spout behind in the upper part, through which you cast in the when the retort is red-hot. Take of this \(\nabla \) (well rectified) ten parts, and one of a well rectified Oyl of Vitriol; distill them together, till they be perfectly united: Then take of this Menstruum ten parts, and one of a well calcined \(\odots \); digest them together in a matrass (sealed hermetically) until the \(\odots \) is well dissolved: Then take it out, and put the matter into a low cucurbite,

and distill until the drops come Acid. Then let it cool, and put the matter into a matrass, seal it hermetically, and digest in an Athanor, until it be perfectly fixed into a red powder.

MONSIEUR BERTAULT'S TINCTURE OF O BY VENUS.

Take sulphur and borax, ana, melt them together three times, grinding the matter every time; then melt \bigcirc and \bigcirc , and cast upon them of the said composition, until the \bigcirc be reduced to ass us tumthen cast in Ingot, and beat it with a hammer, to cause the ass us tumto scale off from the \bigcirc . Then melt this \bigcirc again, and project as before. Repeat this three times, and you shall have a \bigcirc as red as blood, and this tincture will hold the test.

Note, that when you beat your \bigcirc , if you see that the aes ustumdo not all scale off from the \bigcirc , you must melt it again, and project more of your composition until it come all off in scales, and be all separated from the \bigcirc , which it ought to do at every time.

TO FIX \mathfrak{D} INTO \mathfrak{O} .

ANOTHER TINCTURE OF).

Dissolve 3j. of 0 in A.R. and 3iij. of 0 in A.F. Precipitate them, and then unite them together, and distill their spiritual essence, which by degrees of heat fix into a blood-red powder, which tingeth 0 into 0.

AN OPERATION WITH \bigcirc AND \oiint OF \between : WROUGHT BY MONSIEUR CHAMBULAN, AND GIVEN ME BY HIM.

Take Ibiij. of good salt of Tartar, calcine it, so that it be glowing hot for twenty four hours, in a pot close luted; then dissolve it in flegm of brandy, filter, and evaporate; calcine it again as before, dissolve and congeal as before. Repeat all this work four or five times, or until it leave no more feces in the filter: Then calcine this salt again for six hours, and then pulverize it whilst it is yet hot, and put it in a large cucurbite, and pour upon it by little and little of good Nants brandy, so much as may cover it the breadth of four fingers, cover it with a blind head, or with another cucurbite, that may enter into it, lute well the junctures, and digest in warm sand for six days; then put on a head with a Limbeck and a recipient, and distill over with a gentle heat all the S.V. then let it cool, and pour on fresh brandy, digest, and distill as before. Repeat this operation five or six times, or so often till your salt of Tartar remain in the bottom like a red and transparent Oyl, which will be very fiery and penetrating, reducing all metals into running ${f g}$, being first duly prepared; keep this Oyl close stopped.

Then take lbviij. of the ashes of burned vines, whereof make a strong Lixivium with lbxx. of fair ∇ , then in lbxij. of this Lixivium; dissolve lbj. of salt of Tartar, filter this dissolution, and digest it in sand with a strong Δ for some time; then cast into it lbj. of Regulus of, that hath been melted and purified six or seven times with Tartar and Salt-petre, and then reduced to a subtil powder: Make it boyl for six hours, until the

Lixivium be very red and stinking; then let it settle and cool, and decant the clear, and wash the powder with fair ∇ , then dry it, and grind it upon a stone, imbibing it with the red Oyl of Tartar beforementioned, until it be like a Pap, then dry it, and imbibe it again, and grind as before. Repeat this so often till the powder hath taken in double its weight of the said Oyl of Tartar: Then put this matter in a body with a blind head, lute well all the junctures, and digest in Fimofor twenty days; then take it out, and you will find your powder converted into running $oldsymbol{2}$, which wash well with hot ∇ , then with salt and vinegar, and then with fair ∇ , then squeeze it through Chambo-leather. Then take 3x of this 2 of 5, and 3x of common a that hath been distilled over in a retort with Tartar and Quicklime, and then washed with salt and vinegar; mix these two Mercuries together and squeeze them through a leather, then put them in a cucurbite. lute another cucurbite upon it, and digest in Fimo for fifteen days, then put a head to it with a Limbeck, and distill in ashes, and all the common ϑ will distill over drop by drop: a ∇ , and the ϑ of \eth will remain in the bottom like a clear Oyl, and will be of a fragrant scent: Rectifie the ∇ in ashes, and the Oyl with a stronger Δ in sand, and keep them by themselves. Then melt 3j. of 0, and 3j. of 0, then cast in Ingot, and beat it into leaf, or reduce it into fine filings, and make an aaa with δ , distill this $\dot{a}\dot{a}\dot{a}$ in a retort until all the δ is distilled over; then put this $\dot{a}\dot{a}\dot{a}$ in a matrass, and pour upon it 3x. of the Mercurial Water before mentioned: Digest it, and in a few hours all will be dissolved. Put this dissolution in a retort, lute a recipient to it, and having luted well

the junctures, distill in sand, and all will distill over except a few black feces; dephlegm it with a gentle heat in B. M. distilling until nothing more come over. Take of that which remaineth in the bottom of the cucurbite \mathbf{z} iv. put it in a strong matrass, and put to it \mathbf{z} viij. of your Oyl of \mathbf{z} of \mathbf{z} ; seal it well, and digest it with a Lamp \mathbf{z} in ashes, and in fourty days all will be fixed into a red stone; then take out the matrass, and put it to a strong \mathbf{z} in sand to Sublime it for twenty four hours, and all will melt like an Oyl, which will congeal in a cold place into a red stone.

FERMENTATION.

Take \S iv. of this red stone, pulverize it, and stratifie it with \S j. of \bigcirc in leaf between two crucibles well luted; put this to a Circulary by degrees for six hours, then cover it with coals, so that it may melt and unite well together: Project \S j. of this powder upon \S x. of boyling \trianglerighteq (well purified) and all will be converted into a medicine, which will project upon great quantity of \trianglerighteq , transmuting it into fine \bigcirc .

ELIXIR OF $\overline{\mathbf{d}}$, \mathbf{O} , AND $\mathbf{\mathcal{U}}$.

Take good mineral $\overline{\mathbf{c}}$, mortifie it with redicated vinegar; then separate its Quintessence with pure S.V. With that Quintessence dissolve $2 \text{ duplicatum of } \overline{\mathbf{c}}$, that both become an Oyl, which unite with a subtil Calx of \mathbf{c} , and bring them to an incombustible Oyl, which will transmute $2 \text{ into } \mathbf{c}$.

ELIXIR EX O 4).

Dissolve (well purified by 5) in A.R. then reduce it into a bloodred Oyl with radicated vinegar, and Tartarised S.V. Then with this Oyl imbibe a natural Sulphur of $\mathfrak I$, and fix them by graduated Δ . This is a high Projection upon $\mathfrak I$.

ELIXIR ALBUM.

Sublime $\begin{cases} \begin{cases} \begin$

Then take a white Calx of δ , pour upon it so much of this Menstruum as will cover it, let it stand eight days as before; Repeat this till the Calx will take in no more of the said Menstruum, then let it stand till it becomes first black, and then white, Subliming it self above the Caput Mortuum, from which carefully separate the white, and that is Sulphur Naturae Jovis, which put into a little matrass and fix it, (which may also be done by frequent mation) make also Sulphur Naturae in the same manner, and with the same Menstruum, which dissolve into Oyl in B. with which imbibe the said Sulphur naturae Jov.until it be fusible, and then it will transmute δ into δ .

ELIXIR RUBRUM.

Take Vitriol of Q well purified by solutions and coagulations, unite it with liquor of Ξ mate and #, then distill a ∇ from it in ashes; then having stood (cold) twenty four hours, distill more

▼ from it. Repeat this until the remaining matter be well broken; then joyn all the distilled waters to it again, and digest it in Fimo for fourty days: Then distill its spirits, with which imbibe the remaining earth; dry it with a gentle heat, then imbibe again, and dry as before: Repeat this till the earth hath imbibed all its ∇ . Then distill it, and you shall have a Philosophical Θ , and what Sublimeth is the Sulphur, which keep apart. Repeat the imbibition and distillation, till no more Sulphur will ascend; with this Sulphur imbibe half its weight of the $rac{b}{2}$, put them into a matrass, which seal hermetically, and fix them together; and this work must be repeated four times, every time with the same proportion of the said Philosophical $\begin{cal} \begin{cal} \b$ fix this matter in a vessel sealed hermetically by degrees of Δ , and all the colours will appear one after another, until it become white, and lastly, to an incombustible red.

Take one part of this red powder, cast it upon ten parts of sublimed

\$\int_{\text{o}}\$, set it to putrifie for thirty days, and it will become Oyl, which being Projected upon boyling \$\int_{\text{o}}\$, will transmute it into pure \$\int_{\text{o}}\$.

The said red powder being infused in wine over night, and drank in the morning, cureth most diseases in man's body.

THE BEST WAY TO EXTRACT THE \clubsuit OF \clubsuit . Sublime flowers of \ref{double} after Glauber's way, in great quantity, in cast-

ing the $\overset{\bullet}{\circ}$ in powder upon kindled coals in a furnace with many pots one upon another, wherein the flowers settle. The flowers which are in the last or highest pots must be received into running $\overset{\bullet}{\triangleright}$, by distilling them in a retort with two parts of soot, and one of black soap. Those in the middle, by black soap and salt of Tartar: Those that are in the lower-most pots, by soap only, with a little salt of Tartar, not much, left it should reduce the flowers into Regulus.

The furnace must be round, and well made every where, then set a cover upon it like a funnel, and the pots upon that; then fill the furnace with coals, and let them be well kindled before you cast in the , that the flowers may be pure and white; then cast in the through a hole, which must be on the side of the cover: And thus you shall Sublime lbj. of flowers in an hour. (see Figure One)

The process teacheth to set fifteen or sixteen pots one upon another; but I think five or six may do as well.

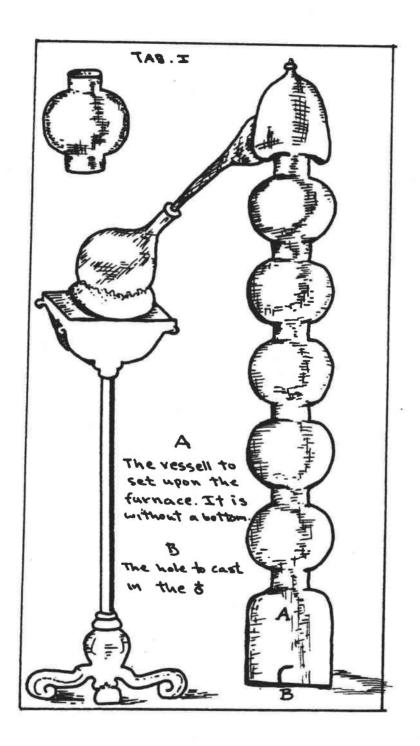
TO EXTRACT
$$\S$$
 OF \mathfrak{D} OR $ilde{\mathcal{L}}$.

Dissolve filings of λ in A.F. one part, and fair ∇ two parts, precipitate the Calx with salt of Tartar, then add crude Tartar to this Calx, and boyl them together a long time; at last, revive it with hot ∇ , and you shall have a fluid and running Ω . In the same manner you may proceed with Ω .

to make a minera of \S of antimony, ad infinitum.

Take of the \$\frac{1}{2}\$ revived from the flowers above-mentioned \$\frac{3}{2}\$viij. Sub-

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lime it with salt and Vitriol, according to Art: Then take of this $\mbox{\ensuremath{\mbox{$\beta$}}}$ sublimate and $\mbox{\ensuremath{\mbox{$\dot{$

ANOTHER WAY TO EXTRACT THE OF ANTIMONY BY AN A.R. GIVEN ME BY MONSIEUR CARTON

Take Saltpetre of the first boyling without refining it any more, and Vitriol and #, whereof make A.R. after the Dutch way of making A.F. where they put an hundred pound of matter into a large iron pot with a large stone receiver or a stone pitcher: The junctures all well luted with a lute made of sand, quick-lime and water: They gave Δ by degrees, at last very strong; the distillation will be performed in twelve hours. Then let all cool, and take out the A.R. Note, that in distilling this A.F., if your recipient be not very large, it will be needful to keep wet cloaths doubled upon the rec. to abate and condense the violence of the spirits.

Then take 5 mineral in fine powder, which put into large Jar-glasses, such as they keep thin sweet-meats in, which are as large at the top as at

the bottom: You must have many of these glasses, but put not too much into one glass, pour a good quantity of the A.R. above-mentioned upon this 5; stir and shake them well together by turning the glass in your hands (several times a day) for ten, twelve, or fifteen days, keeping the glasses slightly covered with a wooden cover: And if you put these vessels to digest in some gentle heat, it will be the better.

Note, that the secret consisteth in well opening the body of the 5 by the A.R. And therefore when the time of the digestion is ended, and that you see the 5 is dissolved, or reduced into a white Calx at the bottom, stir it well together, that the A.R. which is at the top, may become as white as Milk. Then pour off this white liquor (which containeth in it the Atomes of the 5, which are very light, and are easily raised in the A.R. and are well opened) and let it settle, until all the white Atomes are settled to the bottom, and that the A.R. be clear at the top, which decant and put it back upon the 💍 , where you poured it off, which was not dissolved; stir it and digest it as before, then decant the white liquor as before. Repeat this until you have reduced all the 5 into Atomes or white liquor: Then put all your white liquors and dissolved 5 together with the A.R. into a retort, and distill first all the A.R. with a gentle heat. until you see the almost dry, but not hard nor quite dry. Then change the receiver, putting on another large ballon of glass with four or five quarts of ∇ impregnated with lbj. of \divideontimes : Distill by graduated Δ for eight hours, then put some coals about the retort upon the sand; give at last very vehement Δ above and below, for four hours more, at last, as

vehement as possibly may be, and you shall see the rec. filled with white fumes, which will revive into running Ξ in the water in the recipient, and part of these white fumes will become a thicker substance, like melted Ξ , and part like *Mercurius vita*ebut of what consistence soever they are, you may easily revive them all into running Ξ , by washing them in warm water.

The ξ of λ is made in the same manner, but in greater quantity, taking Oar of λ instead of δ Mineral.

TO EXTRACT THE \S OF $\mathring{\mathbf{d}}$, OR OF $\rat{\mathbf{d}}$. WROUGHT SEVERAL TIMES BY MONSIEUR VAN OUTRE, PHYSICIAN OF BRUSSELS.

Take Antimony Mineral, (or a Calx of λ) in subtil powder, imbibe it with spirit of salt until it be like Pap: Digest it seven or eight days, or longer; then distill to dryness: Then change the recipient, putting on another filled with ∇ , impregnated with #. Distill it gradually s.a. and you shall have running $\mbox{\ensuremath{\upselect}{2}}$.

(Sir Kenelm) This extraction is upon the same foundation as that which Monsieur Corton gave me, with an A.R. which he hath done often.

BUTTER OF \eth WITHOUT SUBLIMATE, TO EXTRACT \biguplus OF \eth .

Take δ one part, salt decrepitated two parts, and Vitriol calcined to whiteness four parts; reduce all into a fine powder, mix them well together, and cast them by little and little into a retort red-hot through a spout in the upper part of the retort, as Glauber teacheth; or distill it in a glass retort luted, in a naked Δ , and you shall have a butter like

unto that which is made of sublimate.

Note, that you may rectifie this butter for other operations with soot and coaldust.

TO EXTRACT THE β OF δ WITH THIS BUTTER, PROCEED THUS.

Precipitate this butter with warm ∇ , then dry the powder, and mix it with one part of black soap, and two parts of soot; distill in a retort into a recipient full of ∇ impregnated with #, and you shall have a running \Im , which is the Sperma of \Im of \Im .

ANOTHER WAY.

Take the precipitated powder of the afore-said butter of $\mathbf{5}$, and dry it gently, then mix it with $\mathbf{5}$ iv. of Tartar, and $\mathbf{5}$ viij. of Quick-lime, and $\mathbf{5}$ ij. of $\mathbf{4}$; distill this in a retort s.a.

Note, that the Calx of \supset , and that of \bigwedge may be precipitated with butter of $\overleftarrow{\delta}$, and then a running \bigotimes may be distilled from them.

TO EXTRACT A β OUT OF \mathfrak{I} .

Dissolve \bigcirc in A.R. and then precipitate it with spirit of urine, or with a dissolution of \divideontimes dissolved in distilled vinegar, and it will attract what there is of \lozenge in the \bigcirc , and the remaining Calx of \bigcirc is the running \lozenge , which is transmuted into \bigcirc by the Sal Enixae.

Another way to extract the \S of $\mathring{\sigma}$.

Take lbj. of on subtil powder, boyl it in a Lixivium made of Quicklime and Pot-ashes, let it boyl for two hours, then let it settle, and decant the clear; then put more Lixivium upon the one boyl it as before. Repeat

Make this sublimate, and mix it with equal weight of Quick-lime, distill it in a retort into a recipient almost full of ∇ impregnated with #, and you shall have a running 2 of 5. In the same manner you may extract the 3 of 4, taking Calx of 4 instead of 5.

MERCURY OF ALL METALS.

Take salt of Tartar, and powder of Pebble-stones,* mix them well together, and cast them upon burning coals, and there will ascend a spirit, which must be received, which hath a vertue to convert the Calx of Metals into running .

* (Silex)

A GREAT SECRET, φ OF δ , AND OTHER METALS, AD INFINITUM.

Take \bigotimes of \bigotimes , sublime it with salt and Vitriol in the ordinary manner, without calcining the materials. Take of this \bigotimes \Longrightarrow mate, and \bigotimes in powder, ana; distill a butter thereof: Then take the cinaber, and grind it with that which resteth in the bottom of the retort, and distill a \bigotimes thereof, which will serve for the like work. Let the butter resolve in the air into a liquor upon a marble stone, or upon glass in a moist place, then pour of

this liquor upon \eth in a cucurbite; digest in sand for two days, then distill it, and there will come over a red Oyl with the flegm, which is the Sulphur, or \maltese of \eth , or a natural Oyl of \eth : For if you leave this mension truum with the Oyl in the open air for two or three hours, the Oyl will precipitate to the bottom in a red powder, which will burn like common Sulphur. Mix this red powder with two parts of soot, and one of soap, put it in a retort, and distill it, and it will revive into running \maltese , which will distill into the rec. which must be almost full of ∇ impregnated with \divideontimes .

In the same manner you may also extract Θ out of other metals, mixing this Oyl with their Calx, soot and soap. The said menstruum will serve again, putting it upon new δ , extracting new Sulphur from the same, or red Oyl, which precipitateth into Sulphur, as was said, or into running Θ by revivification. And in this manner you may make a perpetual Minera of Θ of δ , and of other Metals, ad infinitum.

Note, that other Metals must be in very subtil Calx well opened, that the said menstruum may act the better upon them.

Note, that if the salt of the earth be well extracted, and reduced to a Sal Enixe, wonderful operations may be done with it; and if you take of this Salt Enixe and of Vitriol, and make a sublimate thereof with of and then a butter of this mate and make and make a make a dissolution of o, you will have an Aurum Potabile, and an universal Medicine; and without doubt a powder of projection upon baser

metals. This matter is an admirable Chalybs or Magnetof the spirit of the world, being exposed to the open air for some time, and then put in a vessel, and sealed hermetically, and digested for fourty days (or fifty) you will see such effects, as will promise a happy success, and yet better, if you add the Sulphur of Odrawn with Regulus of . But this requires the conduct of an able operator.

TO PREPARE THE COMMON \S , SO THAT IT WILL HAVE ALL THE QUALITIES AND PROPERTIES OF \S OF δ , AND WILL BE AS POWERFUL TO VOLATILIZE \odot .

Amalgamate Ibij. of \mbeta with Ibj. of \mbeta , thus: Melt the \mbeta in a crucible, then take it off from the \mbeta , and being near ready to congeal, pour the \mbeta upon it, and stir them well together with a stick, then cast it into fair \mbeta . Then with these Ibiij. of $\dot{a}\dot{a}\dot{a}$ grind Ibiij. of filings of \mbeta , and Ibiij. of \mbeta , and all being well mixt, put it in a retort, and distill over all the \mbeta into a recipient full of \mbeta .

Another excellent preparation and animation of \S .

Take of Martial Regulus of 3iij. and 3j. melt them together, and make a Regulus, which pulverize, and then grind it with common 4, then distill it seven times, and you shall have a very pure, and fit for any operation.

ANOTHER WAY.

Amalgamate $lb \beta$. of β with lbj. of β in a crucible, and being cold,

grind with it lb \mathfrak{G} of filings of \mathfrak{G} . Then distill over the \mathfrak{P} with a strong Δ .

ANOTHER.

Grind $\begin{picture}(40,0) \put(0,0){\line(0,0){15}} \put(0,0){\line(0,0){15}}$

ANOTHER.

Take \bigcirc one part, Regulus of \overleftarrow{o} two parts, melt them together; then reduce it into very fine powder, which grind and aaate with \upredef , then distill seven times.

ANOTHER.

Joyn with Sulphur in the form of a cinaber, then add salt of Tartar and soap, to the consistence of a paste, whereof make little balls, which distill in a retort.

ABOUT A PARTICULAR SPIRIT OF NITRE.

It is not a common spirit of Nitre, but it is a spirit, which by many cohobations and distillations rendreth its own body volatile in the form of snow, which melts with the least heat, and is congealed by cold; and that is that Acetum acerrimum, which dissolveth all metals, and reduceth them to their first matter, and perfect metals being dissolved therein, will be coagulated, and perfectly fixed, which will change other imperfect ones into perfect by projection.

Take \int and ∂ , q.v. $\dot{a}\dot{a}\dot{a}te$ them together, then mix this $\dot{a}\dot{a}\dot{a}$ with half its weight of ∂ mate, then put it in a retort, and pour upon it of our acid spirit, and the matter being well dissolved therein, distill and cohobate upon the remaining body so often, till all the matter be converted into

a volatile spirit, and nothing remain in the bottom; that which doth not ascend, must be made volatile: Then dissolve that volatile again in more of our acid spirit, and distil and cohobate so often upon that which remaineth in the bottom until all be fixed again, and this fixed matter render again volatile, and the volatile fix again, until it be tingent and penetrating, and be a fusible salt abiding in the Δ .

You must have the spirit of natural fusible salt, which is the principle of all metals, vegetables, and animals; this spirit being purified and reunited with its body (also purified) renders its body volatile and uniteth it self unseparably with it, and becometh a volatile fusible salt like butter, which congealeth being cold: This butter dissolveth all metals, as warm ∇ dissolveth ice, and is the true matter of the great work, and the philosophical \mathfrak{Q} .

To prepare the universal spirit, which is the universal salt, you must purifie and rectifie it well, and by its means, volatilize its fixt body, (also purified.) For to render the fixt volatile, the quantity of the volatile must exceed the fixt; and also to fix the volatile, the quantity of the fixt must exceed the volatile; but the long digestion supplies the quantity of the fixt, because that which is naturally fixt is contained (although changed for the present) in the volatile: But the addition of (which it dissolveth, and uniteth it self radically with) shortneth the time, and hastens the fixation: And then to render it from volatile fixt by a long digestion; when it is volatile, it will pass over in a retort like Oyl, which will congeal, being cold, and melt with heat; 'tis the Sperma of metals. For to fix it the bet-

ter and the sooner, you must add (), and digest.

AN OPERATION UPON λ : SENT ME BY MON-SIEUR BOUCAUD.

THE PHILOSOPHER'S EPILOGUE.

Solution and ablution are one and the same thing, for by calcination the body is divided into small parts; by putrefaction it is corrupted, and when it is distilled, it is reduced into its first matter, and remaineth dissolved.

Congelation is a fixation, re-union, or coagulation of the volatile and dissolved body.

By reduction and fixation, when this body is sublimed, it fatneth and resolveth, uniteth, and at last is perfectly coagulated. Thus in these two solutions and coagulations, are contained ablution, reduction, and fixation.

QUINTESSENCE OF λ ; THE UNIVERSAL DISSOLVENT.

Distill fifty or sixty quarts of vinegar, and before you distill the vinegar you must evaporate a fourth part of it, which is nothing but flegm; and for to render this distilled vinegar more dissolving, it should be distilled once or twice from Lees.

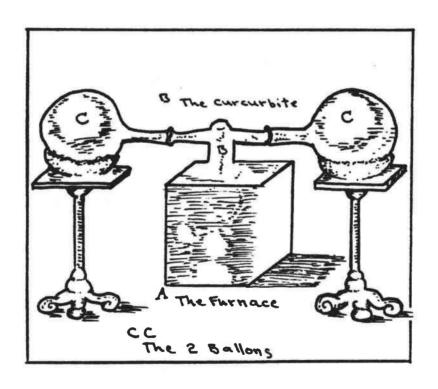
Take Ibxij. or xv. of good English Lithargy of Silver, reduce it into fine powder, and put it into matrass of three or four quarts a piece, put Ibj. into each matrass; then pour upon the powder so much of the distilled vinegar, as may cover it the breadth of six inches; then put them in digestion, with the second degree of Δ for two days, in which time the distilled vinegar will be of a yellow colour, and very sweet. Then decant

this distilled vinegar impregnated with the essence of λ , and put on fresh upon the lithargy; digest as before; then put in all the decanted vinegar and filter it, and distill in several cucurbites with a gentle heat three parts of the distilled vinegar; put the remainder in a cellar, and in twenty-four hours the greater part of it will be congealed into a substance like ice; it will suffice if you distill it off to a syrup: Then upon this syrup pour new distilled vinegar, about the same quantity as before, digest twelve hours; then distill off about the quantity you put on: Put new distilled vinegar upon the residue, somewhat more than the first time, digest and distill as before. Then pour upon it about half the quantity of the said distilled vinegar that you put on before, digest and distill as before. Repeat this digestion for twelve hours, and distillation so often, till you find that the distilled vinegar come off in the beginning of the distillation so strong as it was before, which is a sign of a perfect attraction of the universal dissolvent made by the distilled vinegar.

Then put your gums which remaineth in the cucurbites into one or several large matrasses, which stop and lute well, that nothing may exhale; then put to digest in B. vapor. or in Fimo(which change every six days) for twenty or thirty days, more or less; for the sign of a sufficient digestion is, when the matter cometh to be black, and that it acquireth as it were a stinking scent, which is a sign of its mortification, by which it ought to acquire a new life, and a spiritual vesture. Then divide this matter or ceruse into several parts, which put into several retorts, which you may do by causing the matter to melt with some gentle heat, and then

pouring it hot into the retorts, for it easily congealeth by cold; and if any of it congeal about the necks of the retorts, make it melt, and run down: the retorts must be of such a bigness, that at least four parts of them may remain empty. Then distill off all the flegm with a very gentle heat in sand, and so soon as you perceive any fumes or vapours, cease, and let all cool; then change the recipient, putting on a large one, and having well luted it, and the lute dry, give the Δ by degrees, at last very strong and vehement, until you see no more fumes come over, but that an Oyl or Gum as red as blood distill over. Take the feces remaining in the retorts (which will look like black ashes) and extract the salt out of them with distilled vinegar, as you did with the lithargy, which salt will be in long rocks like rock-salt-petre; and this salt will be more subtil than the first: Distill this salt in a retort, putting what distilleth to the first liquor; out of the feces extract again the salt, of which distill also the spirit in a retort. Proceed thus until the remaining earth, or Caput Mortuum giveth no more salt. Then take all your spirits, and mix them together, and put it in a large and high cucurbite, which cover with a double paper Oyled and dryed; tye it well about the neck of the cucurbite with a pack-thread, then put on the head, and lute well the junctures, put on a pretty large recipient, with a narrow and a short neck; distill in B. vapor. and the AEthereal spirit will pass over through the paper, and the flegm will stay behind, because it cannot pass through the Oyled paper; and if your spirit be not subtil enough, you may rectifie it once or twice with new Oyled paper; then keep it in a vessel close stopped in a cold place: Then take off the Oyled paper, and

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distill the rest of the liquor to the consistence of a red syrup; put the cucurbite with the syrup in a cellar, and in two days time there will be many little crystals very white, which separate, and wash them in the flegm, and they will be white and pure: Then put the flegm to that which remained in the cucurbite, and distill to a syrup, which put in a cellar to crystallize as before: Cleanse and wash the crystals to whiten them, then put them together upon white paper to dry them for two days in the shadow; then put them in a cucurbite narrow and somewhat high, and pour upon them of the afore-mentioned AEthereal spirit, so much as may cover it the breadth of three or four fingers, digest twenty four hours, then distill in B.M. All the spirit will come over, and in the bottom will remain a clear and transparent gum, upon which pour again the distilled spirit; digest and distill as before. Repeat this cohobation and distillation four times, at the fourth time the said gum will distill over in the form of an Oyl as white as snow; swimming upon the spirit: This Oyl is the true and only dissolvent of (), separate it from the spirit by a funnel. And thus you shall have the philosophical Menstruum, the vegetable, and mineral salt, Aurora Dianae, and the true philosophical $oldsymbol{
abla}$, and the precious $oldsymbol{
abla}$, dissolving the two Luminaries, into a physical dissolution, with which you may prepare medicines both for health, and for projection to transmute metals, which will be both short and easie, as followeth.

'Tis not enough to have the Menstruum or philosophical ∇ , for it serveth only for an agent or a means to excite the vegetative quality which is hidden and buryed in the occult secrets of the Metalline Nature. And it

doth not suffice only to know that \bigcirc maketh \bigcirc , and \bigcirc , \bigcirc ; but it cannot render them apparent, except the said bodies be first discontinued, that is to say, that this Metalline form be reduced into subtil parts attenuated, for to be afterwards opened and reduced into Calx, of which this Menstruum easily draweth the fixt grain or Sperma, the principle of vegetation.

Prepare then a slight, spungy, well opened, and attenuated Calx of

. which put in a small cucurbite, and pour upon it so much of the aforementioned white Oyl as will cover it a fingers breadth; digest two or three days with a gentle heat, then distill over all the Oyl, then pour the spirit upon the Calx: Then pour upon this matter four or five times as much of the above-mentioned spirit; digest twenty four hours, and the spirit will be tincted of a pure red colour, more red than any Ruby, which decant, and dry the remaining matter, and pour upon it the same Oyl, and digest twenty four hours, and it will be very red. Repeat this so long till your

. will yield no more tincture. Then circulate all your Tinctures in a Pelican for thirty days, and then separate the clear from an Hypostace which will be at the bottom, and you shall have the true Aurum Potabile, which will be of an admirable vertue, taking three or four drops of it at a time in a little sack, or other fit vehicle.

But for the work, you must separate the spirit by distillation in Balneo, until the tincture remain in the bottom in consistence of an Oyl, upon which cohobate the spirit, and distill as before: Repeat this seven or eight times, and the said tincture will remain like an Oyl that will congeal no more, which is the philosophical Aurum Potabile, having a vegetative vertue, being sown

in its own earth, which is the Calx of . prepared as shall to taught hereafter.

THE PHILOSOPHICAL AQUA REGIS.

Take Nitre and $\mbox{**}$, ana $\mbox{**}$ 3 iij. reduce them to fine powder each by it self, then mix them well together, and put it in a retort of three or four quarts, and distill in sand into a very large recipient, the junctures well luted with paper, and paste made of flower and ∇ ; for if you should take a stronger lute, all would break: Give the Δ by degrees, until you see white fumes in the recipient in half; an hours time all will come over; then let it cool, and you will find in the recipient about $\mbox{3j}$ 3. and about the neck of the retort a sublimed salt, which proceeds from the $\mbox{**}$, which will not dissolve except in hot $\mbox{$\nabla$}$; the retort being cold, take out the Caput Mortuum as well as you can, and the retort being sound, put in fresh matter the same quantity as before; repeat this till you have $\mbox{$\nabla$}$ enough: Then digest this $\mbox{$\nabla$}$ in ashes in an alembick with a gentle heat to separate the flegm from it, which will be insipid; then distill the rest in a retort, and keep it for use.

of prepared salt; put it in a retort, and distill over all the grand into a recipient half full of ∇ : The $\begin{picture}(100,0) \put(0,0){\line(0,0){100}} \put(0,0){\lin$ hours, so that the bottom of the retort may be always red in the sand; then let all cool, take out the retort and pour hot ∇ into it, and let it stand so for an hour, and the \(\nabla \) will dissolve the salt; pour it out, and pour more hot ∇ upon the matter; do thus three or four times? Then pour out the • with the ∇ into a poringer, which will be very subtil powder; dry it gently, and put it in a matrass, and pour upon it of the above-mentioned A.R. about 3vj. stop the matrass with cotton only, and put it to digest in hot ashes, and in a few hours it will all be dissolved into a liquor of an orange colour, leaving some impure earth at the bottom: Upon this dissolution pour of the & which you drew off by distillation about twice the quantity of the \bigcirc , digest it for two or three days, or so long until the \biguplus be all dissolved, and the ∇ be clear like rock ∇ , and the \odot be in the form of a light spunge in pieces, swimming in the ∇ ; separate the ∇ , and wash the with salt
 ∇ filtered, then wash it in fair
 so often till it be well edulcorated, then dry this powder of O, and it is prepared. For to attenuate it further, and to render it more spungeous, mix it with double its weight of sublimed *, grind them well together, and put them in a small cucurbite with its head, and sublime in sand all the * . Then grind this * again with the () and sublime it once more, so will the () be well attenuated and opened, and fit to be joyned with the vegetable salt. Then put this powder of () into a poringer of stone-ware, not glazed, and pour upon it some good Oyl of Tartar, dry it gently, and pour more Oyl upon the pow-

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der, and dry it as before: Repeat this till you have employed \mathfrak{Z} iv. of Oyl of Tartar to \mathfrak{Z} j. of \mathfrak{O} ; then put it into a matrass with a short neck, stop it close, and put it in an iron pot in sand, then cover the pot with any other pot, and give Δ of reverberation, so that the \mathfrak{O} may be red in the matrass, but not melt; continue the Δ in that degree for forty eight hours. Then take out the matrass, and wash the matter with hot ∇ till the \mathfrak{O} be well edulcorated, then dry it, and imbibe it again with fresh Oyl of Tartar; reverberate it as before for forty eight hours. Repeat this work twice more; and you shall have a very light and spungy Calx of \mathfrak{O} .

(Hartman) Note, that instead of this Calx of ①, you may take one prepared, by calcining it with flowers of Sulphur, as Sir Kenelm Digby prepared it for Saunier's work, which see in its place.

Then imbibe it once with Oyl of Tartar, and proceed in all as before.

Having reduced the ① into an Oyl, it will be necessary to have an earth of its own nature, to make it grow, and produce the fruit which we expect of it.

Now this Calx of \bigcirc shall serve for an earth to receive this seed. But since that in all bodies there are three things, to wit, the soul, the spirit, and the body; that which hath a body, cannot receive the soul, except it be opened by the spirit: It will then be necessary to reduce the \bigcirc into a spirit, which is done by reducing it into 2, its first and nearest matter; which to perform, proceed thus:

Take 3j. of well purified by 5, reduce it into thin plates, cut them small, and put them in a matrass, pour upon them 3vj. of our philosophical

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\(\neg \), keep it in digestion till the () be all dissolved, then distill off the V. which cohobate again, and distill as before. Repeat this three or four times, then distill off about three parts of the ∇ , expose the rest with the vessel to the open air, and the () will congeal into crystals, which put in a glass bottle, and stop it very close, and keep them in a dry place until they be dry; then grind them with twice as much * sublimed with salt: put this into a large matrass, and pour upon it by drops of good Oyl of Tartar, the double quantity of the (), or until it be of the consistence of thin mustard; then seal it hermetically, and keep it in digestion with a gentle heat for two and fourty days, during which time the matter will putrifie and smell very strong, and you shall see all the colours appear successively; take a little of it and wash it well with warm \(\nabla \) several times, then being dry, put some of it upon a thin plate red-hot, and if it melt without smoaking, it is a sign that it is all Mercurial, and well prepared; but if it smoak, you must keep it in digestion until that sign appeareth: Then wash and edulcorate it well from all saltness, and dry it very gently; then mix it with seven parts of prepared salt, put it in a cucurbite, which put in sand, and give a gentle fire for twelve or fourteen hours, then increase the fire, and continue that degree as long; continue the sublimation until all the philosophical Calx be sublimed: Then gather carefully with a feather this sublimate, and put it in a glass mortar with warm ∇ , grinding it with a glass pestle for an hour or two, then let it settle, and pour off the ∇ , put on fresh hot ∇ , and grind it until the matter come to be of the consistence of mustard; then add good white-wine vinegar, and grind it

until all be converted into running $\ensuremath{\mbox{\ensuremath{\ensuremath{\mbox{\ensuremath{\mbox{\ensuremath{\mbox{\ensuremath{\mbox{\ensuremath{\mbox{\ensuremath}\ens$

COMPOSITION.

Take 36. of your Calx of oprepared and attenuated, as was said, put it in a glass mortar, and pour upon it 3 iij. of the Solary 2; the $oldsymbol{ol}}}}}}}}}}}}}}}}}}}}}}}}$ with another; then squeeze out so much ξ of this $\dot{a}\dot{a}\dot{a}$, that there remain but about two parts of $rac{b}{2}$ with the $rac{b}{2}$. Put this $\dot{a}\dot{a}\dot{a}$ in a philosophical egg, and pour upon it by little and little of your Oyl of O before-mentioned, hold it over a gentle Δ , and stir the matter with an iron rod, that all may well mix and incorporate, pouring on so much of the said Oyl, that it be of the consistence of thin mustard, and then you shall suddenly see marvellous things, when the soul of the said () (which is its Oyl) entreth into the body of the \odot , by means of the spirit, which is the solary $atural{Q}$, and that by means of the said soul, the spirit uniteth with its body, of three being made one; stop the vessel speedily, because of the fumes. The body of the () which was dead before, being by this only and admirable means animated, dignified, and filled with a vegetative life, will thereby acquire an inward power of multiplication, as well as the sperms and seeds of all animals and vegetables, and be made fit to grow and produce fruit, (being sowed in a fit earth) which it could not do before, because of that default. The vessel being sealed hermetically, put it in ashes in a brass vessel in the shape of half a boul; digest it with a Lamp Δ . As for the time, and the colours, mark what Trevesan saith of it: for at the end of fourty days you shall see the blackness: Continue the first degree of heat to whiteness, which will

appear within four months: Then augment the Δ , and continue until it come to be of a citrine colour, and then there will be no more danger. Increase the Δ to the fourth degree, and continue that, till your King taketh his robe, and that the matter suffer ignition without smoaking.

(Hartman) This process was sent to Sir K.D. in a letter from Paris, by Abbot Boucaud, with the following words. Sir, I have sent you here inclosed a great work upon \hbar , which Monsieur de Rouviere hath given me; it cometh from a man who having been carried away, and kept close in a castle, made at last his escape, and was conducted to the Duke D'Elboeuf, and Monsieur de Rouviere found the said process under his boulster.

The said Abbot sent to Sir K.D. also the following process, which he saith he had from an intimate friend, who assured him that it was a reality.

Take of a very good oar of λ , that was never wet, or instead of it, take a true and natural mineral lithargy, not artificial; pulverize it and grind it upon a marble stone with distilled ∇ several times distilled: Put your oar of λ , or lithargy in one or more cucurbites, and pour upon it of the aforesaid distilled ∇ , or distilles dew, so much as may cover it the breadth of seven or eight fingers, cover it with a blind head, and lute well all the junctures, and digest for fourty days with a gentle heat, shaking the vessel often; when you perceive that the Menstruum coloured, decant the clear, and put on fresh ∇ , or take new oar or lithargy and extract as before; filter the Menstruum and distill it with a very gentle heat. Take this salt of λ and put it in a matrass, digest it with a Lamp Δ with six

small wicks, and it will dissolve of it self, and there will settle to the bottom some impurity or feces; break the matrass (being cold) and take the
pure part and put it into another matrass, dissolve it by digestion as at
first, separate the pure from the impure. Repeat so often till this salt
leave no more impurity. Then keep it carefully, until you imploy it in the
following work.

Take of this salt ten parts, and one part of \bigcirc mineral that hath not been melted, put them together in a matrass, seal it hermetically, and digest with a very gentle heat, and there will loosen it self from the salt of \overline{L} some spirits, which by falling down again will dissolve the \bigcirc by little and little, and there will separate it self yet some feces which are not useful for this work, which you must separate. Take what is clear and transparent, and put it in a philosophical egg, seal it hermetically, and digest it with a Lamp \triangle with a gentle heat, continue the digestion without ever increasing the heat, etc. The said Abbot said, that this was all he could have, or know of this work hitherto.

The said Abbot sent also the following process in a letter from Paris. Monsieur de R's. operation, by which he fixeth $\mbox{\ensuremath{\upolimits}}$ into $\mbox{\ensuremath{\upolimits}}$ with the salt of $\mbox{\ensuremath{\upolimits}}$, is thus. He taketh one part of $\mbox{\ensuremath{\upolimits}}$, and three parts of $\mbox{\ensuremath{\upolimits}}$, whereof he maketh an $\mbox{\ensuremath{\upolimits}}$, which he putteth in a matrass, and putteth upon it $\mbox{\ensuremath{\upolimits}}$, and three the common way) about a fingers breadth over the $\mbox{\ensuremath{\upolimits}}$, then he sealeth the vessel, and digesteth it with a Lamp $\mbox{\ensuremath{\upolimits}}$ with gentle heat, increasing the heat by degrees, it passeth through all the colours; and of one Marc of $\mbox{\ensuremath{\upolimits}}$, and three Marcs of $\mbox{\ensuremath{\upolimits}}$, there remained

3 xij. of fixed matter that suffered fusion and the test.

He saith, that there should have remained one Marc of the $\mbox{\ensuremath{\mbelowdere}}$ fixed, but the operation was not well wrought. In another letter he saith, that there remained $\mbox{\ensuremath{\mbelowdere}}$ iij. or iv. of $\mbox{\ensuremath{\mbelowdere}}$ fixed into $\mbox{\ensuremath{\mbelowdere}}$, which endured fusion and the test.

AN OPERATION UPON JUPITER.

Distill a Menstruumout of Vitriol and *, with which make Sulphur Naturae Jovis: Make also with the same Menstruum Sulphur nat. D
which dissolve into Oyl, and with it insere Sulphur Jovis ad fusibilitatem, and then project upon Jupiter.

Dunston thus: Having taken our white earth, you may putrifie by it self, or with the Calx of other metals, and change its colour into a new white or red: Then ferment it with the Oyl of Oor O, & c.

Riply (in - Viaticum) thus: Calcine & into a most subtil Calx (for in it there is pure &, not brought to its full perfection by Nature) which is easily hardened with the Oyl of . Do your work therefore with Tin (until you are rich) because so the work is easily done, and at small charge.

Lullius (in his Magia Naturalis) thus: Make Sulphur Naturae (without which nothing can be done) and thus of any metal (which he directeth to do in a very tedious way) then incere it with Oyl of Ferment (as in his Pract.

Brev.or Sermocinal) until it be fluid; then is it a perfect medicament.

Take of the filings of 4 lbj. salt-petre lbj. mix them, separate the spirit from the Anima by combustion, subliming it in so many pots as you

know: Dissolve the Caput Mortuum(which will be fixt as a stone, so that you may strike Δ out of it by collision) with β , that there may be a Regulus made of it, which pour out and make into rods, and cement them with store of Calx-vive on a Circulary Δ , then Coppel them with Lead, and add to them fine \mathfrak{D} , what then remaineth upon the Coppel is good, and you will have considerable gain by it, and by the separation of A.F. you will have three parts of \mathfrak{D} , and one of \mathfrak{O} .

But when you melt your Caput Mortuum of L with L into a Regulus, as before, when you have precipitated them with Tartar, or mixed them, then put your Regulus to Coppel, and in it you will find L: See that you do not cast away the Scoria, for you will find Silver amongst it; Coppel it therefore by it self with the following powder, so you will find L, which separate with A. F. (the powder make thus.)

Take Chelamus (Bay Salt) melt, dissolve, filtre, and coagulate it; melt it again, and do this work thrice: Then cast in this salt into the afore-said Scoria (from which you separated the Regulus) after you have put it to Coppel, so your work will be done and accomplished speedily, and with great fruit and profit in the applying the fire.

(Hartman) The famous Tachenius relates (speaking of the malignity of Arsenick) that there are some who can burn pure Tin into powder, which cannot again be reduced into Tin by Vulgar Art, as other metals; yet with Arsenick iv is made Scoria, part of which by a singular skill becometh pure . Sigismund Wan, a citizen in Voitland, knew and practised this Art of Separation, to his great benefit; for in the year 1464, he builded

and endowed a great hospital there, which, as Gaspar Bruschius relates, is at this day to be seen, with the epitaph of the aforesaid citizen.

Now, that may be got out of Tin with Arsenick, Clavious proves in his apology against Erastus Second Vol. Theatri Chym. Fol. 39.

A worthy gentleman lately related to me, that he knew one, who told him, that out of lb \(\beta \) . of Block-Tin he got so much \(\cdot \) as he sold for 3s. 6d.

A SHORT AND CLEAR DESCRIPTION OF THE GREAT PHILOSOPHICK STONE.

THE FIRST OPERATION.

Take salt prepared, Nitre, and Roman Vitriol, and Ibij. beat them into a small powder, mix them, and put them into a pot upon a slow fire, and moving them, cause them to melt, that they may be dryed a little. Then take taken out of the Mineral, Ibj. which being put into a linnen cloath, squeeze it and pour it upon the hot matter, moving it with a rod, until the Mercury is hid in the matter; incorporate the mass well when it is cooled, in a marble mortar; then dry it all in a pot very slowly, until it be so dry, that a sword held over the pot, receive no moisture from it; then put it into a sublimatory, and sublime it first twelve hours, afterwards increase the fire, that all the Mercury may be well sublimed, white as snow: So the lacking nothing of its weight, will be associated with the invisible Sulphur of Vitriol, and purged from the earth and its blackness; and if you will experiment that conjunction, you may separate Sulphur of Vitriol from thus: Take distilled vinegar, q.v. quench burning iron several times

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in it, let your sublimate stand therein all night, afterwards pass it three times through a filtre, then set it upon a slow fire; so a black scum will swim above the vinegar, which take off; then evaporate all the vinegar with a slow fire, so you will have an excellent sulphur of Vitriol, and the 3 will remain by it self in the bottom.

THE SECOND OPERATION.

This teacheth to extract the Quintessence from this \S sublimate thus: Make A. F. as follows; Take salt-petre and Vitriol, ana lbj. beat them, then mix them together and distill them with a slow fire in a glazen Alembick on ashes for eighteen hours, so that nothing more can distill (but lute all so well, that nothing exhale;) after the above-said eighteen hours increase the fire by degrees, that the water may be distilled, and then continue the same degree of heat until it begin to cease to distill, and so proceed by degrees, until nothing more can come from it: Let the vessels cool of themselves, and seal the recipient with gummed wax; and when you have put your sublimate, being well beat, in a strong matrass, pour upon it of this water to the height of one or two fingers breadth, and immediately obturate it well: Set the matrass in ashes on a slow fire for the space of twenty four hours; and if it be not then dissolved, if you pour 3 vij. of water upon it, add of *well beaten j. or more; close it up presently, and set it upon ashes, so it will be dissolved: It is a very great secret. Then abstract all the water, (the junctures of the vessel being carefully stopped) by distillation on a slow fire of coals, even to dryness: Afterwards taking off the cap, cover it straight with a glazen Operculum, lute

it, and when you have increased the fire, the Quintessence of Mercury and Vitriol will ascend at the sides of the vessel; at last make the fire yet stronger, that all the Quintessence may be well sublimed, which, when the vessel is cooled; keep carefully: Beat the black feces, and sublime it once more, if perhaps any of the Quintessence remain still amongst it, so you shall have purged the Mercury, and imbibed more of the spirits of Vitriol existing in A.F. Then dissolve and sublime the matter (that is sublimed) twice more after the same manner, that no impurity may be left in it, so it will be whiter than snow.

THE THIRD OPERATION.

Beat this matter, and put it into an earthen urinal well glazed within, which cover with an earthen glazed head like to a *Paradi*, that they may be exactly joyned together; lute the junctures well, and digest it eight days or more in an *Athanor* on a slow fire of coals; for otherwise it could not be dissolved into water.

THE FOURTH OPERATION.

Put your matter so dissolved into a matrass, close it, and dissolve it in M. B. into water with a continual slow heat: Distill this water in a little Alembick on ashes with a slow fire of a Lamp, and water of Paradise will be distilled, (of which alone the stone may be made by the method after described) one drop of which poured upon a plate of any red-hot metal will throughly whiten it within and without; (Note, that the like may be done with the Lunary made of $\mathfrak D$ and $\mathfrak A$ if they be poured on a plate of $\mathfrak Q$.) After the water is distilled, some feces will remain, which contain in them earth,

air, and fire, which you may thus separate one from another: Beat those feces, and digest them in an Athanor, as you did the Quintessence before, afterwards dissolve them the same way in M. B. At last distill with a very strong fire in M. B. by an Alembick, a white Oyl, which is called air, which when it ceaseth to drop any more, take off the recipient, and close well the nose of the Alembick, and so let it cool of it self: Then set the Alembick with a new recipient on ashes, and draw off the red Oyl (which is called fire) with a strong fire. Cast away the earth that remains.

THE FIFTH OPERATION.

If you would make a stone of paradise alone, or virgins milk, you need not separate the elements; but if you have separated them, do thus: Take of Δ or red Oyl part j. of air, or white Oyl parts iv. and of virgins milk parts viij. Put them together in a matrass with a short and narrow neck; in two other matrasses put of virgins milk, q.v. Seal them all hermetically, and so put them in an Athanoron a slow fire of small coals burnt till they have ceased from flaming, and so let them stand till by several colours they attain a perfect white: Then (if you will have the stone white) you may take out one matrass, leaving the other two (if you operate with three at once:) Then increase the fire sensibly, because your work cannot easily be marred, and so proceed by degrees, until the matter is perfectly red.

THE SIXTH OPERATION.

Is projection. Take an hundred parts of \mathfrak{P} purged the common way, heat them in a crucible, and add to them part j. of the white or red stone,

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and the whole will be a medicine. Then take of this medicine part j. and project it upon another hundred parts of \mbeta , moving it with a rod, and afterwards melting it. Further, project of this, part j. in an hundred parts, and the whole will be \mbeta or \mbeta , according as the stone is which you took: If you will project upon other metals, melt them, or do them into thin plates, and on them when they are very hot project part j. upon an hundred, and set the plates in the \mbeta for some time. If you would augment the vertue of the stone ad infinitum dissolve it as often as you please in B. M. and coagulate it slowly in ashes; let Jupiter and Saturnbe melted.

THE SEVENTH OPERATION.

Is the magistery of an Athanor, which build thus: Take of magisterial lute, potters earth, horse-dung, paper carminated, hairs cut, make them all into a paste with salt water and vinegar, and with that paste build your furnace; make a round wall four fingers breadth in height, with chimneys, set upon that wall an iron plate which hath four supporters, by which it may stay upon the wall, leave some distance between the interior sides of the wall and the exterior of the plate, that the heat may ascend by it; then raise the wall to the height of five inches: Then make an earthen cap, which on the one side must have a window and convenient door, by which you may feel the heat putting in your hand at it, (which heat must be so moderate and uniform, that you may endure to hold your hand in the Athanor as long as you please;) the cap must be carefully luted within and without, and set upon the furnace and agglutinated with clay: Afterwards, when the furnace is sufficiently dryed, set upon it glass goblets, and set your

matrasses upon them. Mind well all these things, and consider the figures cut in the page over against this. Now, by the holes that are made betwirt the plate and the wall, you may increase or diminish the heat at your pleasure. But note, that upon the goblets, above the *Tripus* and the plate, you may set an earthen trencher, and set thereon an egg, which cover with another trencher, so that these two trenchers joyned together may be lifted up in the air, and the egg not touch the sides of the trenchers.

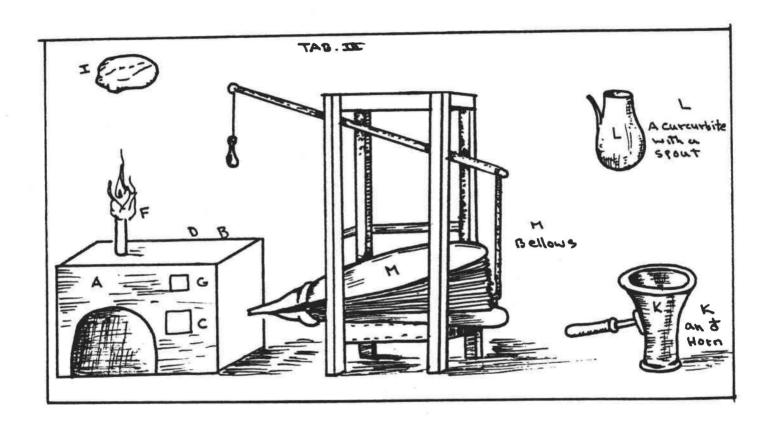
A NOTE FROM ONE THAT WROUGHT THE STONE.

I have had certain notice of one that made the philosophers stone with Leaf-gold and a clear ∇ , that looked like rock ∇ , but smelled strong. He who wrought it for him (that is, attended the Lamp) said, he had made his liquor thrice before it would dissolve the \bigcirc . The last dissolved it by little and little, it became a yellow Aureal Liquor, then thickened by little and little, at length became a black thick broath, in the end like melted pitch: then changed several colours, every one sparkling like Orient precious stones, and sparks like fire or stars rose in the glass (which was a large egg sealed hermetically) then fell down again. It was digested in ashes made of old bark of Oak burned (unwashed) and the author said, no other ashes would serve. And the heat was never greater, than that he could endure the back of his hand upon the ashes, which was caused by a Lamp.

(Hartman) This relation is of Sir K.D.

LAUREMBERG'S OBSERVATIONS UPON ANGELUS
SALA HIS SYNOPSIS OF APHORISMS, 1624 IN QUARTO,
PAGE. 4.

01



He saith thus: I did so prepare fluid \mathcal{L} , that without the mixture of anything whatsoever imaginable, without any dissolving Menstruum, it did acquire the form of a most pure and transparent liquor; neither hitherto hath it lost this liquid form, but is so liquid, that you would imagine it had been brought from a fountain, and which you will more admire, being tasted, it is void of all acrimony, and meerly insipid; (I add also this) that some months ago I reduced English \mathcal{L} into a fluid and moist liquor, without the least addition of Menstruum, which humidity it not only continually keepeth entirely to this day, but (so far as I can see) will never lose it.

(Afterwards in the same page, he saith,)

I confess ingenuously, that not long ago, I had the happiness of seeing at a friends, and feeling such an unfactitious liquor (Liquorem at not) whereby leaves of Gold and Silver were dissolved into a pliant and fluid liquor, without any noise or the least suspition of Acrimony. This liquor can be no other than congealed air, without which the life of animals becomes no life; and there is no body under the sun in that three-fold Kingdom that is destitute of it. I had rather search its medicinal power with silent speculation, than weary people with tedious and fruitless discourses.

CONCERNING MAY DEW.

May dew is the true Minera of the dissolvent. Aug. This liquor is such, that if it be gathered at a certain season, two uses, etc. One, that hereby you may infuse Gold in a liquor of its proper seed, when you begin first to dissolve it, etc. Cosmop. But this ∇ is said to be the Menstruum of the world: Speaking of the element of ∇ , the Menstruum of the world is tripar-

tite, eto. the more pure resolved into air. There is in the air an occult nourishment of life, which we call dew in the night, and in the day-time ∇ , rarefied, whose invisible congealed spirit is of more value than the whole earth, Idem. The principal matter of metals is the humidity of the air (the aerial substance) mixt with heat, ∇ prepared aforesaid is governed by the rays of the ∇ and ∇ prepared in the sea; not one place or one country will afford it you. Experience testifieth, that ∇ is not sought for save in mountains, because it can be seldom had in a plain.

FLAMEL, ARTEFIUS, PONTANUS, ZACAIRE, & C. THEIR ARCANUM.

This stone is that about which the above-named authors employed themselves: It is composed of the mineral gluten, made of $\mbox{\mbox{$\mbox$

This liquor will continue coming over even unto the end of fifty days; let not the heat exceed that of ones hand. This AEthereal ∇ is the ∇ of paradise, or the mineral astrum of Flamel's two dragons, the one is volatile (which is δ) and the other rampant, which is the δ , which do not suffer to be touched nor attacked, until their venemous scum (that is to say, the butter) have produced the spirit of the Mercurial-wind, and the scum of the Red Sea. Note, that within fifteen days this sea or butter cometh to be very red, with a gentle heat of a Lamp Δ in ashes; and this is Flamel's Red Sea. This AEthereal ∇ penetrates all metalline bodies, (being luminated and made red-hot) and tingeth them into). Two drops of this \(\nabla \) being dissolved in \(\frac{3}{2} \) iv. of spirit of wine, maketh a virginal milk, whereof the dose is a spoonful: It is a very gentle emetick, because of its crudity or rather Mercurial substance, whereof the vertue operates upwards, because it is moist and airy. It cures the epilepsie by the character which is imprinted into it, by the word Fiat, and all astral diseases, as far as humane disposition permits. This is the coelestial ∇ which doth not wet ones hands after its preparation; 'tis the Θ of abla , the abla or centre of the heart of abla , and the true extent of abla , but it requires more work. Take this \(\nabla \) (you must have a pretty great quantity of it, and therefore you must have ten, fifteen, or twenty pound of volatile crystals) and put it in a cucurbite, and with a very gentle heat of a Lamp distill off all the waterish moistness, which by carelessness it might have contracted from the air: There will remain in the bottom a gum, a syrup, a viscous ∇ , a radical mineral moisture, which is the eagles gluten above-

mentioned, which did fly the space of fifty days continually; by means of this gentle heat, the gluten flies no more, but is the flying Crapant and Zacair's Mercurial \(\nabla \), which is congealed by cold, and liquified by heat. The authors before mentioned have digested this gluten per se in a matrass hermetically sealed, without the addition of a solary ferment; but afterwards they have been forced to ferment the powder which they made of it. For to shorten the work, take seven parts, or nine or ten, or more of this gluten, unto which by heat joyn one part of () in leaf, or Sulphur of () prepared by the salt Enixe (which is best) and digest in an Athanor, or in Flamels furnace (which is very easie) until all the matter have passed through all the due colours, and come to be of a purple citrine colour; then have you the metalline salt, the most high tincture, a treacle made of venom, a most excellent medicine is multiplyed in quantity by new addition of the afore-mentioned gluten; in quality, by dissolving in humido into a liquor, and purifying by digestion, and then by fixation: Experience will teach other things far better. This method, although it differs much from that of the greatest philosophers, as Lully, Trevesan, Cosmopolite. & etc. (and being but particular in comparison of that high Generalissima hevertheless it seems to be universal in regard of metals and minerals. Note, that you may also extract a white and red Oyl of that which remains, as was said before, and make a new aurifique stone thereof, which those authors have not understood, or if they have understood it, they have not spoken of it. Note also, that this mineral ∇ of paradise, is the philosophers live \odot , and the Θ of the wise, but not the

Generalissima: And this ∇ will serve against all maladies, for it drives them out, according to the intention and inclination of Nature.

to prepare a ferment or sulphur of \odot .

Make an $\dot{a}\dot{a}\dot{a}$ of \bigcirc or \bigcirc , and \bigcirc ; grind this $\dot{a}\dot{a}\dot{a}$, then squeeze it through a leather, the globe remaining in the leather, you must grind again, and then put it in a poringer, covered with another poringer, and lute them well together, then put them to a gentle Δ for half an hour: Then grind it again, and digest it between the two poringers as before. Repeat this so often till the oor be in powder impalpable; then incorporate this powder with fresh Ξ , grind them together, and digest with a gentle Δ , so that little or nothing may sublime, and if any thing sublime, put it again to that which remains in the bottom. Repeat this last operation (adding new g , grind and digest as before) so often, till the whole body of \bigcirc or \bigcirc be converted into running \biguplus , and that all may be squeezed through the leather: Then put this animated into a poringer, which cover, and digest with a gentle heat, so that nothing sublime; continue the digestion so long, until you see a thin skin swimming upon the matter, which take off carefully (it will be of the colour of or) put the matter upon the Δ again, increase the heat a little, taking off the thin skin as it riseth; continuing so long until the matter produce no more thereof: And thus you shall have the Sulphur of or).

AN OPERATION THAT MONSIEUR DE L'OBERYE WROTE FROM MONSIEUR JOHN'S MOUTH.

Take the Mother-liquor of salt-petre, let it run cold through washed

sand, then filter it by Languetes, then through gray paper: Then evaporate with very gentle heat, putting down the skins as they rise upon the liquor: the remaining salt being dry, grind it, and put it to resolve into liquor in a cellar, then filter and evaporate as before. Repeat this purification five or six times, or so often, till it leave no more feces in the filter. If you take lbx. of this liquor, you shall have but lbij. Zviij. of purified salt: Of this lbij. Zviij. you shall have Zx. of spirit, by distilling it per se in retorts in sand; you must put but lb (3 . of this salt into each retort; deflegm it in B. Take the Caput Mortuum, and grind it, and dissolve it in a cellar; filter, and congeal, repeating this two or three times: Then being very dry, joyn 3iij. of it with 3j. of the rectified spirit; digest and circulate eight days with gentle heat in ashes, and all will be a \(\nabla\) of the colour of amber. Put one part of o into ten parts of this liquor, and it will dissolve it (cold) in less than a quarter of an hour: Decant the dissolution when it is clear; one drop thereof taken in a little broath, is a great corroborant.

Put Previved from cinaber into the dissolution of , and it will become like a gum, decant the clear, and put the to dry, and it will become hard; melt it between two beds of calcined egg-shells in a crucible, and you shall have good .

VENUS INTO **)**: SENT ME BY MONSIEUR DE BEAULIEU.

Take fixt Arsenick Zviij. fixt Nitre Ziv. Oyl of Tartar prepared, as shall be taught hereafter, Zxij. **fixt, Zxv. Let them all resolve

into liquors in a moist place every one by it self; then take these liquors and mix them together, and filter them, then put to them Ziij. of Oyl of \S , and \S viij. of \mathfrak{I} (prepared and dissolved in the liquor of fixt \divideontimes and fixt Sulphur) mix all well together, and put it in a matrass, and digest in Fimo for fourty days, changing the dung every eight days: Then decant the clear, and the feces remaining in the bottom, dissolve in the liquor of fixt *, and put it to the rest of your liquors; filter it three or four times: Then distill it in a cucurbite with a gentle \triangle in B. M. (not boyling) distill to dryness, and you shall have a white matter like a stone, and clear like a pearl: And to know whether it be perfected, put a little of it upon a red-hot plate of copper, and if it melt like wax, and penetrate through the plate without smoaking, leaving the said plate white where it hath touched, it is a sign of an entire perfection; but if you find that it is not yet fusible, and that it smoak yet, grind it upon a stone with a pint of ∇ distilled from whites of eggs, and distilled three times upon lbj. of Quick-lime, grind it with the said ∇ , until it be of the consistence of pap; then put to it four times its weight of liquor of fixt \bigstar ; digest in fimo for eight days only, then congeal it as before, so is it perfect. Project 3j. of this matter upon lbv. of prepared \mathbf{Q} , and sometime after cast a little piece of wax into it, at three or four times; then cover the crucible, and leave it in fusion for some hours.

THE MULTIPLICATION.

Dissolve Zviij. of this matter in lbj. of the ∇ of whites of eggs, then add Ziv. of liquor of fixt Arsenick, digest in Fimo for fifteen days;

then distill and congeal it as before, so is it multiplyed. If you reiterate this multiplication several times, the matter will remain in a liquor, which will project upon great quantity of *Venus*,

TO FIX THE * FOR THIS WORK.

Take lbj. of \bigstar in small pieces about the bigness of a wall-nut; make a paste with Quick-lime and whites of eggs, with which endew the said pieces of \bigstar , let them dry, then stratifie them in a crucible with powder of Quick-lime, let the beds of the Quick-lime be about a fingers thick; then put the crucible to a circulary Δ , which increase and approach once in a quarter of an hour, at last, cover it with coals, and let it stand so for half an hour: Then take out the \bigstar (the crucible being cold) and wipe off the powder of Quick-lime, then dissolve the \bigstar in fair ∇ , filter and congeal it; dissolve it in a cellar into an Oyl, which keep for use.

TO FIX THE ARSENICK AND NITRE.

Take equal parts of Arsenick and Nitre, grind them, then mix them together; fill a crucible half full with this powder, fill it up with salt of Tartar; cover this crucible with another that hath a little hole in the bottom, lute them, and set them in a circulary Δ , the Δ being half a foots distance from the crucible; increase and approach the Δ once in half an hour about two inches, and when you perceive no more smoak come from the matter through the little hole, put the Δ close to the crucible, and at last cover it with coals, and keep it so covered for twelve hours, then let it cool, and grind it, then dissolve it in a cellar, and keep the liquor in a glass close stopped.

TO FIX THE SULPHUR FOR THIS WORK.

Take 3 v. of Quick-lime, slacken it in six quarts of fair ♥, and having stood twenty four hours, filter it, and put it in a kettle; then take 3 viij. of flowers of Sulphur, tye it up in a linnen bag, which hand in the water in the kettle, make it boyl for an hour, and you shall have a Sulphur incombustible.

OYL OF \S .

Take 3 iv. of sublimate in fine powder, put it in a crucible, and pour upon it lbj. of fine 4 melted, stir it well together; then being cold, put it upon a clean iron plate in a cellar, and you shall have an Oyl or liquor.

TO PREPARE THE Q FOR THIS WORK.

Take Arsenick one part, decrepitated salt two parts, pulverize and mix them together; then stratifie with this powder some thin plates of Q, cement them for two days, then put them to a strong Δ for six hours; then wash these plates from the salts, and beat them to powder, wash the powder with vinegar, and then with ∇ two or three times; then with soap make a paste thereof, which put in a crucible, that hath a hole in the bottom, put this crucible in another crucible, and so melt down the powder of Q, and it will run through the hole into the other crucible, and you shall have a very white Q, and well prepared for projection.

TO PREPARE THE SALT OF TARTAR FOR THIS WORK.

Take equal parts of Tartar and Quick-lime, powder them, and mix them well together, put this in a por., cover it close, and put it in a Potters Oven when he burns his pots; then make a Lixivium of it with rain

V, which filter and evaporate to dryness, mix this salt again with the same quantity of Quick-lime, and calcine it in a potters oven as before. Repeat this five or six times; then dissolve this salt in distilled vinegar, distill and cohobate so often, till it will no more congeal into a salt, but that it remain like melted wax in the bottom, which pour out, and keep it for use.

TO PREPARE THE THIS WORK.

Dissolve \Im viij. of \Im in \Im viij. of spirit of Nitre, then precipitate with salt ∇ , the powder of \Im being settled, and the ∇ clear, decant; then edulcorate the powder and dry it, then dissolve it again in spirit of Nitre as before; precipitate, edulcorate, and dry the \Im as before. Repeat once more, three times in all, then put it in a matrass, and digest it eight days in sand. So is it prepared, and fit to be further prepared, and dissolved in the Oyl of fixt \divideontimes , and fixt sulphur.

transmutation of $otag{g}$ into a regulus.

Precipitate butter of δ with warm ∇ once, without further edulcoration; dry it gently, then add a fourth part of β , and of black soap, and salt of Tartar, of each as much as needeth to make a paste, whereof make little bullets, which put in a retort well luted; distill in a naked Δ , with a strong sudden Δ , and the matter being melted, you shall have a Regulus as white as \mathfrak{D} , which must be melted three or four times to have it finer and whiter.

CALX OF O .

Monsieur Le Febore shewed me a very subtil and spungy Calx of O,

he had made thus: Purifie () to its greatest height, beat it very thin, and cut it into small pieces, heat one part of them in a crucible, and fix parts of cleansed Ξ in another: Make an $\dot{a}\dot{a}\dot{a}$ in due manner, stirring a while with an iron rod, then throw it into cold ∇ ; squeeze out as much as you can through chambo-leather: To the remaining globe put double as much flowers of Sulphur, grind them well together: Put this mixture into a capacious crucible, and gently burn away the Sulphur, and evaporate the \mathbf{g} , reverberating the Calx three or four hours after all is gone away. Repeat all this work twenty or thirty times; then reverberate it under a muffiewith so gentle heat, that it melt not, the longer the better: Then burn S. V. three or four times from its Qu?ts, Of grinding the Calx long with pure virgin honey, then dissolving it in a large quantity of pure distilled warm ∇ , and letting it stand warm till all the Calx be settled to the bottom: Also of grinding the Calx with purified salt of Tartar, then reverberating the mass, and lastly, dissolving the salts in warm ∇ , and letting the Calx settle, as with the honey: I think it will be a very subtil Calx, to dissolve the () in A.R. of Nitre and * ; then precipitating it with Spirit of Urine, or with a marinated ∇ , made by dissolving the fixed salt of Urine in pure distilled rain or spring water.

A PRETTY CURIOSITY, TO MAKE METALS VEGETATE VISIBLY.

Calcine white and transparent River Pebbles, extinguish them in ∇ to have a Calx thereof, which reduce into subtil powder with equal parts of Tartar and Nitre (fulminated together) taking double quantity of this

fusible salt: Dissolve this matter upon a marble stone or glass in a moist place, and you shall have a liquor, which filter: Take about Jij. of this liquor, put it in a Viol., and put into it about Jij. (or less) of the Calx of any metal, dissolved in its Acid Menstruum Then evaporate to the consistence of a Calx: Let it stand, and so soon as it is cold you shall see the metal vegetate, and shoot out into branches, which will be of different colours if you put in the Calx of divers metals: This is fine and pleasant to behold. Note, that it is to be observed in general, that the cause of vegetation is the encountring of an airy acid with a fixt Alkali; and it is thus, that Quick-lime calcined with common salt into an Alkali, being spread upon barren ground, fatneth it, and maketh it fruitful, causing vegetables to grow, by contracting the acid of the air and its volatile salt.

TO ENGENDER CRAY-FISHES.

It is to be observed first, that to do this operation well, you must do it at the increase of the **)**, and in the sign of *Cancer*, if possible, or at least in any other aquatick sign.

Then take a parcel of the said Cray-fishes, taken in Brooks or small Rivers, being all alive; divide them into two parts, put one part thereof into an earthen pot not glazed, cover it with its cover, or with another pot, lute them well, and put them to calcine for seven or eight hours with a strong Δ , until they be well calcined, and fit to be reduced to powder in a marble mortar: Then take the other part, (being also all alive) and boyl them in river ∇ , like unto that wherein they were taken, then pour off the ∇ , which being cold, put it in a wooden vessel, or of earth, and into

about a pail full of this ∇ , put about half a handful of the powder of the aforesaid calcined Cray-fishes, stir it well together with a stick, then let it stand to settle, without stirring it at all, and within a few days you shall see as it were many Atoms appear in the ∇ , which are the breeding Cray-fishes, moving in the ∇ ; when you see them as big as a small button, you must feed them with bullocks blood, casting a little thereof into the ∇ , from time to time, which in time will make them grow of their natural bigness. You must observe, that before you put the ∇ into the vessel, you must first put some sand into it, so much that the bottom of it may be covered about a fingers breadth.

TO MAKE OYL OF TALC.

Take one part of <code>VeniceTalc</code>, and two parts of pure Nitre, both in subtile powder, put them in a wind-furnace to calcine with a strong Δ for seven or eight hours: Then take out the crucible, and beat the matter to subtil powder, and wash it perfectly well with fair ∇ , till you have brought away all the saltness of it; then dry the Talc well, and calcine it again with two parts of new Nitre, all as you did before, and dulcifie the salt from it. Repeat these calcinations, and dulcifications four times, that the Talc may be perfectly white and well calcined, and in exceeding subtil powder: Then put it into a strong glass bottle, half full, and stop it close, and set it in a great quantity of ice or snow, that the extream cold may penetrate into it (for therein consistent the secret) but the ice or snow must not actually touch the bottle, but it must be set in a box of wicker, fit for it, made like a cage, that it be all open between the barrs

or ofiers, and in two or three months all the Talc will be converted into a pure clear white liquor, which is excellent for the face and skin, and will make scarlet white, being dipped in it.

AN EXCELLENT COSMETICK PREPARED OUT OF 3.

Take refined), one part, Sal gemmae, two parts; beat the) into very thin plates, stratifie them with the Sal gemmaein powder in a crucible well luted with another upon it: Cement for twenty four hours, then open the crucible, and if you find the) well calcined, it is enough; if not, stratifie it with fresh Sal gemmas and cement as before: Then edulcorate the \bigcirc , with warm ∇ ; then grind it into a subtil powder, pour upon this powder a well rectified S.V. digest until the S.V. is tincted blew; then decant, and put on fresh S. V. Repeat this until you have extracted all the tincture out of the 3. Then evaporate the S. V. with a very gentle heat (or rather distill it gently) and there will remain in the bottom of the cucurbite a matter like Pomatum: Put upon this Pomatum a spirit of wine rectified upon salt of Tartar, and after a little digestion, distill off the S. V. in a retort, and part of the tincture will come over with the S.V. and will leave the Pomatum whiter than it was before. Repeat this work with new S. V. (Tartarized) so often, till the S. V. bring over no more tincture, and that the Pomatum remain in the bottom as white as snow, which is excellent to whiten the face.

ANOTHER WAY TO MAKE OYL OF TALC.

Take of Venice Talc in great pieces, as much as you please, make it red-hot in the Δ , then quench it by ceffing it into Oyl of Tartar; fire it

again, and extinguish it as before. Do thus two or three times, and it will be throughly calcined, so that you may crumble it into small powder with your fingers; beat it in a mortar, and pass it through a fine scarfe of silk; what passeth not, calcine it in a crucible, and extinguish again: It will be perfectly calcined by extinctions in fair ∇ , but then it will require ten or twelve ignitions and extinctions.

Take your subtil Calx of Talc (which will be perfectly white) made either way, and put to it some distilled vinegar to swim two or three fingers breadth over it, and put it to digest in very gentle heat eight or ten days, and you shall see a beautiful Oyl or Cream swim at the top of the liquor, skim it off, and dry it with gentle Δ , and it will be a saline substance, which put into a bladder, and hang it in a well near the ∇ , but not to touch it, and in a few days it will resolve into a pure Oyl, which is excellent for the face. Or, with long remaining in a moist place, without putting it into distilled vinegar, this Calx will resolve into Oyl: Try to extinguish the Talc in dew, and c. (Be sure that in all this work you touch nothing with iron.)

TO BURN HOLES IN GLASS.

When Mr. Gore would make a hole in the belly of a retort or matrass, or receiver of glass, he did thus: Have some cotton-yarn well Sulphured, lay it round like a snake upon the glass, filling as much space as you would have the capacity of the hole, make a circle of tin, or the like, to keep it in (but be sure there be not the least moisture upon the glass, nor that it be very cold, for then it will break) set the cotton on fire with a burning coal

laid upon it, and so let it burn on, putting up within its compass the burning yarn (with a Bodkin) if it chance to stretch, or swell wider than it should, make your heat and burning gentle and moderate at first, that you may increase it by degrees, by crumbling Sulphur in powder upon the burning matter, if you find it needeth.

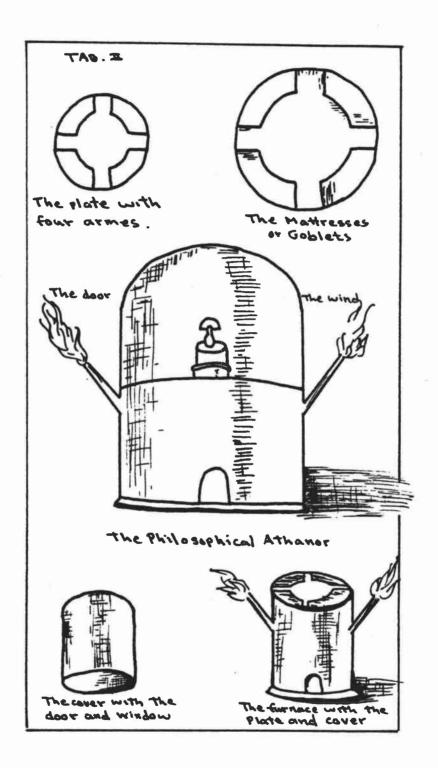
When it hath burned a while, try gently by touching it with a little stick of wood, whether the piece of glass under the burning cotton will fall in or out, but press not too hard, for fear of cracking that which should be whole; for when it is enough, it will fall in with the least touch, and leave a compleat hole without any cracks in the glass besides. If you touch the heated glass with any moisture, you not only make that which you would have separated away to fall in, but you will crack and split what you would have remain solid. You may put a linnen cloath in the glass, for the piece to fall upon, lest it should break the glass when it falleth in.

A description of a most convenient and very useful furnace, which will not only serve for many operations, as Melting, Calcining, Vitrifying, Reverberating, Distilling, Subliming, Digesting, and C. But also for Coppelling, in small and great quantity, and that with the greatest facility that can be; so that neither Coals nor Ashes can fall into the Coppel, neither can the heat of the Δ incommodate you by reflecting in your Face and Eyes.

The fabrick of this furnace, with its structure see in the next figure.

AN EXPLANATION OF THIS FIGURE.

A. Is the whole fabrick, which may be built (of good bricks) about two foot four inches in length; one foot six inches in breadth; and about two foot



four inches high.

- B. Is the fire place, which must be round, of the best and hardest bricks (it may also be made of a fire stone) it must be eight inches deep, and eight inches diameter; at the bottom of it you may lay either a close grate, or a thick iron place full of holes.
- C. Is the ash-hole and receptacle of the blast or wind issuing from the bellows, which must be very close, and the stopper fit the mouth of it exactly, to shut very close, so that the wind may find no vent any where out but upwards through the grate; this hole needeth be but four inches deep, from the grate down to the bottom; the ashes must be taken out of it from time to time, that they may not stuff up the place.
- D. Is the Coppelling-place, which may be about seven or eight inches in length, and six inches wide, and about four or five inches deep.
- E. Is the gap, through which the flame reverberates from the furnace into the Coppelling-place, it is about four inches wide, about two or three deep, and two inches in length.
 - F. Is the Pipe or Chimney, which draweth the flame.
- G. Is a hole, through which you may put fewel into the furnace, to avoid uncovering of it, when it is covered, as it must be when you Coppel; you must have a stopper exactly fitted to it.
- H. Is a hollow place under the Coppelling-place, which may serve to put Coals in.
- I. Is an Iron Hoop about an inch high, such as the refiners use to make Coppels in, you may have them of what bigness you please; at the bottom

are fastened two flat Iron Bars, to hold the bone-ashes, having no other bottom.

To use this Furnace, you must have a pair of Smiths Bellows, of a midling size; which (if there be not room in your Laboratory to fix them below) you may fix above ground, and so they will not incumber your operatory below; and for the conducting of the Wind, you may have a square Pipe of Wood, made like an Organ-pipe, to come down from the nose of the Bellows through the Wall of the Furnace into the Ash-hole; and to the pearch you may tye a piece of Rope with a wooden handle at the end, to pull by in blowing the said Bellows.

In all the Operations I do in this Furnace (even when I Coppel) I use nothing but small Sinder from the Glass-House, which are not so heady as Charcoal.

DIRECTIONS HOW TO COPPEL IN THIS FURNACE;
AND FIRST, HOW TO MAKE A COPPEL.

Take such an iron hoop, set it upon a sheet of brown paper to save the bone-ashes (that else you might scatter;) then fill it with a sufficient quantity of bone-ashes, first moistened with ∇ , so that they hold together when you press them in your hand; stamp them well down with the end of an iron pestle, and make the coppel very close and hard every where, then make it hollow in the middle, that it may hold the matter you mean to coppel without running over; make it very smooth, then set it into the coppelling-place, and raise it with any sifted ashes, or with a piece of a fire-stone, so that the top of it may be level with the lower part of the gap. Then cover