



**THE SECOND CENTURY OF
GLAUBERS'S
Wealthy Store-house of Treasures.**

Which doth Illustrate his hitherto published Writings, with a more evident Explanation, and doth more clearly demonstrate the Truth hidden in them.

The First ARCANUM or Secret of the Second Century, SHEWETH; By what means such Metals as are imperfect, wild, and in a manner unapt for use or sale, may be ripened or bettered by Common Salt and Fire, so as to yield forth Gold and Silver with benefit and advantage.

I have in the foregoing first Century, as also in the Appendix to the fifth part of the prosperity of GERMANY, described the incineration or reduction into ashes, which is to be done with Coals in a peculiar Furnace, fit for torrefaction or calcining.

Though this be a laborious way and tedious, yet is it not without its benefit, provided that a great quantity (as I have already oft-times said) of the not vendible minerals and metals be thereto used. But that such an incineration may be done after a more easie and compendious manner, the following way may be made use of.

Build an Hearth of good and fitting earth upon a firm foundation, put thereupon a Furnace (or an Arch) of good stones, adjoin hereto an Oven, (or side Furnace) out of which the fire may play and emit its flame over all the said Hearth, and pass thereout of by a chimney made for that purpose. Upon this Hearth put those metalline earths being broken in a Mill, and commix them with the Salt, and Coals reduced into powder, and leave them for twenty or twenty four hours, that they may be all well fired and heated red hot: For by this means, the salt makes the fugitive metal in some sort constant and able to brook the fire; and the wild sulphureousness leaves the metalline mineral, and adjoins it self to the salt, and converteth it into a vitriol or SAL MIRABILIS. This twenty or twenty four hours heat, gets a constancy and fluxibility to those wild metallick veins, and doth withall by that labour so fit and prepare the salt, that it doth afterwards by an easie mutation pass into good salt peter.

After that the said minerals have gotten themselves a better state by the said Cementation, they are to be drawn out of the Fire or Hearth,

with iron instruments fit for such a purpose, and new and fresh minerals are to be put in, and to be dealt withall after the same manner as we said but now.

The minerals that are taken forth are to be broken in a Mill, and then the salt to be washed off with common water, and to be afterwards used about making salt peter, the which we have taught in the Appendix.

The light Coals (or Scinders) and unprofitable earth is to be separated by water, from the metalline part, and this metalline part, or heavier LIMUS, being reduced and molten in the Furnace called STICHOFEN, yields a beautifull or pure and gainfull metal.

There are sometimes found in many places of GERMANY, wild, fugacious, and unmeltable minerals of lead, which for that they contain in them sulphur, Antimony, or LAPIS CALAMINARIS, do not admit of reduction in the Furnace called STICHOFEN, but do either go off in fume, or turn into dross. But being first roasted after the aforesaid manner, and fitted for liquefaction, the lead, comprehending in it silver goo, may be thence gotten with profit, whereas otherwise they are wont to be dealt withall without any fruit, and are therefore given over. This incineration therefore is profitably used to such degenerate minerals.

Now if so be any would deal with vendible and good metals, and would have profit from them by incineration, he must proceed this following way.

II. The manner of reducing lead into ashes, and so handling it with the spirits of salt, that gold and silver may be thence gotten with profit.

I have at large taught in my first Century, that in the ripening of metals and other chymical operations, a greater fire is endued with stronger power than a lesser, which is easie to be understood by those that have any wit.

I just now taught the maturation and bettering of unprofitable and wild metallick earths with crude and gross salt.

But forasmuch as the gross salt and a weak fire cannot of necessity put forth so much strength as a stronger fire is wont to do, therefore for such as desire a stronger fire than the common salt, the purer part is to be (by the help of Art) drawn out of the crude salt and to be separated from its grossness and impurity, the which is easily brought to pass by distillation. And as for these fires of salts, and the procuring them in great plenty, my writings, but especially the

precedent first Century, do clearly and evidently treat of them, and this second Century will yet treat of it more.

III. The operation of incinerating the lead, or reducing it into ashes.

Having built a Furnace such as is for Cementation, put therein a strong iron Pot, just after such a manner, as the sand cupels (or Pans) are wont to be made, let there be a Grate to make a fire on, let the Furnace be bigger or lesser according to the bigness or littleness of the Pot you would put in, or according to the quantity of lead ashes you would make. Put the fire under the Pot and heat it red hot, and put thereinto so much lead as is requisite for the covering of the bottom of the Pot; the lead being molten, stir it about in the Pot without ceasing, with an iron spoon having a long handle, the which labour will turn the lead into ashes in the space of about two hours. Take these ashes out, and put in more lead into the Pot, and repeat this labour so often until you have gotten enough ashes. These ashes of lead are fitted to receive an amendment by the spirits of salts, and afterwards to yield their gold and silver by fusion, and that with profit.

IV. The manner of bettering the ashes of lead by the spirits of salts, and of extracting thencefrom the gold and silver with gain.

First of all, you must have plenty of the spirit of salt or AQUA REGIS, as concerning the easie getting such spirits, we have mentioned the way at large in the foregoing Appendix, and will yet treat more of them in this present Century.

Besides, you must also provide your self of red or reddish kind of flints, which (besides iron) do also contain in them a volatile gold. Out of these is the tincture to be extracted by the spirit of salt, or by AQUA REGIS; after that manner I delivered at large in the first Century, and in the Appendix to the fifth part of the prosperity of GERMANY, and will yet farther teach more clearly and more compendiously in this Century.

These extractions are to be poured upon the lead ashes, that they may be well moistened therewithall; the unprofitable phlegm is to be evaporated by a gentle heat, and the fire to be augmented that the spirits also may follow; of which more heavy spirits there will be enough remaining in the secret Cementatory Pot, and as much as is

sufficient for the due operation upon the lead, that so being bettered it may afterwards prove a gainfull emitter of its gold and silver. He that has a desire of exercising this labour with greater profit, may satisfie his desire, if he will but pour on such extractions twice or thrice upon the said lead ashes, that they may be concentrated by them afore they are cemented in the Cementatory Vessel, and may be reduced into the bettered lead. For by this means, all the labours and costs will be more largely recompenced, and the more plenty of gain gotten.

This now is the making the lead ashes, whether you do either per Se, or by the help of the other metals, convert it by Cementation into a better metal.

V. A brief description of the secret Cementatory Pot, which admits not of any spilling, and which is sealed with the Seal of HERMES, of which I made mention in the first Century.

Build with Stones or Clay or Potters earth such a Furnace as that is, which I described in the first part of my Furnaces, as necessary for the making of spirit of salt. But let the lower part thereof be a little broader that so the Metals being cast upon the Coals may not stick to the walls of the Furnace and so be somewhat lost, but may fall directly down on the live Coals. It must be made four square and of such a bigness as may serve the purpose according as you are minded to cement a greater or lesser quantity of metal therein.

VI. Of the Cover of the Cementatory-pot, what it ought to be, that so it may suffer nothing to get away in fume.

This Cover of this Cementatory Box or Furnace which I told you was to be made of the Lute of Wisdom, is not properly a Cover but a leaden Cistern, serving for the reception of those spirits which is to be filled with water, and 'tis to be so fitted to a pipe that is to come out of the Furnace, that the ascending spirits passing thereinto may be the better refrigerated by the water, and the sooner condensed, and saved for farther uses.

VII. Of the use and benefit of the secret Cementing Pot.

When any one has a mind to cement the Lead ashes, from which the

extractions of the coloured Flints have been sometimes abstracted in the said Cementatory Box, and to graduate them, or so bring to pass that they may contain (or hold the) Gold and Silver, let him first of all fill his Furnace with Charcoal, and let him so order it that his fire may kindle by little and little till the Furnace be well heated red hot; till this is done, the Cover that is at top is to be taken so long off, that so neither the heat nor smoke may pass out at the side through the Pipe into the adjoined Leaden Cistern.

When the Furnace is throughly heated, and that 'tis now time to begin the Cementation, the top of the Furnace is to be shut with its Cover, that the heat may be forced to pass through the Pipe into the Receiver. Having so done, you are to fill an Iron Spoon or Ladle of your prepared Lead ashes, and put them into the Furnace at the fore hole which serves for the throwing in your Coals, the which ashes are to be so put in as to cover the Coals over, but not so as to choke them but that they may have air enough to burn, and that the fire be not put out, but do just in that manner as you are wont to distill the Spirit of Salt. By this means all the Spirits that remained yet behind in the Lead ashes, will betake themselves into the Receiver, and the Ashes of the Lead will be bettered by the graduating and tinging spirits, and will part of them be reduced into a body, and part will yet retain the form of ashes, and fall down through the Grate to the bottom of the Furnace. Then the Furnace is to be again filled with Coals, and more Ashes are to be put therein with a Spoon as afore, and this labour is to be continued so long till all the Ashes are consumed.

All the labour being finished, take out your Ashes together with the lead reduced into a body, melt them in the Furnace which is called STICHOFEN, they will melt wondrous easie, then put some small part thereof to the Test, thereby to try whether or no they are enriched enough, to be turned into a Litharge and undergoe the metallick separation.

If they won't as yet brook the trial, let the Lead be again turned into Ashes in your Iron Pot, & repeat the whole afore prescribed labour, and that so often till at length the Lead be rendred rich enough in Gold and Silver, the which may be converted into Litharge after the usual manner, and separated from the Gold and Silver. The Litharge being taken away, and gathered together, and broken in a Mill, serves for farther uses in this operation. The REGULUS of the Gold and Silver that is left upon the hearth is to be taken out and to be farther mundified in a

Cupel after the accustomed way.

This is that more compendious incineration and reduction of Lead, which kind of bettering it, enricheth the operators with Gold and Silver.

N. B. That in this Cementation the sharp spirits do carry over with them some of the Volatile Lead into the Receiver, and there it settles to the bottom; the which powder being freed from all the Acrimony of the spirits by due washings, and being then dried, may be used to all such intents and operations to which the Mercury of Saturn is wont to be used, and which is made by dissolving the Lead in AQUA FORTIS, and precipitating it by Salt water.

N. B. This distilled Mercury hath more hidden under it than the other hath; for it carries hidden in it a Volatile Gold, which may be separated from it and improved about the gradation and Tincture of other Metals, and that with no small profit, concerning which we will say more afterwards.

Thus friendly Reader, hast thou my more compendious incineration and reduction into better Metals, the which I would not hide from thee, and hereby shall I satisfie those to whom the way prescribed in my Appendix is too tedious and laborious and they may make use of this way instead of that other, which withall is easier and will without all doubts yield more Gold and Silver than that other way.

VIII. Another emendation or bettering of Lead by the graduating extractions of coloured Flints.

Extract either coloured Flints, such as have in them Volatile Gold or Sand or Clay, by the spirit of Salt or AQUA REGIA, and draw off the Liquor by Distillation. If you thereto add Salt afore their extraction the dissolvent will receive encrease from the Salt, especially if done in such an instrument, in which a great quantity of extracted matters may be abstracted in a few hours, without either Cucurbits or the other commonly known distilling Vessels, and the same operation may be continued a long while. By this means, there is not only the least loss of your dissolvent, but it rather gets no small encrease from the Salt. By this instrument also, thou maist not only prepare great store of sharp spirits necessary for thy operation at the beginning, but likewise commodiously extract your Minerals, and separate the dissolvent again from the Minerals so extracted, so that you shall not lose the least

particle of your dissolvent.

But forasmuch as all the Gold, Silver, and Copper may much easier be separated from its MENSTRUUM, by this so unheard of and never seen instrument, than by the way of precipitation, 'tis altogether better and safer for a Man not to precipitate his extracted Metals, but rather draw off the MENSTRUUM from them, that so he may have them dry. And though that all the spirits go not wholly off, so as that nothing of them abide with the Metals, yet they do no hurt, but rather exalt the Litharge that is put unto them into an higher degree, as it also does to the Ashes themselves of the Lead, when they are cemented together in the afore described cementing Furnace; in which Cementation the Volatile Gold is, together with the corporeal Gold conserved, and which otherwise would vanish away in the common melting Fire.

But if so be that any one has a mind to precipitate the Metals extracted out of poor Mines, after the manner prescribed in the Appendix, to the intent he may after the precipitation make Salt Peter of the remaining Waters, he may reduce the CALX'S of the Metals, and principally of the Gold very easily and without any loss, by this following way.

IX. The manner of reducing the precipitated and washed Calx of SOL without any loss.

The precipitation of Gold by LIXIVIUMS, Liquor of Flints, Spirit of Urine, Solution of Mercury, hath been clearly enough described in the Appendix to the fifth part of the prosperity of GERMANY; but yet the reduction of the same was past over in silence, because of the too much haste of the said Book. Therefore it seemed unto me necessary to insert the same here, for their sakes, who have but little knowledge, or in a manner none at all in these affairs; for should I go to propound such a thing for the skillfull Chymists, I should but do what is already done, especially because he deserves not the name of a Chymist who is ignorant of the reduction of the solar CALX.

But forasmuch as it may so happen, that even the unsklllfull may set about this extracting of the Minerals, and yet be ignorant of the way of reducing the Gold though they should have extracted it; therefore have I judged it not amiss to illustrate that reduction by my describing thereof here, the which being divers, according as the precipitation is made by such or such a means, doth also require different operations.

X. The reduction of the solar CALX precipitated by the Liquor of Flints.

Albeit that Borax reduceth every CALX of SOL to its former body, if it be therewith mixed and melted in a Crucible, yet that would prove too dear, if somewhat a greater quantity thereof be required for the reduction; for there must be of it at least twice or thrice as much in weight as is of the Gold, if you would have a due reduction of the Gold made. The reason is this, because the Flints precipitated to the bottom together with the Gold, and so sticking on to the Gold impend its fusion so that it cannot rightly come together into its due body. Hereupon is it necessary that there should be the double or treple weight of Borax added to the Gold if you would have all your Gold return unto its former body without detriment.

But whereas there are also other matters to be found which make the Gold fusible and are not so dear as Borax is, the use of such things is to be admitted, but especially when a great quantity of Gold is to be reduced. Otherwise if it be but little Gold that is reduced, and you have not the aforesaid matters at hand, one may for such a small trial use Borax. But where there is a greater quantity to be reduced the following matter will be found to be far more profitable and beneficial.

XI. How the Gold which is precipitated by the Liquor of Flints, is to be melted without Borax, by the Glass of Lead only, which is of a far meaner price.

Take of your Gold precipitated by the Liquor of Flints and dried, one part, of Glass made of Lead and beaten into powder, three parts; the which mix well with the Gold and put into a Crucible, which said Crucible let be put into another bigger one (for which operation the Hassion pots are most fit) that so if the Gold chance to flow out of the inner pot, it may stay in the outer and be conserved. For the Glass of Lead is of such a nature that it usually perforates or runs through the pot. Having thus done put your twofold Crucible containing your commixed matters into a wind Furnace, such an one as I have described, and when you have covered it, put Coals under it (or about it) and urge your fire for one quarter of an hour, that all may well flow, then pour it out, and separate the REGULUS of Gold with a stroke or two from the glass of the Lead; which said Glass hath attracted to it self all the flinty

matter, and suffers the pure and malleable Gold to settle to the bottom into a REGULUS.

N. B. If your glass of Lead be still yellow as it was before the operation, 'tis a sign that all the Gold is separated therefrom; but if it be of a green colour ;tis a sure sign that it has as yet some Gold mixed with it. For Gold being mixed with Glass shews its being there by yielding a skie-colour, the which skie-colour is necessarily changed in the yellow glass of Lead into a green; because every yellow and skie-colour do in their commixtion beget a green.

Now then that you may get out the reliques of the Gold out of the leaden Glass you must proceed the following way.

XII. By what means the Glass of Lead which as yet contains in it some reliques of Gold is to be dealt withall, that it may let them go out of its body.

Melt that Glass of Lead in a well covered pot, that I mean in which you suppose some Gold to be, and being well molten cast in a little iron filings, and mix it well by stirring it with an iron rod, and leave it in the fire thus molten, for one quarter of an hour, that the sulphur of the Glass may be killed by its corroding of the iron, and may let fall a leady REGULUS wherein the Gold will be, and which (in the first melting) the Glass held up, will separate it by the Cupel, from the Lead.

N.B. But here you are to observe that the filings of the iron are to be used sparingly to this precipitation; for by how much the more iron is added, so much the greater will the REGULUS of the lead be, and consequently require a greater Cupel, which is not so necessary.

For put case the Glass of Lead in which the Gold is suspected to be is about one pound weight; and there is but about a QUINTA or certain small weight of Gold; now it is not necessary to have any more than one Lot of Lead or thereabouts, precipitated thereout of into a REGULUS, to which precipitation is required no more than one Lot of the filings of Iron. For the REGULUS of Lead precipitated out of the Glass, doth for the most part answer in weight, to the weight of the Iron filings used about the precipitation, or to speak more clearly, you will get so much leaden REGULUS, as the Iron is you added.

The remaining Glass becomes black and is unprofitable for any farther melting with Gold, but yet needs not be cast away, because those SCORIA'S do yet contain much Lead, and therefore serve to be mixt with

such Pots as you have used and broken about Metals, or with other wild and hardly fusile metallick Veins, to render them fusible, being I say commixt with these, and put in the Furnace which the GERMANS call STICHOFEN, do not only yield forth all their Lead, but withall draw out the Metals out of those matters which were mixed with them in the melting. But they are principally profitable for the melting and reducing of those Metals, which do not only very difficulty admit of fusion by themselves, but withall do, being mixed with the Ashes of Tin, so much the more difficulty suffer themselves to be reduced by melting, unto their former bodies. But in defect of such Metals and Minerals, as are not but with much adoe tamed by Liquefaction, you may put to that black Glass of Lead, one fourth part only of filings, or SCORIA'S of Iron made into powder, that so both the matters thus commixt may be molten in the Furnace STICHOFEN. So by the addition and help of the Iron, all the Lead will be reduced to its former body, and will withall extract out of the Iron whatsoever of Gold and Silver lay therein hidden; so that by this means there may be reaped a great benefit from this reduction of the Glass of Lead. But yet that Lead is to be tried by a foregoing tryal, whether or no it be rich enough in Gold and Silver to quit the costs of separation? For if it be not, it must be used to the afore described incineration, that so there may be no loss either of the Gold or the Lead.

XIII. The preparation of the Glass of Lead, for the reducing such Gold as being precipitated by the Liquor of Flints, is of difficult fusion.

Take of white and fusile Flints (or Pebbles) one part, and of MINIUM, or any other Ashes of Lead, or else even of Litharge it self four parts, each of which being powdered apart, you are to commix and melt them well in a strong double Pot, then pour them out, and you will have a Hyacinth-coloured Glass, the which Glass is to be powdered and mixt with the Gold, and it makes the Gold Powder which resisteth melting fusible.

XIV. Another way of reducing Gold precipitated by the Liquor of Flints.

To one part of this hardly-melting Gold which is precipitated by the Liquor of Flints, admix two or three parts of Litharge, which matters put in a strong double Pot, and cover it well, and melt them

well down in a Wind-Furnace, that the Litharge may draw unto it self all the Flints, and all the Gold may separate. Having separated the REGULUS from the SCORIA'S of the Lead, you must precipitate these SCORIA'S, which do as yet hold in them some small portion of Gold into a small leaden REGULUS, with the filings of Iron, as we shewed you but now, that so you may also have even that residue of Gold. The SCORIA are conserved by being reduced in the Furnace STICHOFEN, according to the operation already spoken of.

XV. Another way of rendering the Gold precipitated by the Liquor of Flints fusible.

Take of the said Gold one part, and the fixt Salt made of Salt Peter and Tartar, by combustion or calcination, three parts; commix them and melt them down in a crucible well covered. In this comelting the Salt swallows up the Flints, and the Gold being at liberty settles to the bottom. Pour out the molten mass, and separate the REGULUS of the Gold from the Salt, the which being dissolved with common water gives you your Liquor of Flints, to be again used to precipitate more extracted Gold.

This Salt doth not so easily perforate the Crucibles as those Glasses of Lead do, and therefore is it to be accounted of as the best and easiest of all these three prescribed ways.

XVI. The way of reducing Gold, precipitated by the Spirit of Urine.

The Spirit of Urine or of SAL ARMONIACK doth perfectly precipitate all the Gold out of the AQUA REGIS; the which being washed and dried, doth not admit of reduction after the manner of the other Gold, for if it be but only heated a little before it becomes red hot, it presently takes fire, and fulminates with a far more dreadfull noise than any Gun-powder. For if you put a small portion of the same, and no bigger than a Pea in a Silver, Iron, or Copper Spoon, and put it on the Coals that it may wax hot, it will give such a horrible crack, that 'twill even dull the hearing, and make a dent in the Spoon as if it had been beaten in with a Hammer. From whence it may easily be conjectured, that if somewhat a bigger quantity be put in a Pot on the Fire, it would make Pot and Furnace flie, by its so dreadfull thundring a stroak into most small shivers.

So then there is need of great wariness, to prevent the happening of so great danger, which is easily prevented by the following manner of operating.

XVII. By what means the fulminating force of Gold precipitated by a LIXIVIUM, or spirit of Urine is to be taken away.

Mix with this Gold precipitated by a LIXIVIUM, or by the spirit of Urine, half a part of Sulphur reduced into Powder, and let the said Sulphur be removed therefrom by burning amidst live Coals; for so being despoiled of that fulminating force, it may without danger be reduced by any kind of such matters as promote fusibility.

XVIII. By what means Gold that is despoiled of its fulminating force, by means of Sulphur may be reduced.

Forasmuch as this Gold is void of all impurity, there needs (not) the addition of such matters as promote fusion, seeing it is of it self prone enough to melt. But yet least some grains of the Gold should stick on to the Pot, 'tis expedient to add some portion at least of such a kind of matter as accelerates or hasteneth fusion. And for this work, Borax, and the dry Liquor of Flints are excellent, of which if you add but one half part only to such Gold, (or, if you take of the Flints prepared with Salt of Tartar) it will by that means presently melt, and the Borax, or Liquor of Flints will not retain the least doitt of the Gold.

XIX. The manner of reducing the Metals that are not gotten out of the Waters by precipitation, but are freed from them by abstracting them.

The Metals which are extracted out of the Mines, and freed from the waters by the abstracting of the dissolvent, cannot be so pure as those are which settle to the bottom by precipitation. For it is very rare for Gold and Silver to be found in metalline Veins, Stones, or Clay, without being commixed with other Metals; because for the most part, Copper is mixt with Silver, and Copper or Iron with Gold, the which being unseparated in the reduction makes the Gold and Silver impure. But now in the precipitation one Metal is freed after another from the MENSTRUUM, and are not mixed with each other. But on the contrary, in

the way of abstracting it, all the metals remain mixt together without any separation, and require a new separation and consequently a double labour, and more expences.

This inconveniency may be easily remedied by him who is versed in the knowledge of my dry separation of Metals. I have mentioned it in divers places of my writings, so that it would be needless to trouble the Reader with a superfluous rehearsal of the same in this place.

But forasmuch as every one hath not by him all my writings, I believed that it would be worth while, if I should here set down that Layer or Bath which washeth off the Metals with the help of Salt peter by the dry way. For, without the knowledge of this Artifice of separating the extracted Metals from each other, there would be yet requisite much labour, and much costs for the obtaining of the said Metals. But they are very easily, and with little labour, and with small costs separated the one from the other by the way here by us described, and indeed with more gain than is wont to be had by the way of precipitation.

And even as in the precipitation of Metals there is always some (portion) of the Waters, that puts on the nature of Salt Peter, viz. when the Waters that have been used, which are as it were the Seeds of Salt Peter, are implanted in an Alkalisate Salt, and so do multiply themselves in a wonderfull manner.

So likewise in the dry separation of Metals, there is in a manner, yet more Salt Peter gotten, viz. thus when they are separated in the melting Pots, from each other by Salt Peter, and by an artificial precipitation of one Metal after another, the Salt Peter you used is rendred fixt and Alkalized, which Alkalized niter is to be accounted of, as the root of Salt Peter. This root being implanted in acid Salts, is in like manner enriched with a plenteous encrease, and reduced into natural and inflamable Salt Peter; for, by it do the sharp Waters get to themselves the nature of Salt Peter, from those Alkalizate Salts. And if so be you seek not after the common Salt Peter, it is better to sow the Seed of Salt Peter (that is, some spirit of niter which you have used) into the appropriate root of Salt Peter, that is, into fixt niter. For by that means you will have (at the encrease) a wonderfull Salt Peter, which, in all operations, doth far more powerfully act than the common Salt Peter, what way soever it be mundified by; which is evidenced in my foregoing first Century.

Therefore forasmuch as in the separation of Metals by the dry way,

there remains (after the operation is over) so much fixt Salt Peter as there was of nitrous Water in the moist extraction, it always abundantly supplies both Seed and Root of Salt Peter, so that they may be exceeding plentifully multiplied by other Salts, nor will you have any need of buying any more new Salt Peter, for the now spoken of Labour. Verily this is a most compendious way, not only of separating all Metals even in fusion, but also of somewhat bettering them, as shall be afterwards demonstrated.

XX. By what means such Gold as is commixt with Iron or Copper, and from which (being extracted out of the Minerals) the dissolvent has been drawn off, is to be reduced.

Let such unclean Gold be commixed with two or three parts of its weight of the Glass of Lead, and melt them in a strong Crucible. If there happen to be much Iron, it will of its own accord yield a leaden REGULUS, which being forced by the heat of the Fire in a Cupel will leave your Gold pure, because the Glass of Lead is wont to attract unto it self Iron and Copper. But if so be there is but little Iron mixed with your Gold the REGULUS of Lead will not separate or precipitate in the melting, and therefore as it melts some filings of Iron are to be added, and to be accurately stirred with a red hot Iron, that so a REGULUS of Lead may fall to the bottom, bigger or lesser according to the muchness or littleness of the Iron you added.

XXI. Another proper and fitting matter to reduce such Gold as hath Iron in it.

Take of Salt Peter one part, and of Antimony four parts, reduce them into a black Glass, by melting them. This Glass being powdered and commixt with a wild or raw and not fusile Gold and so molten, precipitates the REGULUS of the Gold to the bottom, and brings the Iron into SCORIA'S.

XXII. The separation of the Antimony from the Gold.

Such golden REGULUS'S do not admit of separation in the Cupel, like as those do which the Glass of Lead is used to. Therefore Salt Peter is to be used in the melting Pots or Crucibles, to make the separation of

them.

Put the Antimonial REGULUS in a melting Pot, melt it down in a Wind Furnace, and being molten cast in by little and little some dry Salt Peter, that so it may seize upon the REGULUS and transmute it into SCORIA'S. The SCORIA flowing in the Pot like water, are a sign that the Gold is well cleaned, and that all the Antimony is reduced into SCORIA'S. Then pour it forth into a Cone that it may cool, and the pure and malleable Gold will settle into a REGULUS at the bottom. Now all the Salt Peter is rendered fixt in this operation, then if you put your SCORIA'S again in the Crucible, and put into it some Coals and melt your SCORIA down, almost all the Antimony being freed from the Salt Peter will gather into a REGULUS, and will again serve for reducing of more Gold; for it will as readily reduce your extracted Gold unto its former body, as the (aforesaid) Glass it self will. But this labour requires a diligent Operator who knows how to handle it with singular skill, though it be easie, and requireth not any great Artifice, but only an accurate diligence, which use only makes a Man skilled in.

The Salt Peter used about this labour, gets the nature of an Alkali Salt, and being put on the live Coals doth no more burn, but being dissolved in Water yields a sharp LIXIVIUM, very proper for many operations, and serving instead of a Lye made with Wood-ashes. But the chiefest use thereof is this, viz. seeing it is the true root of Salt Peter, it may be added to other Salts, out of which in process of time, it will be notably augmented and produce new burning Salt Peter. He that has a desire gainfully to augment this fixt Salt Peter with common Kitchin Salt, and again to transmute it into inflamable Salt Peter, may accomplish his desire if he makes use of the following operation.

XXIII. The way of making most excellent and inflamable Salt Peter in plenty, and with profit out of common Kitchin Salt and the LIXIVIUM of Salt Peter that has been used.

There is so small a difference betwixt common Kitchin Salt, and Salt Peter, that the Salt may easily be turned into Salt Peter, and that by several operations, as well by the seed of Salt Peter as by sharp spirits, as we have taught above, or even by fixt niter which operation we will here shew.

We will use for an example, the baking of Bread, and the brewing of Ale. If when the Meal is with Water brought into Dough, there be added

unto it but a few grounds of Ale or Leven, the whole mass begins to heave it self up, and becoming thin (or light) is rendred fit to be baked into Bread, the which hath altogether the same property as those few Ale Grounds, or that little Leven had. And so that very self same Dough is likewise fit to make other Meal ferment, even to infinity. The same likewise observable in the brewing of Ale, so that he who hath but once only so much Ale Grounds (or Yest) or leavened Dough as served his turn once, may brew Ale and bake Bread even to infinity. So likewise is the same evidently manifest by the encrease of Vegetables, which may be infinitely multiplied by the Alkalized Salt of the Earth, if you have but once their Seeds and Roots. In like manner may the same propagation be performed by another way, viz. by ingrafting of that which you would propagate into another of the same kind. For example, I have in my Garden excellent Apples, Pears, Cherries, or such like Tree-fruits, and I have a mind to see more of them in my Garden; there fore do I cut off some branch, or perhaps even the Tree it self to the trunk or body, of some wild, or at least not so noble a Fruit-bearing Pear Tree or Apple Tree, and therein, viz. in that branch or stock, do I ingraft according to Art some little boughs or cions of some other Tree that bears excellent Fruit, and which I desire to encrease, the which Tree now doth no more produce the wild and degenerate or bad Fruits, it did according to its kind, but such Fruits as the Tree whence the cion was taken, bears.

By these kind of similitudes may any one that hath understanding easily see, that it is possible by Art, to transmute one nature into another, if, viz. the Seeds and Roots of things are applied to this transmutation. But now if any one should plant a stalk or leaf in the digged earth, and would thereby encrease or propagate it, he will never see any success of his labour; for the stalks and leaves would rot and so no new Herb would again bud out from them as is wont to be out of the Seed and Roots.

Even on this wise is it with Salt Peter, which if it be mixed with common Salt it would not verily produce any encrease, as 'tis wont to do out of its Seed and Root, as we have already laid open. Such likewise is the nature of Metals, touching the propagation and encrease of which their proper seeds and roots are requisite. What I pray are those Tinctures, (one only particle of which and that no bigger than a Pea, being cast on an whole pound of Tin or Lead, transmuted that same Metal into pure good Gold, and changeth and augmenteth it self (as being the

true seed of Metals) a thousand fold, out of so gross and earthly a body into so noble and so golden a nature in so short a space of time, what (I say) are those Tinctures, but the very seeds of Metals, and the very metallick roots. But by what means they are to be obtained, and to be brought under a Man's power, for my part I do not know. But yet I could not but deliver my simple opinion and conceptions concerning this thing, to the studious of Art.

'Tis certain that all Metals have their rise out of one and the same Seed, but that they differ so very much amongst themselves, and that one becomes more ripe than another, is to be imputed to the diversity of accidents. In one and the same Tree are produced Blossoms, and small Fruits of an unpleasant taste; then afterwards bitter and immature ones, and at length ripe and sweet ones, and are not alike either in form, odour, or savour, nor are they of like effects, and yet do they all arise out of one beginning, viz. out of their Seed and Root. So is it even with Metals.

For as touching their Seed I do verily believe, that if from the most soft and as yet most immature Metals, such as ZINK, Lead, Tin, Antimony, Bismuth, Cobolt, & etc. their stinking combustible and superfluous Sulphur, could by some Bath or other be so taken away, as that nothing may remain save only a most pure Mercury, that then I say such a Mercury, or such a Seed of Metals may be easily transmuted by pure Gold, as being the most pure Root of Metals into a true Tincture.

But to turn common Salt into Salt Peter, the operation is thus. Take of one part of black or of any other common Salt, and mix it with two or three parts of CALX VIVE being reduced into Powder by lying in the Air, and lay it in such a place as lies open to the Air and Sunbeams, but yet keeps off the Rain, as we have taught in the Appendix.

Moisten this heap with the abovesaid LIXIVIUM of Salt Peter, and being dried, repeat the moistening and drying so long, until the ferment shall have converted all the common Salt and turned it into inflammable Salt Peter, the which doth either sooner or later happen, according as the operation hath been the more diligently or negligently handled. All being turned into Salt Peter, let an extraction be made with common Water, as the usual custom is, and lay the Reliques in the aforesaid place, and again moisten them with the said LIXIVIUM as afore, or in defect thereof sprinkle them with common Water, still moistening them after each drying, until there be a new encrease of Salt Peter be gotten, the which you are to wash off with common Water. And so this

operation proceeds, or holds on even to infinity.

XXIV. Another far more compendious way of converting common Salt, by the help of fixt Salt Peter into excellent Salt Peter.

Mix some certain weight of common Salt dissolved PER SE in common Water, and as much of fixt Salt Peter likewise dissolved in common Water, mix them in a wooden Vessel; in which Vessel the fixt Salt Peter being as it were a ferment will seize upon the common Salt, and turn it by fermentation into excellent Salt Peter.

He that disires a more mature Salt Peter may instead of the solution of common Salt, pour upon the fixt Salt Peter LIXIVIUM, those sharp waters of Salt Peter, which have already been used about other labours, and they will seize upon that LIXIVIUM with a more vehement operation, so that of both the solutions as well the acid and spiritual, as the fixt and corporeal Peter, there will be gotten in a few hours space, the most excellent Salt Peter and such as cannot be by any other way whatsoever purchased.

N. B. If any one has a mind of getting a greater quantity of Salt Peter, he may first dissolve his common Salt in the sharp Water of Salt Peter, and (mix it) in that self same LIXIVIUM, (viz. of Peter) and after the mixing of these two contrary solutions evaporate the common Water, that the Salt Peter may shoot into Crystals, of which, there will indeed be a greater quantity, but then it will not be so good as that which was made by the first operation.

XXV. Another gainfull way of making good and burning Salt Peter out of common Salt, by the help of fixt Salt Peter.

Commix equal parts of the SCORIA'S of fixt Salt Peter that you have used, and of the common Kitchin Salt together, and add thereunto twice as much CALX-VIVE first reduced into Powder by lying in the Air, (as they both weigh). Of this mixture make up round Balls, and so pile or stow them with Wood, that it may be a STRATUM SUPERSTRATUM, (or a Bed of each orderly) as the Chymists call it. Kindle your pile of Wood and let all your Balls be red hot for an hour: And the fixt Salt Peter will by a wonderfull inversion transmute the nature of the common Salt, and turn it into Salt Peter, but yet not inflamable till the Salts have been moistened some due time, and so attracted a life out of the Air, and

made fit to conceive a flame, or to burn.

N. B. If instead of Rain water you use such Waters as you have already used and extracted your Minerals withall, to moisten your mass with, then will you thence get in some few Weeks space, an inflamable Salt Peter.

But forasmuch as in the extraction of Minerals and separation of Metals, there will be such a great quantity of sharp nitrous Waters, and likewise of fixt Salt Peter offer themselves for the accomplishment of this operation, and so great a benefit and gain is gotten by that so plentiful an augmentation of your Salt Peter (which hath already sufficiently profitably paid your costs) out of vile and common Salt; hence clearly follows, that all those hitherto described labours and operations are effected, in a manner without any costs or expences, which is indeed an unheard of thing, but yet most true, and exceeds the belief of ignorant Men.

XXVI. The reduction of Silver extracted out of the Minerals, and freed from the AQUA FORTIS by abstraction, (or drawing off the said AQUA FORTIS).

The Silver from which AQUA FORTIS has been drawn by Distillation, needs not any matter to help on fusibility, for as much as it doth of its own nature admit of a very easie Flux; but that the Fugitive Spirits that adhere unto it would carry away somewhat of the same. So now, to prevent this discommodity, you may add unto such a Silver a little of the fixt Salt separated out of the LIXIVIUM (of fixt Peter) the which Salt Alkaly will mortifie the acid spirits so, that they shall not be able to carry off any thing at all in the melting.

XXVII. The reduction of extracted Copper.

If the Copper be not mixt with any other Metals, and be but little in quantity, it may be reduced so in Crucibles by it self, but if it be in a plentiful quantity it may be done by blast.

But where it contains Iron or LAPIS CALAMINARIS, (which two the Minerals (of Copper) do frequently abound withall) there it admits not of reduction per se without the help of other matters, because of the Iron, ZINK, or CALAMINARIS; which Minerals associating themselves with the Copper, in the melting are wont to make it brittle. But this

inconveniency may be prevented the following way.

XXVIII. The way of making Copper, which hath Iron in it malleable by reduction.

Mix such Copper as hath in it LAPIS CALAMINARIS or Iron, with common Salt, and put it in a Crucible and melt it, that so the Salt may associate or draw unto it self the Iron or LAPIS CALAMINARIS out of the Copper, and turn them into SCORIA'S, leaving the Copper, which will settle to the bottom and go into a REGULUS.

XXIX. By what means Copper is to be separated from the Silver, if they are both together extracted out of the Mines, and the Silver has not been precipitated out of the solution by the Water of Salt, but the dissolving MENSTRUUM hath been abstracted from them so conjoined both together.

If the Silver be more in quantity than the Copper, then the Copper is easily extracted out of the other by the Water of Salt wherein a little Tartar hath been dissolved. For Salt and Tartar do readily dissolve Copper, and leave the Silver.

But if the Copper bear the Bell, and there be more of that than the Silver, then will it be better to precipitate the Silver first by the Water of Salt, out of the first extraction of the Minerals; and afterwards the Copper will be likewise freed by abstracting the dissolving MENSTRUUM, insomuch that each of these two Metals are gotten apart.

XXX. If the extracted Copper comprehends in it any Gold, by what means the Gold may be therefrom separated.

Albeit if a solution of SATURN or LUNE being poured on the dissolved Copper, and well shook with the same solution will fish out some Gold, yet it gets not all unless it be debilitated by some LIXIVIUM. But now the LIXIVIUM being poured thereunto that so the solvent being debilitated may the easier let go its Gold thereby, hath with it this inconveniency, viz. that the solvent is made wholly unprofitable to be used about any more extractions. Nay more, there's also this discommodity, that if an error be committed by pouring on a

little more LIXIVIUM than is expedient, there will also precipitate some of the Copper together with the Gold.

To prevent therefore these inconveniencies, the solution of the Copper which contains in it Gold, is to be drawn off even unto driness, in my secret and by me invented distilling Vessel, in which Vessel it may easily and in great plenty be done, and the following MENSTRUUM which dissolveth only Copper and not Gold is to be poured upon the dried matter, that the Copper may be dissolved, and the Gold be it either much or little may remain in the bottom undissolved. The dissolved Copper may be precipitated out of the Water with a LIXIVIUM, whereto is added some of the Liquor of Flints, and be washt and dried, and with strong Vinegar be turned into a most delicate Verdigreace. The Water that is thus made use of, if it be poured on Alkalized Salts yields good Salt Peter.

He that does not much regard that green colour may separate the dissolvent from the Copper by Distillation, and again use the same for the like dissolving of new Copper.

But now there must be in the Copper so much Gold as to quit the costs of this labour, and to prove gainfull; otherwise it is better to leave the Gold with the Copper than to buy it at so dear a rate.

XXXI. The making of such a MENSTRUUM as dissolveth the Copper and drives from it self, or precipitates the Gold.

This dissolvent is no other than AQUA FORTIS, wherein a little Tartar is dissolved. For the Tartar being an enemy to the Gold, is wont to precipitate the Gold out of the solutions like as common Salt doth Silver out of AQUA FORTIS. By this way may all the Copper be easily separated from the Gold, concerning which, more shall be spoken in its due place.

XXXII. Another reduction of Copper that hath Gold in it, and the perfect separation of the Copper from the Gold.

Add to such Copper that hath Gold in it, some Silver, and melt it with so much REGULUS of Antimony as is twice the weight of the said Metals thus together taken. Separate the said REGULUS together with the Copper from the Silver by the addition of Salt Peter, that so the Silver may retain with the Gold that was in the Copper, the which is to be afterwards separated if it be worth the while. Now it is not necessary

presently to separate it, for asmuch as it is far better many times to abstract such a Copper that has Gold therein from such a Silver, that so the Silver may be enriched with a great quantity of Gold by so many abstractions; the which abstractions require but very little costs besides the charges of the Fire and Crucibles.

For all the Salt Peter used hereabouts, together with all the Copper and all the REGULUS of Antimony may be thencefrom again recovered, by him who rightly knows the precipitation. Besides, there lies hid under this operation, some great matter as concerning the amending of the Metals. For it is a way of arriving to the knowledge of impregnating all Silver by Copper, with Gold, and Copper it self with Silver; concerning which thing there are more instructions to be found in other parts or places of my Writings.

These things may at present suffice, touching the reduction of the Metals extracted out of the poor Mines, and (concerning those things which by reason of the hasty Edition of the Appendix to the fifth part of the prosperity of GERMANY were omitted therein) the which defects the well minded Reader may from hence supply.

XXXIIII. A brief description of the above mentioned artificial Instrument, by the help whereof the spirits necessary for the extraction of the Metals out of the poor Mines that contain in them Gold, Silver and Copper, are plentifully prepared, the Minerals themselves extracted, and the dissolving MENSTRUUMS, again easily separated from the Metals.

This incomparable and by me newly found out Instrument, being most profitable and commodious for the easie extractions of Metals, and preparations of the dissolving MENSTRUUMS, is made of a peculiar earth, and is almost of the figure or likeness of a Bakers Oven, and is either of a bigger or lesser size, according to the quantity any one has a mind to labour in; In the forepart it hath a Door, and in the end (or top) or very near it, it hath an Outlet. To the Cover serving instead of an Alembick, a great receiving Vessel is to be fitted, fit for the reception of the outgoing spirits. After that the Furnace is heated, the prepared Salts being put in peculiar Pots or Crucibles made of the best earth are to be put with a pair of Tongs prepared for this peculiar use into the Instrument, and all the spirits will be drawn off with a speedy Distillation. Now there is no danger here of breaking the Instruments, and the Distillation may be done in the space of one or two hours, how

great a quantity soever of Salt was used to the Distillation. When the Distillation is over, the Pots that were put into that Instrument or Furnace are to be again taken out with your Tongs, and presently other Pots filled with Salts are to be put in the room of them you took out, and the spirits again driven out by a new Distillation. This labour may be kept on as long as one pleaseth, or as long as he hath any matter to distill withall; because the Vessel never cools as long as the Distillation is continued. This Furnace therefore is most notable fit for the Distillation of a great quantity of Salts, and that by a labour which is so exceeding speedily finished.

The same way of Distillation is to be observed in the extraction of Minerals or Metalline Earths, the which can be far sooner extracted and far speedier this way, than by that described in the Appendix which is to be done by heating the Glasses.

After the same manner is the dissolving MENSTRUUM it self speedily again abstracted from the extracted Metals, and being thereby preserved without any loss is to be applied to farther use. This Instrument therefore doth so compendiously and easily dispatch all those said labours, that (set aside your Fire and Salt) the plentiful making your spirits, the abundant extraction of the Minerals, and the separation of your MENSTRUUM'S from the extracted Metals and its preservation, are in a manner done without any costs.

XXXIV. Now follows an explication of some secrets effected by the help of my SAL MIRABILIS, concerning which there is mention made in the second part of MIRACULUM MUNDI.

It is clearly evident from many places of my Writings, and principally in the second part of MIRACULUM MUNDI that my SAL MIRABILIS is diversly prepared; hence it follows of course, that the use thereof is different. For it hath one use when (after the spirit is thencefrom distilled) it is taken out of the Cucurbit, and hath as yet a corrosive nature. Contrarily, it hath another kind of use when this corrosive Salt is dissolved in common Water, and filtred, and set in the cold, that so the best part thereof may shoot into long Crystals, which having no corrosive power, serve for a peculiar use. It hath likewise another use when it is deprived of all corrosivity and turned into a sweetness, as I have shown in many places of my Writings. This is to be known by such as would use it, for this or that labour, that so they may commit no error,

but be thereby rendered Masters of their desires the more easily.

We will therefore make inspection into some of those principal secrets which are declared in the second part of MIRACULUM MUNDI, and examine whether or no they can be effected after the same manner I prescribed?

XXXV. By what means any Water, Wine, Ale, Vinegar and other liquors may be coagulated in a few hours space into hard pieces like ice, by the SAL MIRABILIS.

For such a coagulation of all watery and moist things, well edulcorated (as the Chymists phrase it) SAL MIRABILIS is to be taken and such as is shot into long Crystals, prepared of an equal weight of Salt and good Oil of Vitriol, because a most great driness ariseth from the Oil of Vitriol.

Such an excellently well prepared SAL MIRABILIS, and which is shot into long Crystals, is to be reduced (by calcination in the Sun) into a fine powder, that so it may lose all its moistness and yet not melt. For if it melts, then it would need grinding again; one part of this calcined SAL MIRABILIS is able to coagulate three parts of Water, Wine, Ale, or any other liquor which it is mixed withall, into a dry matter like to Ice, insomuch that it may be carried in a Sack or a Seive full of holes.

But what use such a coagulation may serve for, would be too tedious to declare in this place. Any one will find what use is to be thereof made, if he well meditates upon the thing.

XXXVI. The separation of the Water, Wine, or Ale, from the SAL MIRABILIS.

The coagulated liquors may be commodiously separated from the SAL MIRABILIS by Distillation; but the aquosity of the coagulated Wine and Ale are to be separated only by Distillation, and the grosser part remains behind in the Cucurbit with the Salt. But the SAL MIRABILIS is by calcination, again freed from all impurity, and again made white and fit for any other such like new effect.

N. B. I doubt not but that there are other ways of coagulating watery liquors into Ice, concerning which we shall say somewhat in their due place.

XXXVII. How the sharp spirits of Salts, or AQUA FORTIS, AQUA REGIS, Spirit of Salt, Spirit of Vitriol, of Allum, and the like may be coagulated into hard Salts, not unlike to frozen Water.

This coagulation of sharp Spirits out of Salts, is done the same way as the coagulation of common Water, and other sweet liquors is performed by; but the separation ought to be done in Vessels of the best Earth, or in Glass, because of their sharpness. And certain it is, that with these coagulated Spirits of Salts many things of great moment may be done, the mentioning whereof we for brevity sake do here pass over.

For I have purposed to demonstrate at this time, some secrets only which are mentioned in the second part of MIRACULUM MUNDI, and to assert the truth of them.

By these two described coagulations any one may easily learn that the coagulation of other moist things are possible to be done.

XXXVIII. How the head of a fountain may be stopped up by this SAL MIRABILIS.

It sometimes happens that there breaks out a Spring of Waters in some places where it proves offensive and hurtfull. And forasmuch as they are sometimes very difficult to be stopt up, I will set down a way in this place of stopping it by SAL MIRABILIS, but chiefly to this end, that the nature and property of things may be thoroughly learned, and besides, that even Arts and Sciences themselves do sometime bring no small help, especially when no counsel avails. Take therefore of your SAL MIRABILIS, heated red hot as much as is sufficient, wrap it up in a linnen cloth and thrust it into the hole of the Fountain, and it will be turned with the Water into an hard Stone, and thereby enforceth the Fountain to seek it self some other passage.

XXXIX. The way of separating the Phlegm from subtile Spirits.

Because the Volatile and sulphureous Spirits of Salts are of great efficacy in Medicine, and principally when their Phlegm or aqueous humidities are removed from them, the which thing every one can't bring to pass. I have therefore judged it worth while, even for the sake of the Sick, to discover an easie way of so doing, by my SAL MIRABILIS as

follows.

Fill a Glass Cucurbit half full with SAL MIRABILIS, pour thereupon the Volatile Spirit of Vitriol, Niter, or common Salt, and distill thence by B. the most subtile Spirit, the which will come off, and leave the unprofitable Phlegm behind with the SAL MIRABILIS, the which (by heating red hot) you may again render fit for new operations.

XL. Another and easier way, yea even almost an incredible and miraculous one of freeing Wine, Ale, Vinegar, Brandy, and all other moist liquors from their unprofitable Phlegm in a moment of time, by my SAL MIRABILIS.

The precedent coagulation of moist liquors ariseth from that most great driness which lies hid in the SAL MIRABILIS. But this way we now deliver, proceedeth from the con-centrated cold of moist Fires, which Fires we have treated of in the first Century, and 'tis thus.

Take one pound of the abovesaid SAL MIRABILIS, put it in a strong Glass, and pour thereupon two parts or pounds of the con-centrated and cold Fire of some Salts, whether it be of Vitriol, or common Salt, or Salt Peter, whose Fire excells the Fires of other Salts; and let them lie quiet for some hours, and there will be made an Icy mass of them both, the which you shall in the Winter time set out in the Snow or in some cold place which by how much the colder so much the better; where the longer it abides in the cold, the more will the cold Fire be con-centrated, and consequently so much the greater matters may by such a con-centrated body be effected.

XLI. The receiving or catching the breath of Men, as they sit in some warm Stove, and the changing it into the form of Ice.

If thou hast a mind to create a kind of admiration amongst thy Guests or Friends when they are with thee, and to give them some profitable recreation, you may accomplish your desire the following way.

Carry with thee a Glass full of the moist Fire of Salt, and which is coagulated by the SAL MIRABILIS, and hath stood some hours in the cold, into the warm Stove, and hang it up over the Table by a thread or small line, when your Guests are set at the Table, and when they ask you what this signifies, you may tell them that you will for their Recreations sake, shew them some pleasant diversion; after they have made an end of eating and drinking. Upon this they will all of them have

a desire to see those tricks and ever now and then cast up their eyes upon the Glass. But after that the Glass has there hanged a minute or half minutes space, the breath of the Men that sit about it will presently apply it self to the Glass, and stick on to the outside thereof like Snow, and cover it all over; and thicken more and more, insomuch that in a short time it will have a thick and hoary beard, all about consisting of natural Ice; and will so long keep on its encreasing as the con-centrated cold lasts in the Glass. Then at length the Glass growing a little hot, after the internal cold of the con-centrated Fire is consumed, that Icy beard begins again to melt and being resolved, to distill into a Water, for the receiving of which distilling drops some Vessel is to be set under. This is a wonderful Distillation of Men's breath, which coming out of their mouths in their discoursing, is reduced by the con-centrated Fire of Salt into Ice, and at length, again into Water by the heat of the Stove.

This so speedy an operation or transmutation of a moist and watery vapour into natural Ice, seems indeed at the outside view to be but a vile and unprofitable thing; but if it be but well minded by the sight of the internal mind, it not only begets a most great admiration, but withall opens the most excellent knowledge of natural things.

Such as greedily hunger after Gold will say, what benefit comes from these tricks? Had Gold but distilled from the Glass we would have saved it, what need we any Water? Or if it had been noble or generous Wine, we could have prized such an ingenious knack, and drunk it off. Take away that filthy Water and bring us the gallant Wine. Such discourse as this, let one of thy Friends purposely utter, being thereto first suborned by thee, that so thou maist the more delight the rest of thy Friends that are ignorant of these things, by thy presently satisfying him that is so desirous of Wine, saying, that if thy Friends and Guests do desire better Wine, thou art ready to draw it them. Upon this, thy Guests will diligently listen and desire to see what better Wine thou wilt draw them out of thy Cellar. The chiefest of these will well know that thou hast not in thy Cellar such variety of Wines.

In the mean while, have ready some small Glasses which contain some Ounces, filled with the concentrated Fires of Salts, and well shut and strings tied ready unto them; now when thou hast a mind to give them a relish of thy Art of bettering Wines, and rendring them more generous, command a Cairn of common Wine to be brought thee, and give it to thy Guests to drink. But now when they shall perceive that it is the same

sort of Wine they had formerly, and that thou hast not given them any better, thou shalt satisfie them by the following way.

XLIII. A momentary operation of rendering any common Wine more generous, and exceedingly bettered by the cold Fires of Salts; and that in the presence of many Men.

Command one of those Glasses prepared for this purpose to be brought unto thee, and let it down by the thread into the Glass full of Wine, which being done, the concentrated cold that lies in thy little Glass, which thou hangest in the greater one of Wine will draw to it self the watery and unprofitable parts of the Wine, and change it into an incipid Ice. And by how much the longer you leave that little Glass in your Wine, so much the more Water will be drawn there out of, and the Wine will be made the more generous thereby. But the sooner you take it out, the less Water will be separated; so that out of one Cann of Wine you may by this means give your Guests several sorts of Wine to drink, or rather may let them better the Wine themselves even according to their pleasure. For by this operation the unprofitable Water being drawn out of the Wine and turned into Ice, is separated and taken away; part therefore of the Water being taken away, the remainder must necessarily be much more efficacious and more sweet than it was afore, when it had Water conjoined as yet with it.

A Master of a Family using this Artifice may make for himself and his Guests, divers Wines though drawn out of one Barrel.

Now such a secret is not only full of Curiosity, but also of profit, and may prove helpfull and do much good several ways. I could if need required declare a thousand conveniencies, and Commodities proceeding therefrom, But because I judge it needless to spend time in declaring them, I will at present mention only some few, remitting the rest to the following Centuries, in which shall be made mention of them according as the (matter and) time requires or permits.

XLIIII. The amending of any midling or smallish Ale in the Winter Season; as well at Home as Abroad.

It sometimes happens that a Master of a Family hath but only one sort of Wine or of Ale in his Cellar, the which he is accustomed to drink, and puts not in his Cellar any better Wine or Ale, either by reason of

poverty, or else because the Cellar lies open to every body, both Men servants and Maid-servants, and they will to the best Tap, and so he fears it will be too chargeable.

But forasmuch as old Men's stomachs, when they sometimes feed on Stock fish dried, or on Marrelmas Beef, or Fish, by reason of its debility through old Age, cannot perform its office of Concoction: The Ale or Wine may be the help of this secret be presently rendered stronger, especially in the Winter Season, in which Season a warmer and stronger draught of Ale and Wine is more beneficial than in the former months, and then they can better brook the want of the same. But some may object and say, where shall I get such a concentrated cold as may enable me to extract the Water out of the Wine? Hereunto I answer that there will be many that will prepare it for time to come and will spare it to others; and yet no body needs so great a quantity thereof neither. If a Master of a Family hath but one only half pound of the same, he may use it his whole life time, if he but keep it so as that the Glass break not and spill it. For when he hath taken away the Water of one or two Pots of Ale or Wine, let him remove the Ice from the Glass, and set again in the cold till he needs it. For such a cold concentrating Magnet always keeps its virtues, and is never corrupted, but always fit for the effecting of many wonderfull things.

N. B. If you have not those fires of Salts the heavy Oil of Vitriol, Oil of Salt, or AQUA FORTIS may be used hereabout; but yet these Oils do not in any comparision perform what those concentrated Fires of Salts are able to effect. But however they demonstrate the thing it self though they bring no great store of profit, and this any one may easily understand.

For there is a great difference betwixt the watery and not watery Fires of Salts, any common and simply bare Water cannot become so cold as the Water of any Salt, and this Salt-water cannot be so cold as a common Spirit of Salt, nor can this Spirit by any means arrive to that degree of cold as a concentrated Spirit usually attains to. So a skin of Leather is never so cold as Wood, nor Wood as a Stone, nor a Stone as an heavy Metal; the diffecence proceeding from the thickness of the compaction, for verily any thing will concentrate the more cold or heat and fix it with it self, by how much the compacter and thicker body it shall be of. For it is the property of a concentrated cold to kill a thing and to make it hard and stiff. Contrarywise a concentrated heat gives a speedy life, and correction, and emendation, and this experience

it self teacheth.

O happy Man is he that can make a Metalline Salt as compact and thick, and heavy as a Metal, and can by conserving it a due time in the heat of the Fire, that the heat may by little and little and gradually be concentrated and fixed therein, make it fusile. Without doubt such an one would get a Tincture that would cure the most grievous Diseases, and change the imperfect Metals into perfect. For it is the Fire only that begets a maturity to any thing, and by how much the stronger and greater the Fire is so much the speedier and better amending of any thing may be expected.

These things which I have here briefly declared are of greater moment, dignity, and weight than any one can believe; and besides there's no doubt but that there will shortly some step forth, who will without any fear testifie the verity of Art, by changing imperfect Metals and turning them into pure Gold; so common will Alchemy become in this Age, which was neither heard of nor seen before in this World. Nay more, Men will make this Art so familiar unto them that they will not much esteem even of particular Tinctures.

But why God permits such things to be done, is to us wholly unknown, thus much we see only, that doubtless there will follow some great change in the World; happy shall they be who having the fear of God before their eyes, and are of a pure mind, cannot be hurt by the Devil nor Sin his Mother.

XLIV. Wherein this secret is beneficial to those that travel in the Winter Season.

Necessity doth sometimes enforce old Men to undertake a Journey in the Winter, which, if no urgent hast forceth, may be so ordered that at Noon and Night quiet rest may be always taken in, such a place in which is plenty of Meat and Drink.

But if so be that an urgency of occasion requires a going on forward, whether one ride on Horseback, or in a Coach or Wagon, and that either the Snow render the way difficult, or some Wheel of the Wagon be by chance broken, and so the journeying Person hindred from coming to the place aimed at in the appointed time, he is sometimes by this means constrained to turn aside to a poor Peasants lodging, or if his fortune be a little more favourable, he is nessitated to Inn in some poor Village, where he can neither meet with Wine or good Ale; he now that

thus journieth may out of the poor Wine or Ale make himself better Wine or Ale, and the better provide for his health if he hath about him, such a magnet in some small Glass that attracteth Ice to it.

XLV. What profit those that sail in the Sea may have by this secret.

It may so happen that a Man taking Ship with hopes of arriving in a short space of time to the end of his Voyage, though he has some little of good Wine or Ale, may be enforced if the Wind prove contrary to stay longer upon the Sea; his good Wine therefore and his Ale being spent, he may make that small Beer in the Ship which the common Marriners drink of, better, and preserve his own health.

XLVI. How by the help of this secret the unprofitable Phlegm of Brandy made of Corn may be taken away, that so it may become equal to the Spirit that is made of the lees of Wine.

To the effecting of this business there is required a greater Magnet, which may remove that Phlegm then needed to the Wine or Ale, because Brandy is of an hotter nature than Wine or Ale, which do more willingly let go their wateriness than adust Wine is wont to do.

XLVII. By what means the superfluous waterishness is to be taken away from the weaker waterisher Vinegar, that so it may be made stronger.

The waterishness of the weaker or more aqueous sort of Vinegar doth suffer it self to be more easily extracted by the help of that Ice-attracting Magnet, and the rather because it, viz. the Vinegar put on an Icy form much sooner than any other Drinks.

XLVIII. It may be quaeried whether or no this bettering of Wine, Ale, Vinegar, Brandy, and other Drinks, and rendring them stronger and sweeter, may be done in great plenty, or whether it is to be accounted of as a curiosity only?

For answer, verily it is a most excellent secret most aptly satisfying the curious inquiry of mortal Men, which the World as yet never knew, and yet it can effect such unheard of things, which it is not necessary that they should be divulged.

As touching the plentiful separation of Water from Wine, Ale, or other Drinks (in great quantity) the same may be done and that with profit, and in some places bring no small gain to him who knows how rightly and artificially to accomplish the same. I have done enough as to my affairs in laying it open; we must not boil meat for the slothfull and thrust it into their mouths. Let them get it themselves if they will, and rightly take care of their own matters.

XLIX. Whether or no likewise a great quantity of cold Fires out of Salts may be easily prepared.

For answer, yes, so great a quantity of them may be prepared as a Man would wish for, or as his necessity shall enforce him to desire. But because such cold Fires of Salts are the effecters of admirable and incredible things which the World never knew of, therefore the copious preparing and getting of them deserves to be concealed. Let therefore every one be content with those things which I have published in the first Century; haply in process of time more may follow.

L. How my SAL MIRABILIS can free watery Oils of their superfluous humidity.

Mix one pound of this my SAL MIRABILIS reduced by warmth into a fine Powder, with ten or twenty pounds of good Oil Olive, or new Linseed Oil; the SAL MIRABILIS is to be commixt warm with the Oil, and being well stirred about with it, draws to it self all the Water, and settles to the bottom of the Vessel, from which the clear Oil is to be separated by pouring it off; and all the Water and impurity of the Oil is to be severed from the SAL MIRABILIS, that so it may be recovered and be again profitable for such like operations.

LI. The way of taking off the mustiness or stink from a Vessel corrupted or grown musty by lying, that it may be again fit to put more Wine into.

Smear over the inside hollowness of such a Vessel with the concentrated moist Fire of Salt, that it may be every where wetted, and sprinkle thereupon so much of the SAL MIRABILIS as will stick thereunto. For so that cold Fire of concentrated Salt, with the attracted SAL MIRABILIS will become hard and not run, and stick on to the Vessel; and

that said Fire will in a few days space burn up all the mouldiness and stinch, just as if the common Fire of Wood had been used thereabouts. The Vessel being washed with boiling Water is again rendred fit and convenient to put Wine into.

This operation is not here taught for some stinking Vessels sake that is not worth the while, but to this end, that other secrets of greater moment, and which are profitable, may be learned thereby and known. For under these operations lie hidden many wonderfull things, and such as the greatest part of the Readers will not consider. But to what end is it to light up a Torch before such Men, that are left by God in blindness and darkness, and hath not vouchsafed to bestow on them any Eyes.

LII. The manner of preserving all kinds of Fruits, Eggs, Onions, and other moist Fruits of the ground a long time from corrupting.

The sweet or dulcified SAL MIRABILIS is to be well dried by the help of the Fire, and being put in some Vessel with Fruits, Eggs or such like, with a thick and close laying (or bed of one upon the other) doth by its driness so preserve all things, and by its attracting virtue of all corrupting humidity, that for a long time they feel not the least corruption.

LIII. Question. Why doth the SAL MIRABILIS, which Corn has been macerated withall afore its sowing, and some whereof is mixed with the Earth, (or sown) attract the Rain, coagulate it, and hold it with it self longer than other Salts?

For answer, this is to be imputed to its most great driness which it abounds withall.

LIV. The preparation of the SAL MIRABILIS, so as that it may become an universal Medicine for all Vegetables.

The SAL MIRABILIS as it is of it self, is by reason of its corroding virtues which it as yet retains plainly unfit for the multiplication of the Vegetables, for that being so used would prove more hurtfull than profitable. Upon this account it is necessary that to one part of it be added two parts by weight, of the best CALX-VIVE, which being moistened

with Water and made up into Balls, are to be well heated red hot for an hour, that so all the corrosivity being introverted the SAL MIRABILIS may be Alkalized, and used to the VEGETABLES for an universal Medicine; for it conserves its attracting force, and loseth it not in the heating red hot.

LV. Whats the reason that Wood lying in the Water wherein SAL MIRABILIS is dissolved, is turned into a hard Stone?

For answer, this operation is to be ascribed to the incredible astringent property and nature, that the SAL MIRABILIS is endued withall.

LVI. To reduce an half dead Tree to life again by the help of SAL MIRABILIS, that it may revive and begin again to sprout out.

Mix with the digged up Earth, with which the Roots of the Trees are covered, one, two, three or more pounds of the SAL MIRABILIS, according to the bigness or littleness of the Tree, and again, cover over the Roots with the same, and pour upon the Earth it self, some Rain water, that being thereby moistened, the Roots may the better partake of the Salt that is mixed with it.

By this means, the Tree will attract to it self the Medicine or good nutriment out of the Salt, and will be cherished and refreshed just as a piece of bread or other food being given to an hunger-starved Man restores him his strength again.

LVIII. How by the help of SAL MIRABILIS most hard and insoluble subjects may be very easily dissolved.

Let the nature and property of a Char-coal of Wood be considered, the which is such, as that if it be kept in the greatest Fire for many years, and all external air kept out from it; it will neither ever melt, nor ever lose ought of its body, but will come out again in the very same form as it had at your putting it into the Fire.

So likewise a Wood coal is able to endure an hundred, yea a thousand years in the Earth, Water, or even the most sharp corrosive Waters unhurt. This so most sharp a tryal, neither Gold nor Silver though they be the purest and most constant are able to undergo. And although a Coal

be thus durable, yet nevertheless will I dissolve it in half an hours space and convert it into a red fusile Salt, which is dissolvable with Water, and yields a wonderfull liquor which is the effecter of incredible operations both in Medicine and in Alchemy.

LIX. What SAL MIRABILIS is to be used to dissolve the Coles.

The SAL MIRABILIS is diversly prepared, as appears in the second part of MIRCULAM MUNDI; but what way soever it be prepared by, it may be commodiously applied to the solution of Char-coals, nor needeth it any further preparation, but even just as it is taken out of the Cucurbit and is as yet corrosive is to be used to dissolve all things.

LX. The manner of reducing any Char-coal in half an hours space to its first matter, that is, into a sulphureous Salt, by the SAL MIRABILIS.

Melt two or three ounces of SAL MIRABILIS in some Pot or Crucible, and throw in a piece of Wood coal or Char-coal, and cover the Pot with its Cover, and let it flow for one half hour, that so the Salt may dissolve as much of that Coal as it can, and may leave the rest of it which it cannot dissolve, undissolved. Then pour out your matter and you shall find a red Stone of Salt, which being tasted upon the Tongue burns it like a Fire, as all Alkaly Salts do. For the corrosive force is inverted by the Vegetable Sulphur, and changed into an Alkaly.

This red Carbuncle being dissolved in Water yields a green Solution; which being filtred, and let stand still for some hours, appears of a white colour, and being let alone quiet longer, acquireth a yellow colour. One drop thereof gilds over an imperial as Sulphur does, if it be therein put. For the Char-coal is no other thing but a Sulphur of the same nature as the Mineral Sulphur is of, and penetrating all the Metals, suffers it self to be fixed with them, and doth after another manner perform all those things that the Mineral Sulphur is wont to do. The very well skilled SENDIVOW. in his Dialogue concerning the Sulphur of the Wise Men, saith he is strongly guarded, and sits Captive in a dark Prison, and is not easily freed; but Salt gives him a deadly wound.

A Sulphur therefore sits in this black Coal in a dark and obscure Prison, shut up with strong Bands, and is a Captive, nor can any one free him from those Bands but only Salt. But being once released out of Prison, he is wont to come in view, and not before.

Thus now have we brought forth Sulphur out of his obscure Body. And now will we also bring him forth to publick view.

LXI. How the Vegetable Sulphur is to be made visible.

If you pour into the white Solution of the Coals some Acidity, as Vinegar, Spirit of Salt, of Vitriol, or some AQUA FORTIS, and that leisurely and by little and little as much as is requisite for the killing of the SAL ALKALY; the Sulphur will settle to the bottom like a white Powder, which being separated from the Salts, and washt with fair Water, and dried, will burn and exactly answer to the virtues of the Mineral Sulphur.

LXII. Another way demonstrating that a Mineral Sulphur lies hidden in all Vegetables.

Put this green or white juice of the Wood or Coals expressed or squeezed out by the Salt, in a Glass Cucurbit upon some SAL ARMONIACK powdered, put on an Alembick and draw off all the moisture by Distillation, in which Distillation the spirit of the SAL ARMONIACK will bring over the Helm, the Vegetable Sulphur of a golden colour. It is a most penetrative Spirit and of wonderfull efficacy in Alchemy and Medicine, and this will easily be credited by him who knows its penetrating and graduating virtue and property, in which it excells all other penetrative Spirits, you must keep it very warily because it easily vanisheth.

LXIII. There is yet another way of making the same Sulphur of Coals visible.

When you have poured out our Carbuncle out of your melting Pot, beat it into Powder and mix therewith half its weight of SAL ARMONIACK powdered, draw off by a Glass Retort, both matters exactly commixt by Distillation, that the SAL ARNONIACK may bring over with it that Sulphur. Wash off this red matter drawn out by Sublimation, with common Water, the which being freed from the SAL ARMONIACK, is a Sulphur inclining from its reddishness to a yellow colour, and is altogether like to the Mineral Sulphur.

LXIV. There is likewise another way of extracting the same Sulphur out of Coals.

First of all, melt the Coals by the SAL MIRABILIS in a melting Pot, that the Salt may be accurately Alkalized by the Coals, and burn the Tongue like Fire. Then pour it forth and beat the Coals into Powder, and put them in a Glass, and pour upon them Spirit of Wine freed from all its Phlegm. Then set the Glass in warm Sand and ever and anon take it out and shake it well that the Spirit of Wine may extract the Sulphur, and leave the Salt untouched. Your Spirit being as red as blood, pour it out into another Glass, and again, pour on more Spirit of Wine upon the matter, and repeat the former operation; these pourings on, and catchings off are to be so often repeated, till the Spirit of Wine when poured on will extract no more. put all these red extractions into a Glass Cucurbit, and separate the Spirit of Wine by a B. and it will leave behind in the Cucurbit a sweet Oil of the colour of blood; a Medicine of so great moment in all Chronical Diseases, as that none is to be preferred afore it. For this Sulphur is far better than the Mineral Sulphur, which for the most part is mixt with some Arsenical property, whereas this is extracted out of the Coals of Wood, and is therefore far purer and necessarily more conducive to health.

And as touching the whole operation of this precious balsamical Sulphur, which is but little inferiour to potable gold, the chief knack of duely making it consisteth in this, viz. that the SAL MIRABILIS be well and accurately Alkalized by the Coals. For if not, the Spirit of Wine would dissolve the SAL MIRABILIS, and would not extract the Sulphur, nor would it answer thy wishes, if it be not deprived or dispoiled of all its humidity.

He that shall be well skilled in the due handling of this Operation, will obtain a most excellent Medicine not much inferiour to potable Gold, of a sweet and pleasant Taste, and of an admirably gratefull Odour and Colour. By such a means as this, is extracted out of a dead Herb, or dead Wood, its greenness in the first Solution made by Water; and after the Extraction with Spirit of Wine, the most delicate red Colour thereof, with a most sweet vegetable Odour; all which lay hidden in the black Coal, and are again brought forth to light.

The use of this most delicate Oil of Sulphur is not small both as to the metalline Operations and other Arts; and this so speedy a putrefaction and revivification of the dead Vegetables into a living

medicine carries in its Intrails a great mystery.

LXV. It may be demanded, whether or no the Coles themselves are to be only made use of for this revivification of the dead Vegetables, and not the green or dry Wood they are made of, and the Herbs too, may also be thus dealt with.

For answer, even the Herb it self, or the unburnt Wood it self may be changed in a Crucible into a red Stone by the SAL MIRABILIS. For the operation tends to the same end be it Herb or Wood, green or dry, or made into a Cole.

LXVI. It may be queried, what Wood or what Herb being changed after that same manner by the SAL MIRABILIS, yields the most excellent Medicine.

For answer, the Woods that are weighiest do excell all others, for they are riper and have in them a better Sulphur, than those Woods or those Herbs have which are lighter, and grow up in half a years time, the older the Trees are, the more fit for medicine they are; such as are the Roots of Vines, Juniper, Box, Beech, Oak, Cedar, and such like.

LXVII. A Demonstration, that out of dead Herbs and such as are again restored to life, may new Herbs be produced without the addition of the Seed of other Herbs.

Fill some Pots with some Fertile Earth or Clay, void of all Herbs or Seeds, and moisten it with the green or white Juice of the Coals, If now you expose these to the Sun and Rain, there will spring up thencefrom divers new and unknown Herbs.

LXVIII. How by the help of SAL MIRABILIS, Metals are to be dissolved by the dry way, and to be converted into most excellent Medicaments, and first of Gold.

When you would make your trial of Gold take a piece of golden Money, and bow it, and add thereunto so much SAL MIRABILIS as may be 5, 6 or 8 times the weight of the Gold. Melt it in a Wind Furnance, and pour it out into a Vessel fit for to receive molten Metals; and you shall find your Salt to be of purple Colour. If all the Gold should not be

dissolved but some part thereof should settle to the bottom, separate that REGULUS from the purple Salt, and dissolve your remaining Gold in a Crucible with new SAL MIRABILIS, that so all the Gold being dissolved may colour the Salt with a purple Colour. With this purple Salt may be performed many very profitable things, which appertain not to this place. 'Mongst which those are chiefest which respect the emendation or bettering of Metals, concerning which, I will here add only one Operation.

LXIX. The graduating of any Iron into Gold by this purple Salt.

For the due performing of this, you are to have stone-like melting Pots, and the best that can be, such as by no means may drink in the Salt, or let it run through, for that the Solution of the Gold with the Salt is otherwise wont to hide it self in such Pots as are not strong enough.

If thou canst not get such, 'tis better for thee to abstain from this labour, than to lose thy Gold, unless haply thou hast a mind to try the possibility of the same.

If therefore thou desirest to encrease the QUINTA, (or small weight) of thy Gold which thou hast added to thy Salt, with some Augmentation; put two or three QUINTA'S of Iron bits or pieces into a good Crucible, and having put thereto your purple Salt, melt it very accurately for one half hour, in which time, the Gold will precipitate it self out of the Salt into the Iron, and graduate some of it by turning it into Gold. For whilst the purple Salt doth eat upon the Iron and consume it, it doth together therewithall make some of it participant of a golden Nature by graduation.

I do not insert this Operation here, to the end that by the help thereof a Man should think of getting Masses of Gold, no; for the sole end of my proposing it was this, that I might confirm the possibility of the thing by ocular Demonstration.

Now as here the Iron is graduated by the help of the Gold or golden Ferment, into Gold; so likewise may Copper be graduated and exalted into pure Silver; by the application of a silvery Ferment, as followeth.

LXX. The manner of exalting Copper into Silver.

Dissolve Silver in a Crucible by the SAL MIRABILIS, made of Salt Peter

and Oil of Vitriol; in which Solution you shall get a green Salt, fit for the graduating of Copper into Silver, after the same manner as we taught but now of the Gold.

And albeit the Silver augmentation be not so great, yet the possibility of the Art is thence apparent and demonstrateth, that one Metal admits of being converted into another. But yet he that has good skill in handling this labour, will, if he be fraught with good and apt Crucibles, which can hold the SAL MIRABILIS and not swallow it up, receive no small benefit by this same Operation. The SCORIA which are remaining in this, and the precedent Operation are not to be thrown away, but to be mixed with Litharge, that so being reduced by blast, they may graduate the Lead, and enrich it with no contemptible Portion of Gold and Silver. For great are the Virtues of this Salt in graduations, which the Ancient Philosophers have openly enough hinted at, saying that their Salt augments the redness of the Gold and whiteness of the Silver, and that this is a thing most true, he who shall in a due manner perform the Operation will learn that so it is, by his own Experience.

But least an Errour should be committed and some of your Gold and Silver lost, it is better that a Man exercise himself in making his Experiments in the lesser Metals; and omit the dealing with Gold and Silver so long till these lesser Metals make him a sufficinetly experienced Master for the dealing with the greater.

LXXI. How Iron may be exalted into Copper in the melting by the help of SAL MIRABILIS.

Dissolve one or two whole Lots of Copper in melting it by SAL MIRABILIS, which Solution will yield thee s Salt enclining from a green, to a black colour.

Into the same Pot which contains your Copper dissolved by the SAL MIRABILIS, put three or four Lots of bits of Iron, and adjoin them to the Copper dissolved in the SAL MIRABILIS, and force it with the Fire, so that they may be kept in flux together for one half hours space. By this means the dissolved Copper will adhere to the Iron by precipitation and exalt some particles of the Iron into Copper. All being well molten, pour it out into your Cone that the Copper may settle in a REGULUS. The SAL MIRABILIS and Iron being turned into a SCORIA, are usefull for the inriching of Litharge, in the strong melting by blast, with Gold and

Silver.

N. B. If the Mercury of Saturn be mixed with these, or else with those other SCORIA'S which were left by the Gold and Silver and are far better, and so be melted together with a strong Fire, the Lead will be bettered and that by an encrease not to be contemned, and will abundantly pay for the labour and costs. But yet I would not put any one upon the undertaking of this work; except he be well versed with meltings in Crucibles and without them, by the Bellows upon Hearths. For I write not these things for young Beginners, but only for such who well know what belongs to the Art of Melting.

But yet that he may have some manuduction into these labours, I will declare the general use of the SAL MIRABILIS in the emendation of Metals.

LXXII. The universal use of SAL MIRABILIS in the emendation of Metals.

Though the wonderfull Salt of Art dissolveth all Metals, and conjoineth them in a spiritual manner as it were, and renders them efficacious to better each the other in the Fire, yet is there a difference to be observed in that thing, by him who desires to follow the nearest way, and to decline all diversions, or goings about, For example.

He that has a mind to dissolve and conjoin the Metals, Gold, Silver, Lead, Copper, Tin and Iron, by the SAL MIRABILIS, that they may display their virtues in operating to the perfection of each other must take for the Gold, Iron Copper, and Tin, such a SAL MIRABILIS as being prepared of common Salt doth easily dissolve those Metals. But now the same Salt used about Silver and Lead, would effect nothing as to their Solution, because there is no familairity or friendship between common Salt, and Lune, and Lead, for it is an enemy to those Metals, kills them, and reduceth them to nothing.

N. B. But when those Metals are by the help of Salt reduced into their Mercuries, then may it come so to pass, as that they may be conjoined with Gold, Iron, Copper, and Tin; for without a foregoing preparation, they enter not into the Salt, unless the LUNE and SATURN be dissolved in that SAL MIRABILIS which is prepared of Niter, and be adjoined to the Solution of MARS and VENUS; of which Solutions the one doth very willingly embrace the other, insomuch that one Metal doth easily operate upon the other, and consequently a profitable graduation, fixation, and

emendation succeeds.

But now if you would have your Metals, not constant in the Fire, but volatile and made flying, then, that SAL MIRABILIS is to be used, which is made of Salt Peter or Kitchin Salt, by the help of Sulphur.

This is the universal use of SAL MIRABILIS, serving for the Solution, Graduation, Fixation, and contraiwise Volatilisation, or the conversion of all Metals into a volatile nature. But the special Solutions, Fixations, or Graduations of them by the Salt of Art, require an addition of some Vegetable Sulphur, which being adjoined to the Metal, yields some help to the SAL ARTIS in the Graduation of a baser Metal, which help the conjunctions of Metals that be of a sulphureous nature, do not at all need; though indeed 'tis better if you help them with some Vegetable Sulphur. For Sulphur and SAL ARTIS are like Male and Female, they bear a mutual love to each other, and beget a rich Off-spring; when they lovingly court each other in the Fire, even alone and without the addition of any Metal, and are brought unto perfection. So then, thus by these operations may gain and profit be divers ways, and in divers manners gotten, as well particularly, as haply also universally, (but this last way I am not as yet acquainted with).

All these things do sufficiently, yea abundantly shew one the way of arriving by the help of the Salt of Art, to the attainment of such things as are of some moment. Enough to the wise.

Although that the Metals do admit of a most easie Solution by the SAL MIRABILIS in the dry way, yet notwithstanding, that Solution may yet more commodiously be perfected the following way, viz. thus, when the Metals are put into the Cucurbit or Retort, in the distilling off the Spirit. For whilst the Spirit is driven off, out of those distilling Vessels, the Metal is dissolved during the Distillation, and remains in the bottom with the SAL MIRABILIS. But whatever of the Metal remains undissolved, is to be removed; but the golden Lunar, Venerial Salt, & etc. is to be kept for such uses as it is necessary for.

N.B. If so be any be minded to pour on again that distilled Spirit, upon the Metalline Salt abiding in the bottom he may so do, and 'tis profitable; because that Metalline Salt is by this means rendred far more commodious and apter for Transmutation.

But that none may err from the right way, it is necessary that we first shew how the Metals (out of which being bettered, Gold and Silver are to be extracted) are to be afore prepared, that so they may admit of being the more easily exalted and amended. For all things are to be done

by the prescribed method, and to be managed by (promoting them to) their appointed limit and scope, if any profit is thence sought.

LUNE and SATURN do not by any commixion associate themselves to the Metalline Salt, unless these same metals be first reduced into their Mercuries, concerning which thing we have treated at large in the third and fourth part of the prosperity of GERMANY.

LXXIII. By what means the imperfect Metals may (by the SAL MIRABILIS) be turned into perfect ones.

Take of SAL MIRABILIS four ounces, the filings of VENUS half an ounce. Put this matter in a strong double, and well covered Hassiack Pot, set it in a wind Furnace, melt it strongly for half an hour, that the SAL MIRABILIS may rightly dissolve the Copper and make it spiritual. To this Copper thus made spiritual, add half a part in weight of the Mercury of Saturn, and melt together both metals by a repeated melting, for an half or even an whole hour. In this conjunction and operation, the spiritual Copper will get to the Saturn by graduation, no small bettering and fixation. For by how much the longer they are kept in flux, so much the greater amendment doth Saturn purchase. But yet no REGULUS can thus per se settle to the bottom, unless some Iron be added in the melting, concerning which, no certain weight can be prescribed. For when some small bits only thereof, or some little particles are put in the Crucible, the Salt is mortified by corroding of the Iron, and lets fall the amended Lead which in the Cupel leaves the Gold and Silver.

This way shews you the manner of using the SAL MIRABILIS for the amending of metals.

N. B. Other metals may also be rendered spiritual by the SAL MIRABILIS, by which not only SATURN but likewise LUNA may be graduated, or exalted to a golden degree. But yet SATURN is more commodious and fitter for this operation than LUNA is. For when the MERCURY OF SATURN is graduated and reduced, there needs no other labour than the separating of that REGULUS on the Test, where the Gold and Silver is left behind in the Cupel. But if the LUNAR MERCURY be amended by graduation, and precipitated into a REGULUS, it is first to be separated by Lead in the Cupel, and afterwards the Gold and Silver are to be separated by AQUA FORTIS; so that there is requisite a twofold labour, which in the operation by SATURN is but one; and therefore it is to be preferred as to these operations before LUNE.

N. B. All such subjects as have a graduating virtue, as LAPIS CALAMINARIS, HEMATITUS, SMIRIS, GRANATE, TALK & etc. may be used to these labours. But however Gold is the best of all, which if so be that any one is minded to use, it behoves him to be furnished with such Pots and Crucibles, which do not drink up the Gold, and so rob you of more than the produced gain amounts to.

Thus have we demonstrated the use of the simple SAL MIRABILIS, in bettering of the metals.

If some Sulphur be added to the SAL MIRABILIS, it exalts the metals with a far more profitable graduation, and brings more gain than that single operation, which is instituted by the SAL MIRABILIS simply and alone per se.

LXXIV. The manner of conjoining Gold contrary to its nature, with any burning and Volatile Vegetable Sulphur, and of amending the other Metals, all done by the help of my SAL MIRABILIS.

Every body full well knows that there is no affinity or familiarity betwixt burning Sulphur and Gold, which is a fixt Sulphur; forasmuch as they are exceedingly inimicitious to each other, and yet this enmity may be at length changed into the greatest amity.

For 'tis usual with all such as are wont to separate molten Gold from Silver by precipitation, to use common Sulphur about that precipitation, which by its innate Antipathy thrusts out the Gold from the Silver; the same thing is likewise done in the moist way, when the same Gold is precipitated out of AQUA REGIS or Spirit of Salt, by sulphureous Salts, such as are Crude Tartar, Salt of Tartar, Spirit of Urine, and other Alkali Salts.

These are to shew that Gold hateth and shuns Sulphur worse than anything, as being its Capital Enemy; and yet these most bitter enemies doth the SAL MIRABILIS easily reconcile and convert this so great an enmity into sweet friendship. This operation hiding in its Bowels great Mysteries deservedly, and by all right lies hidden to this ungratefull World, if these Mysteries could be excepted which fell into the hands of mine enemies, in my Laboratory, unwittingly to me, who without any regard had to the Writings given me by way of an Oath under their Hands, do now make merchandise of such secrets, and so basely abuse my good Will. Although the manifold use of this great Treasure hath escaped them, upon this account it hath seemed good unto me to reveal unto the

whole World, those things that fell within their reach, that so it may be known to all, that such great secrets proceeded from me only, and not from others, not from those mine enemies themselves.

Take one QUINTA of small weight of Gold, more or less, reduce it into thin leaves or plates, and bow them in the fashion of a Cilinder, and add thereunto six, eight or ten parts of SAL MIRABILIS, which matters you must melt in a Crucible with an accurate and strong fusion: When they flow, throw in some pieces of Coals into the Salt and Gold as they are melting in the Pot, that the SAL MIRABILIS may dissolve the Gold and Coals in the melting. Which usually is done in half an hour or thereabouts. The matter being poured out will shew you whether or no you have well operated for all the Gold, as likewise the SAL MIRABILIS and Coals will be dissolved and changed into a red Stone, that bites the Tongue as if it were Fire.

This Fire and red Stone, is the golden Carbuncle of the Ancients, for it shines in the dark like a burning Coal, and produceth such wonderfull effects in Medicine and in Alchemy, which we have no mind at present to reveal. For this Gold being thus conjoined contrary to its nature with Sulphur and Salt, is by that means unlockt, opened and prepared; as that it may by an easie business (or labour) be made spiritual, and that divers ways by divers MENSTRUUMS, either Acid or Urinous, and be distilled over the Helms, and the pure separated from the impure.

And albeit that I here make use of no Circumlocution and speak no plainer, yet have I spoken enough to the Wise, and have shewed them such a way to go in, as that whereby they may without labour, as 'twere arrive to the most happy and wished end, unless God for some singular causes prohibit it.

But that I may not altogether shut the door of Art upon the Sons of Art, I will teach them the making of a most excellent Medicine out of this Carbuncle.

LXXV. The way of making a most excellent Medicine out of the Carbuncle of Gold.

This Carbuncle is to be beaten into Powder, and the best Spirit of Wine is to be poured thereupon, which may extract the Tincture. This tinged Liquor is to be poured off into another Glass, and more fresh Spirit is to be again poured upon the matter, that it may again extract

in the heat more Tincture; these Labours you must repeat so often till all the Tincture is extracted, and the Spirit will be no more coloured. The Spirit being drawn off by distillations in a Bath leaves behind a most red Tincture in the bottom, in the form of a Liquor named COS, for here are present, COLOUR, ODOUR, SAVOUR or TASTE; the Colour and Odour from the Gold and Sulphur; the Savour from the Salt. The remainder which is left after the Extraction of the Tincture is not to be thrown away as unprofitable, but to be converted with new SAL MIRABILIS, and Coals made of Vine wood into a red Stone, by fusion, and to be so long extracted till all the Gold be converted with the vegetable Sulphur into a Medicine. For one only labour serves not to extract the whole Gold by the Spirit of Wine; but the oft repeated labours attain to the end proposed.

Thus hast thou friendly Reader a Medicine of great moment and of great efficacy, in which the most pure parts of the Gold and of the Vine are conjoined, nor can they be other than a most profitable Medicament for men and metals.

LXXVI. How by the help of this Medicament, there may be conferred on the Seeds of Vegetables, such an excellent faculty of growth, that they may be as it were seen grow, and may obtain a much nobler Nature, Colours, Savours, and Virtues, than they are wont to get out of the most stinking Dung.

Mix with one part of fat Lome, Clay, or Earth done into Powder, four parts of Sand, that so the fatness of the Earth may be somewhat allayed. With this mixture fill a Pot, such a one as the Gardners are wont to keep their Flowers in; pour thereupon some Rain-water wherein is mixt (or dissolved) a little of that Medicament made of the Carbuncle, and plant or sow in that Earth some of those Herbs which abide unhurt by the Winters cold. Set the Pot with the implanted Herbs to the warm Air, but so, as that no Rain come at it, for the Rain may wash away that medicinal nutriment. When the Earth becomes dry, you must pour on more of the Medicine prepared of the Carbuncle, and that so often as need requires. So will the Herbs begin to grow, which if they meet with no other nutriment besides the Rain-water, they cannot attract any other whereby their faculty of growing may be promoted and increased. And for as much as the Golden medicament was adjoined to the Rainwater, the Herbs must necessarily draw it to themselves together with the Water,

and obtain other properties than if they grew from the stinking Beasts Dung.

N. B. Under your Pot that contains your Herbs is to be put a Dish made of good and firm Earth, or else of some Metal, which may serve to catch the medicinal Water, that flows through the bottom of the upper Pot, or distills thence, and having received it may not drink it up but conserve it. Besides, it would not be amiss if some of that medicinal Water were put in the under Platter, which might always keep the bottom of the upper Pot moist, and so may supply the Herbs with an uncessant nutriment. It would be better also, if the Pot it self were made of some Metal and not of Earth, that so it may not drink in that precious Water, but rather conserve it.

LXXVII. What is to be observed in this Operation, that some good effect may proceed from thence.

In the first place, diligent heed is to be taken, that the Lome or Earth you take, partake not of any salt faculty, nor hath any other corrosive Property, for many such Earths there be which would hinder and spoil the faculty of growing.

Secondly, there must regard be had to the moistening of the Earth, lest the Seed be choked with too much humidity, or in defect of sufficient moisture, dry up and wither.

Thirdly, there must be observed a measure of the Medicament it self, that neither too much, nor too little of the same be commixt with the Rain-water. For an overmuch quantity thereof burns up the Seed, and a more sparing Portion cannot yield nutriment enough to the Herbs.

Farther, some Musk or other things that emit a fragrant Odour may be therewith mixed, which addition is wont to get to the Herbs a most fragrant Odour. If so be a man fears to apply the aforesaid precious Medicament to this Operation, because of the Costs of the same, he may use that Tincture which we taught a little afore, to prepare of Coles only without Gold; and which indeed will perform all those things, (as in reference to the growing faculty) which that Golden medicament is wont to perform; this only excepted, viz. that the Herbs will not partake of that golden Property which they, obtain by the Golden medicament.

The things we have here written and published concerning the promoting the faculty of growth in golden Herbs though they seem not of any great

moment, yet hide they under them mysteries of great moment, the which many Artists will apprehend, and convert unto their Use.

LXXVIII. How any Wood or any Wood-coal may be so prepared by the SAL MIRABILIS, as to be capable of a long while resisting the Fire.

Dissolve some SAL MIRABILIS in common Water, put some Wood or Wood coal therein, let it lye in it for some days, or so long till it be well glutted with the Liquor and become ponderous. Then take it out and dry it very well at the fire, that all the moisture vanishing away may leave the SAL MIRABILIS in the Wood: Then put it in the said Solution yet again, and take it out and again dry it, which labour will render the Wood so much the solider by how much the oftener it shall be repeated. By this means, all the Pores will be filled with the Salt and the Air will be shut out, that it can penetrate it no more; without which Air no Wood can ever take fire and burn. If now you put such Wood or such Coals with other Wood and Coals in the fire, these (un-imbibed Coals, & etc.) will be consumed by the Fire in a short time and be reduced into Ashes, but those others will remain untoucht, and may be taken out unhurt, though indeed even they too will be burnt if they lye over long, in the Fire. This is certain concerning Coals, that those that are made of more weighty Wood, and which abound with a greater Quantity of Salt, such as are the Oak, Beech, Juniper, Vines, and other Trees whose Wood is ponderous dure far longer in the Fire, than those Coals do which are made of Firr, Pine, Alder, Willows, and such like lighter Trees, and which have a lesser Quantity of Salt, and this now I do not mention barely for fashionssake, but to this intent, that occasion may be given from this kind of knowledge of drawing some profitable matter therefrom; as for Example.

LXXIX. How such kind of Woods which are always so near the Fire, as that they are still in danger of being burnt, and thereby threaten damage may be conserved from firing.

Dissolve some SAL MIRABILIS in Water, and with a Pencil smear over such Wood which by reason of its nearness to the Fire is always in danger of being burnt. When the Water is dried up, moisten it again with, the same Water, and repeat this moistening so often, till it hath drunk in a sufficient Quantity of the SAL MIRABILIS, and become able to

resist the heat. By this means might men be often freed of many fears and cares, in ships dawbed with pitch and in other places, where by reason of the too nearness of dry Timber there is danger of firing.

LXXX. How by the help of SAL MIRABILIS any Wood may be conserved so, as for a long time to remain unhurt in the Water.

He that desires to preserve Wood, that it may not be detrimented by the Water nor rot in a long time, may be master of his wishes, the following way. Dry your wood very well, and being dry moisten it with strong Oil of Vitriol very exactly, and being moistened sprinkle it with the SAL MIRABILIS beaten into Powder, that it may stick well on to the Oil of Vitriol, For the Oil of Vitriol doth in its penetrating of the wood carry in the Salt thereinto, and makes in the outside thereof every where about a black Crust, just as if that wood had been burnt by the Fire. Now because Coals resist putrefaction, it must necessarily follow that the wood being in that wise ordered must remain a long time unhurt in the water.

LXXXI. The Preparation of the SAL MIRABILIS for this Work.

There ariseth no small difference amongst the Salts themselves from the different way used in making the SAL MIRABILIS.

If the Oil of Vitriol wherewithal this SAL MIRABILIS is prepared, be not by reason of the superfluous humidity strong enough, any one may easily conjecture that a good SAL MIRABILIS cannot be made thereof, because the Kitchin Salt would receive therefrom but little alteration. To prevent this in convenience therefore, you are to take equal weights of Salt and Oil, that so one may be assured that the common Salt is well inverted, and made a good SAL MIRABILIS.

LXXXII. By what means trial may be made, if the SAL MIRABILIS be duely prepared, and how it may be fitted for this and other Uses.

Its Colour ought to be white and transparent; its figure is in long STRIA'S or Chrystals; its taste is like Ice melted upon the Tongue and yields some bitterishness. Being dryed in the Fire and all the moisture gone off, it will loose three parts of its own Body, and retain a fourth Part only, being dissolved in Water it will recover those three Parts

again.

But on the contrary, if it shoot into a square Figure, and hath as yet a saltish taste, and being dryed loseth but little of its weight; it is not worth a rush, and shews that either the Oil of Vitriol it self was not good, or that there was not enough used to the Operation. These things we would not bury in silence, that so we might well advise young beginners, and withdraw them from their Errours.

LXXXIII. It may be quired, whether the SAL MIRABILIS serves for the use of Artificers and Craftsmen.

For answer, yes. For this SAL MIRABILIS is not only able to perform things of great moment, and those too, such as are not common; both in Alchemy and in Medicine; (a rehearsal of which, we Shall for brevities sake omit) but withall it may be used in other Arts and Handycrafts with great admiration and profit; and this we cannot neither at this time demonstrate because of the but now mentioned brevities sake. We will only shew here, that even the poorest Husbandman, might (if they knew its preparation use it to notable advantage and profit.

LXXXIV. How every Countryman may encrease any kind of Corn or Seed with a thousand fold encrease by the SAL MIRABILIS if he can get it.

We have aforetold you, that the SAL MIRABILIS being so, as it is per se, is plainly unapt for the multiplication of the Vegetables, unless that corrosive Faculty be taken therefrom by lime or other ALKALI Salts, (the which must be done) if you would expect thereform any good concerning this multiplication. Here now will I disclose a business of no small moment; yet not to this end as If I would perswade the Countrymen, to get for the future, or afford to their Corn so plentifull a faculty of encreasing. No, no, I well know that they know not how to make the SAL MIRABILIS, and if they did, yet would they not depart a Nails breadth from their Ancient Custom. For 'tis a common Proverb, Old Dogs are very difficulty tamed; and this, the common Course of mens Lives doth clearly teach; wherein you'll find, that a man hardly unlearns that in his old Age which he learned in his Youth; so that an Old man doth very difficultly suffer himself to be withdrawn from those things whereto he hath been accustomed when young. Neither is it my purpose so to do, for as much as I insert the things here mentioned by

me, for this end only, viz. that the possibility and wonderful Properties of the SAL MIRABILIS may be brought out of Darkness into Light, and may be made evident to the whole World.

I would likewise be thus understood as touching other Workmen, for whom these things are not delivered or treated of, that they should desist from their old Custom, and obey my admonitions and instructions; but for this end it is only that I publish these things, viz. that they every one may know that my SAL MIRABILIS can be an helper to men of all ranks, and also may bring even to the Craftsmen themselves and to the poorest Husbandman, great fruit and benefit.

Now when you hear it mentioned that some Grain of Corn is augmentable beyond the usual Custom, by an unheard of multiplication, it must of necessity be, that it emit more than one, two, or three Stalks, for as much as so few Stalks, cannot yield so great an Increase. But now if one Grain is to put forth so many Stalks, it is wholly necessary that it be done by some certain singular and strong efficacy of expulsion; and that too, even presently and at the beginning when the grain is at first sown in the earth. For whatsoever is not here done even at the beginning, will never be done afterwards.

For all the stalks that spring forth after are small; and quite unfit to bring forth Corn. So then, seeing that many stalks are to break out at one and the same time out of one grain, if an eminent multiplication is expected to follow, then verily 'tis even necessary that some help be administered to that same grain afore it be put in the earth, that so it may plentifully grow and be speedy in presently sending forth even at the very beginning; good store of stalks.

The Countryman know not any thing serving to such an operation but only Dung; but I do even now again say as I have often done afore, that this effect of the usual and common multiplication ariseth not from the Dung it self, (as being but the outside Husk) but from that sulphureous Salt that lies hidden in the Dung. Hence it is, that by how much the purer and better the Salt is so much the speedier and more efficacious an operation ariseth therefrom. If then, that such a Salt can be made by Art which performs the same that Dungs does, it altogether follows that we are able to do the same without Dung, and that far better than by Dung in which the salt is so much dilated and which (by the benefit of Art) we contract into a narrow compass.

I hope the well minded Reader will not be displeased that I use so many words here, about the stinking Dung of Animals, because I can't

indeed use in this place any other manner of speaking; seeing I intended the laying open of this thing and there fore am I even compelled to speak of the same: For he that minds the publication of any thing, cannot do it, unless he speak of the same. And although that Dung may seem to some finical Men a very contemptible thing, yet notwithstanding it is the only and principal MEDIUM, by the help whereby our daily Bread and the necessary sustaining of our Bodies is had. But as for the stinking Dung of Animals, I even remit it to the Dunghill, and return to my SAL MIRABILIS.

LXXXV. Whether or no a thousandfold encrease may be had of Corn by the SAL MIRABILIS.

Melt one or two pounds of SAL MIRABILIS in a Crucible, then throw in some Coals and dissolve them, and reduce them by Solution into a red and fiery Stone; which matter being compounded by melting of them both, beat into Powder and pour thereupon common Spirit of Wine, that it may wax red by extracting out the Tincture. Pour this out into another Vessel, and pour on other Spirit upon the aforesaid matter, And this pouring on and canting off, is to be repeated so often till all the redness is extracted. By this extraction you shall get a sulphureous Salt, fit to steep or macerate Corn withall; because it agrees very well to the properties of that Salt which sticks hidden in the Dung of Beasts: Now I use Spirit of Wine to the extraction for this cause, for that it hastens the germination or budding of the Seeds even as well as the Salt doth, and enricheth it with an emission of many Stalks. But yet your Spirit of Wine must not be over strong for then it would hinder the faculty of growing, the which thing even the Salt will also do if too great a quantity thereof be added to the weaker Spirit of Wine, because it would by burning up the Seed be an impediment to the faculty of the Seeds growth. It is therefore necessary that a good regard be had (in those operations) to a due measure. For an overmuch access of any thing is wont to be no less hurtfull than a defect or clearly wanting of the same.

This is the preparation of the SAL MIRABILIS necessary for the macerating of Corn that so it may produce many Stalks; now follows the true and genuine use thereof in macerating of the same.

LXXXVI. The true and right way of macerating Corn in the SAL MIRABILIS.

There are several kinds of Corn, and of these various and different sorts. Hence is it, that one Seed is longer a macerating than another is; and that because one becomes soft sooner than doth another, or attracts humidities to it self quicker than another; so that regard is to be well had to the difference thereof. Rye and Wheat are encompassed with thin Skins and therefore are the sooner macerated, Oats require a longer time, and so doth Barley which has a yet harder Husk than the Oats hath and therefore requires a longer time for its maceration. But as touching these things, every one may find them out by his own understanding and often experience, because it is impossible to mention all things so clearly and perspiculusly. But this is a general rule, your Corn is to be so long left in steep, until you may easily bite it a pieces; for you must beware of softning it too much, for then it would presently putrifie, and by that its putrefaction corrupt and spoil all the growing faculty. But experience will instruct you far more commodiously and more perfectly herein, than a larger description can.

LXXXVII. The true and right way of sowing your macerated Corn in the Earth.

Any one may easily conjecture that if the Corn macerated by the aforegoing way, be sown in the Fields the usual way and so thick as the Husbandmen are wont to do, it will not succeed because of the overmuch thronging and thickness by which the Corn would hinder each other and so choak themselves, This incommodity therefore is to be prevented, and such macerated Grain to be thinly sown in the Fields that they may have room for the freeness of Air, and so may grow up and not spoil each other by a mutual suffocation.

Nay rather that the more accurate diligence may be had or used about this sowing, a Man may make him some wooden Instrument, whereby together and at once many grains of Corn may be sown in the earth in good order and at a certain distance; concerning which labour I have purposed to speak more at large in another place. For so no grain will unprofitably perish, and with one Sack of Corn may be sown more Ground than six, eight or ten sacks are wont to do otherwise; my too short time constrains me to break off my discourse concerning these things.

LXXXVIII. By what means the SAL MIRABILIS may bring profit to the

Dressers of Vines.

If there could be a good quantity had of SAL MIRABILIS, and that without great costs, 'tis without doubt but the Vines might be made very fruitfull therewithall.

But because they are ignorant of the preparation thereof, who dress Vines; 'tis expedient for them to acquiesce in their Beasts Dung, or make use of that only for the fattening and dunging of their Vines, which is made of common or Kitchin Salt by inverting and Alkalizing it by CALX VIVE. Unless a man has Vines about his House or in his Garden, and would make them fruitfuller than ordinary. For to make tryal thereof in great Vineyards would be too costly.

But yet I will propound another way to the Vine dressers, by the help whereof they may get plenty of Wine every year. I have at large taught in my foregoing Writings, and that by various descriptions, by what means one may be Master of noble and ripe Wines every year, yea even in those times, in which by reason of the coldness and unseasonableness of the Air, and the want of the Solar beams, the Grapes cannot attain their due maturity; and withall, how in those places where they seldom or never grow ripe, (they may be ripened) by concentration by the help of the Fire, or else by fermentation with their own vinous spirit distilled out of the Lees, and added to the said Wine; (having I say already taught this) there's no need of repeating it again. Yet nevertheless if God lengthen my life out so long, I have purposed to write a peculiar Book of the propagating and bettering of Wines.

But that I may ingratiate my self with those who not much caring for poor thin Wines, desire to have some noble Wine in their Cellars, I will here reveal a certain secret which may not only refresh the body and spirit of many thousands of Men, high and low, rich and poor, throughout all GERMANY, yea and all EUROPE too; but also administer them no small profit.

I have taught a little afore, how by the help of the SAL MIRABILIS and of the concentrated and cold Fire of Salts, a Man may make his Guests different Wines out of one Cup, and therewithall refresh them; and I have likewise shewed, that such a bettering of Wine may be exercised in most places, with notable profit.

The truth of which thing, it hath seemed good unto me to demonstrate divers ways, for the sake of my Neighbour.

I have frequently laid open in my Writings some excellent secrets,

and have withall made a discovery of the most great benefit which one may thereby receive.

But because I have not pointed out with my Fingers where and whence such notable profit is to be gotten, the most part could not apprehend or find the same, and have therefore rejected the thing it self being it was not so perspiculusly and clearly laid open, as unprofitable and worth nothing. And now least it thus happen to this secret, if I should not shew and point as it were with my Fingers, the benefit thereof, and if therefore such secrets lying in the dark should not come forth to the profit and use of mankind, which would be a grievous thing and to be lamented, if it should not, it hath seemed good unto me to manifest the utilities of the same.

LXXXIX. By what means notable profit may be gotten by my Water-attracting Magnet.

First of all, it is no small benefit when the overmuch Water is taken away from the poorer sort of Wines, with which GERMANY doth every where almost abound, and the Wines made nobler, stronger, more efficacious, and more durable, and do get a far more acceptable savour. For the unripe and watery Wines are not of any long lasting, but do in a while lose all their savour and all their strength, and become mouldy, and corrupt with lying, and 'tis not seldom that they grow tenacious, or ropy, thick and muddy, reddish and filthy; all which incommodities doth my Magnet cure in the space of one only hour, by the drawing away the overmuch waterishness.

XC. The second benefit.

If a plentifull Vintage or large encrease of the Wine should be more than you have Barrels to fill, nothing can be more acceptable than that the Wine may be concentrated by the Magnet, (which draws to it self the Water and turns it into Ice) by extracting the over-muchness of the Water, that so by this means the more contracted Wines may be laid up the more commodiously, and may if not very good, be rendered better.

XCI. The third benefit, and which is most acceptable to all Masters of Families.

If so be that the Master of the House had a whole Cellar full of Wine, and every Vessel filled with the like or self same noble Wine, without any difference; then verily the Master and Servant would be of equal degree, nor should the Master have any prerogative above the Servant. But now using the help of the said Magnet, he may have his Wines bettered as he pleaseth, and have divers Wines in his Cellar, as we taught a little above; if, viz. he shall draw from it the unprofitable watery part.

XCII. Another way of getting profit by the Magnets drawing the Water out of Wines.

The Anatomizing and examen of Wine discovers, that in twelve measures thereof; there is about one of more noble spirit, and almost one measure of Tartar. The residue are nought else but an insipid water altogether like to common water. Now when the Wines are to be transported out of the Countries wherein they grow, into more remote places; what need is there of carrying the water with it so long a Journey? Would it not be better to separate some part thereof from the Wine, and so transport the Wine, and let the water alone, and thereby shun a great deal of charges disburst for the carriage of water into such places as have enough already? Would there not redound a great benefit hereby, both to the Buyers and Sellers of Wines? Yea; verily, I believe that there will not only redound unto them a great conveniency, but withall a great deal of Treasure.

XCII. There's yet another way of getting notable profit by the said Magnet; viz. if the ill taste and fetidness is taken away from the Brandy, usually made of Corn.

There is some mention made in what went afore concerning this amending; but 'tis not done so clearly and manifestly. I will therefore open it more clearly and more perspicuously in this place.

Mix one part of your Brandy made of Corn, with two parts of common water poured thereunto, that the stench and ungratefull savour may diffuse it self into the added water, Having so done; you must again free this Brandy thus tempered with water by putting your Magnet thereinto, and so will you draw therefrom all the stinkingness, and 'tis just as if you had washed that Wine, and rinsed off all its filth.

XCIV. The benefit purchased by separating the Water from the Vinegar.

If you would have benefit by this liquor; the same may be done by the same reason; in those places out of which it is transported into other Countries, if, viz. the unprofitable water be removed after the same manner as we taught to be separated from the Wine.

XCV. By what means good Wine and Vinegar may be every year prepared by the help of this same Magnet, in those Countries which the Grapes do not ripen.

Although that in all the Coasts scituated upon the Rhine; as in RHINGOVIA, MOGUNTIA, WORMATIA, ALGENTORATI; in ATSATIA, the PALATINATE, FRANCONIA, AUSTRIA, and the Dukedom of WARTENBERG, (in which places; the Wines do for the most part arrive to their perfection every year) this Art be not so very necessary; yet nevertheless SAXONIA, MISNIA, THURINGIA, SUEVIA, and BAVARIA do stand in need thereof; in which Countries the Wine doth for the most part remain acid, unless the Summer hath by a singular chance hapned to be very hot. For in these places it is no less profitable than pleasant to drink a sweeter and nobler Wine instead of the more acid Wine, if so be one could get it by the help of the said Art. Besides; this same Art yields no small profit and benefit in those Countries, in which though the Wine is (as we said but now) wont to be noble. For it may happen that some unseasonable Weather may hinder the ripening of the Grapes, and that the Vineyards wanting the due heat of the Sun cannot arrive unto maturity. For oftentimes in one and the same Country, there are divers Wines produced; so that one sort exceeds another in nobility and goodness. Those therefore that are good and generous need not the help of this Art, but contrarily the smaller and less noble Wines want it. Hence I conclude that in all the Countries of the World, wheresoever Wines are made, this Art may be serviceable and profitable to any one.

XCVI. How in those cold Countries; as in POLAND, DENMARK, NORWAY; & etc. Which by reason of the Coldness of the Air admit not of making Wine there may nevertheless good Wine and Vinegar conducive to the health of Man be made.

Though the Cold may so hinder as that Vines will not grow; nor Vineyards be, yet notwithstanding those places so obnoxious to the Cold, have plenty of Apples Pears and such like Tree fruits; whose Juice being pressed out; and fermented; and after the Fermentation, freed of the greatest part of the unprofitable water; will give a better and more durable Drink, than that which is made the usual way of Apples and Pears. For this drink cannot last long because of the muchness of the humidity but becomes ropy acid and muddy, and so corrupts.

So likewise may those Countries that abound with Corn be rendred partakers of most excellent and wine like Drink which may be used and drunk instead of Wine, to the great benefit and advancement of the health of the Body; and it is to be thus done.

First of all, let very good Wheat be made to germinate (or sprout) by stewing in some gentle heat; (as in making of Mault) then after the sprouting let it be put in some warm Furnace, or in great Coppers; and stirred about with some wooden thing without ceasing till it be dryed. In this Operation you must have an especial care that the Corn smatch not of the Fire which is then brought by drying to a sufficient hardness; when it is not soft in biting it with your teeth, but leaps as 'twere in pieces; this is a sign that you have done your work well. Having prepared it thus, let it be broken (or ground) and boiled after the manner of other Ale, without Hops; and then after it has fermented let it be freed from its superfluous moisture by our Magnet. So will you have remaining a sweet Drink not much unlike to Wine; which Liquor if you would yet have more near in its likeness to Wine, you must put in for every Pun or every Butt about a pound of Tartar in the Fermentation; that so it may ferment together with the Corn, and may give unto this Drink a winy taste.

After the same manner may excellent Metheglin be made of Honey and Sugar, or such a kind of Drink as but little differs from the Savour of Wine. An Art, verily; most profitable in those places which have no Wine, but have that defect supplied by the greater Quantity of Honey and Sugar. The manner of making such a kind of Drink is this.

Let there be added to the Honey so much water as is sufficient, for their boiling together in a Copper; and let them being boiled be diligently scummed so long till the Honey becomes thick again, and gets a duskish or a reddish Colour, which is a sign, that the less sweet, and less honied Savour is removed away, by the boiling.

To this Honey reduced to the said thickness; let be again added as

much water as is sufficient, that they may be boiled together, and being boiled put up in Barrels. Whilst it is yet warm some Ale yeast must be added; which being fermented, renders this Liquor so sweet that it is but little inferiour to Wine; moreover it will come nearer to the Taste of Wine; if a due part of dissolved Tartar shall be added thereunto in the Fermentation, that so being fermented together herewith, it may acquire to it self a winy Taste.

N. B. But here good heed must be had, that in the last Solution there be not taken too little water, but rather more than is wont to be taken in the making of common Mede. The reason is this; because the Honey gets not its due Fermentation, but retains its usual and a kind of nauceous Sweetness, and cannot be made partaker of a winy Savour.

But now, water enough being added, promotes the Fermentation, and causeth that it gets its Purity and Clarity much sooner, and is of an excellent sweet Savour. After that this Metheglin hath gotten the requisite Clarity, the superfluous water is to be abstracted thencefrom by your Magnet, which water being removed, the remaining ungratefull Savour of the Honey going away together with the water; vanisheth, and this Wine of the Honey, gets its strong Spirits from the Honey, and has a winy Savour from the Tartar. If any one be so minded, he may add to the Honey in the first boiling; some Spices, or which is better, may hang them in a little Bag in at the Bung, that so they may be fermented with the Metheglin, and give it a sweet savour. The Spices are these that follow: Cardamoms one, Coriander two, Orris Roots three parts; the which will give the Metheglin a fine Taste. The Flowers of Elder make it taste just like Wine made of the Apian or Muscadel Grapes, Cinamon and Cloves also do give it a delicate Sweetness. But every one may use such Spices as he thinks best, according as he fancieth this or that Taste. Of such Metheglin is made most excellent Vinegar, which scarce is inferiour to wine Vinegar though of the very best Sort.

XCVII. Whether or no, there be any other benefit, which our Magnet can bestow.

He that shall only diligently enquire by trials made, will without doubt, find, that such a Magnet as attracteth water, can be profitable many ways; which to treat largely of here, the time will not permit. For because that this Magnet draws out of all Liquors, their superfluous water, it doth certainly bring much Benefit, and manifold Fruits, very

many of which, we would here declare if need required. But the time admits not of any longer dwelling about these things. But yet, however, I will reveal an Art for the Poor's sake, who have no Wine growing, nor any money to buy it, and are therefore enforced (but especially in the winter Season) to drink cold water after their hard Labours; by the help of which said Art they may have good Wine to drink all the year both in the Summer and Winter months; I mean in those places in which there's plenty of Wine made, and is in the Autumn Season squeezed out with wine Presses.

In all those places in which store of Grapes are prest out with Presses, there is great store of the husks, the which is partly kept for the Beasts to nourish them in the Winter, and partly thrown away as unprofitable, especially in those Seasons which afford a great Quantity of Wine. But if so be that the Wine Harvest be somewhat poor and not so plentiful, then they pour water upon all the Husks or on some part of them, and leave it so for some days, and again press them; and thereby is made a Drink that has some kind of wine-like Savour which is given to the Servants, and other Labourers to drink instead of bare water.

But now in such Years wherein they are thoroughly busied in curing or making much Wine, they have not the time to bestow about making that Drink then Nay sometimes they have such a deal of Wine that they have not Cask to put it in, but are compelled to give away their smaller Wines to others, and stuff their Cellars with the more noble.

If therefore the poorer sort would have now and then a good Draught of Wine, they must get them some large Vessels which they must fill with the Offal of the Grapes, and with water poured thereupon, and leave them thus, so long until the rich People have done with their wine Presses and stowed their Wines in their Cellars. Then may they also press out their second Wines in, the rich mens wine Presses, and by the oft-spoken of Magnet separate the unprofitable water therefrom, and so lay up their Wine, the which will last and abide good and durable all the year about, which it will not otherwise do. For such kind of second Wines dure only (for the most part) but the Winter and Spring, and part of the Summer, and the utmost time they remain any thing good is but till the Month of JULY, afterwards they grow ropy or musty. But now the unprofitable part of the water being separated, they get a shorter or longer durability, according to the moreness or lessness of their Concentration. This advice and secret was I willing to bestow upon the poor that they may also drink good Wine.

But they may demand where should we get us such a Magnet, by the using of which we might make our second Wines good? I answer, they may borrow it of the Rich men who have Vineyards, for so long; and when they have done with it may restore it them again; for it is so lasting that it never loseth any thing of its Body nor of its Virtue, but always remains good. The rich men therefore will buy it of the Chymists, the preparation whereof is clearly and perspicuously delivered in my first Century. If now this be done (which I doubt not of) the Chymist by preparing, and the Merchant by using of the same will reap no small Benefit and profit. And questionless, there will be found some men that are studious of new things, who will make trial of this Concentration of Wines in small experiments, that so they may fish out the possibility of the thing. But I know not whether they will exercise this Operation in a greater Quantity or no. For its neither here nor there to me whether they will exercise this Art or let it alone. For this is the natural disposition of most men, they would very willingly get store of gain, provided it could be done without great labour and much trouble. From hence it is certain, that this Art of Concentrating Wines by cold Fires will not be so soon common, especially because I have not here delivered how such a Magnet may be made in great Quantity, and applied to use.

But yet I think I have sufficiently done (or hinted at) those things I have revealed. Let others draw out of their own store too, if they have any thing. More things I could not reveal, for many weighty causes which I count it needless to mention here. Very many men will commit many Errours, e're they attain the right Scope. Verily it would be much better if there were a greater Number of such Persons as readily understood this Art; especially in those places of GERMANY in which the Wines are so acid, that it will make ones Dyes run with water if a bigger Draught than ordinary be drunk to quench Thirst. And therefore in those places Ale is in the most esteem, and indeed it is no contemptible drink, if good, but yet it is not at all comparable to the noble Wine, concerning which noble Liquor these Verses may rightly be pronounced.

*With what a lovely gift are all things blest
By th' noble Wine from tender Vines exprest,
To sick mens pains it doth an easement bring,
It joys the Country Peasant, makes him sing.
And you shall see that that man whom to day
By means of Wine lies tumbling in the way,
Will on the Morrow have his t'other lay.*

There are many Songs in the praise of Wine, but Ale is not celebrated with any ditty; though it be never so good. Upon this account therefore the noble Juice of Wine is not undeservedly preferred before all the rest, provided it has its due generousness and excelling goodness. But if it be not good, 'tis wholly expedient to help it, lest by keeping its Sourishness and waterishness it perish. But filthy covetousness bears too great a sway upon mortals; insomuch that there are too many to be found that would rather pour water to their Wine and spoil it, than better it by abstracting of the water.

I have often heard the complaints of Vineyard Masters in those Seasons, in which they have had whole Cellars full of small and poor Wines; which have not arrived to so much ripeness as to be able to be sold and transported into other Countries. Hence comes it to pass, that if they lie along while and be not drunk up, they degenerate more and more, and become exceeding poor, and at length corrupt by lying and so perish for altogether; unless it happens by chance that some years of a more happy Vintage do succeed; with which more noble Wines they may mix their small ones, and so sell them off; but yet with a poor profit; because the Merchants are not wont to buy midling Wines, but the very best of all. But they may have noble Wine every year by that means that I have shewn. For if one eighth part of water were extracted from the Wine, it might have 'the name of good Wine. But now if a fourth part of that water should be taken away thencefrom it would become far more excellent, for a little water is able to make a most noble Wine smaller and more base, a tryal whereof you may make as follows.

A Hogshead of rich Wine, containing some six Renish OMA'S or AULM'S, costs an hundred imperials; yea (sometimes) more, an hundred Duckets: Now if you take thencefrom one eighth part of the measure, and put in the room thereof one eighth part of water, you will find by the taste, that its goodness is so much diminished, that that Vessel will be scarcely valued at fifty imperials. But if a quarter part be taken away, and so much water put in its room, any one may easily conjecture that such a Vessel filled with such Wine will be hardly judged worth twenty imperials.

So then by this way that I have told, any Wine might be brought to such a nobleness by taking away one fourth part only of its water, that a Vessel which afore would have yielded but twelve imperials, will afterwards yield three times the price.

By all this that hath been spoken may any one easily conclude the truth of the true Alchemy, and what incredible benefits may be reaped thencefrom. From this ground I say, that that delicate sup of Wine which I have here taught the preparation of will so inflame many, even of the enemies of Alchemy, that they will for the future put their hands to the Coals, and try to get thereby such a delicate Magnet, and to have it by them.

This Magnet will also help not a few Alchemists themselves that are in straights and wants, and afford them a good Cup of Wine; whose Vineyards, House, and all their substance, the smoak and hot fire hath already driven up the Chimny, and (in lieu thereof) this cold fire will recover them again with no contemptible increase. For this Leap year 1660 is the first year since the World's Creation, in which the miserable Coal-blowers may arrive to a way of getting their Bread, if they will but stretch out their hands. And that I maybe here well understood, I don't only mind the concentration of Wine, for there are other most profitable uses to 'be found out of these cold-fires; which time will manifest.

It seems good unto me to add by way of an over-plus (because I have taught the making of a Cup of good Wine, and there is a great familiarity 'twixt Wine and Corn) the showing a way how one may get a most delicate sort of Bread and of an excellent savour, that so he may be furnished with the choisest of Food and Drink.

Let some part of the water be extracted by the cold Magnet out of new Milk, that it may be made better than the common Milk. This would be a most excellent nutriment for the sustaining of Infants, whose Mothers die too soon. For every Infant cannot bear raw Cows Milk; and if the superfluity of the Water be removed by boiling, the Milk (not brooking much boiling) doth easily taste of the fire, which would not be if it were freed of its water by the oft mentioned Magnet, for it would remain sweet, and be of an excellent taste. With this fat milk, moisten your Wheat Meal, (which must be of the best) in the stead of water; and let the Bread be baked, and without doubt the Bread will be of an excellent Taste, which could not be by the common baking, although that Butter were added thereunto. One may feed upon this Bread alone, without Cheese and Butter, because the Cheese and the Butter are with the Milk in which they lie hidden, added unto the Bread. Such Bread is strong nourishment and far better for filling and nourishing than the common; and in eating thereof one may easily commit excess, because it notably pleaseth the

Pallat by the sweetness of its taste. For so it happened on a time to me, for eating such Bread as was made up with fat Sheeps Milk I exceeded a mediocrity in my eating. But verily this is wont to happen to such as in their eating and drinking, abuse the delicate Meats and Drinks, and so fall into the hands of the Physicians, because indeed the most Diseases do arise from too much fulness and surfeiting. And therefore good reason is it that a most special regard be had to a mediocrity and temperance in all things.

XCVIII. How the Water attracting Magnet may be serviceable to Physicians.

In my opinion a Physician may very well examine the Urine of the Sick, and Anotamize the same, and that more easily than by an extended bare aspect or looking on only, if viz. he separate and take away therefrom a part of the water by the Magnet. For by this means he will discern a great difference betwixt the one and the other part, and know the causes and properties of Diseases; and that far better and more certainly than by a bare outside view, after the Gallenical fashion, or by the weight, and by Distillation according to the custom of PARACELSUS and TURNHEISER; But I leave it to every ones pleasure to enquire which of these three ways is to be preferred.

And now follows by way of Corrolary or Surplusage, a description of certain most excellent Medicines to be administered, for the curing of most grievous Diseases both in Men and Beasts.

XCIX. The Cure of the Stone in the Reins and Bladder, and likewise of the Gout.

The Stone of the Reins and Bladder, and the Gout, are judged to be the most grievous Diseases, and in very deed they are most grievous Sickesses, but especially the Gout, which being various and manifold afflicts the Body of Man with most grievous Pains. Now for the cure and removal of these Diseases, I will prescribe a certain and safe Medicament, easily preparable, and of small charge.

Take one or two pounds of white Tartar, and pour upon every pound beaten into Powder about some eight or ten pound of common water, which set over the Coals in a well glazed earthen Pot, and boil it so long, till all the Tartar shall be dissolved by the water, which you may try

if done or no with a wooden Spoon, putting it to the bottom and seeing if there be any left undissolved. In the boiling you must very diligently take off the Scum with a wooden Scummer, that so there may remain no impurity. After that all the Tartar is dissolved and that there appears no more Scum, evaporate the water so long till a thin skin appears at the top. Then take off the Pot from the Coals, and set it in some cold place, and leave it there unstirred for a day, and there will stick on to the sides of the Pot, delicate Crystals like a Dye, having a Cubical form. PARACELsus calls this mundified Tartar LUDUS, and that very properly, and without doubt he did so, because it gets (after its purification the shape of the square Dice. Out of this pure and Cube-like Tartar is prepared an universal Medicine against all tartarous Diseases, as follows.

If you have one pound of this pure and Cubical Tartar, reduce one pound of Crude Tartar into a white Salt by Calcination; the which you are to dissolve with so much common water is as necessary to its dissolution; filter the dissolved Salt through Cap Paper, that you may have your sharp LIXIVIUM freed of all its Faeces. Pour this LIXIVIUM into the glazed Pot wherein your pound of the said purified Tartar is, and boil it accurately therewithall; in which boiling the Tartar will be easily dissolved by the LIXIVIUM, and be turned with the same into a ruddish coloured juice; though that your LIXIVIUM and Tartar had each of them a white and clear colour. The reason is this, because the Tartar is as yet defiled with many hidden and black Faeces, and doth at length after its solution with the LIXIVIUM render them visible and manifest. Pass this muddish solution through a filter, and it will be a yellow liquor, and leave many Faeces in the Philter, good for nothing but to be thrown away, for they are of no virtue more. Verily 'tis a thing worth the admiring, that there should yet be so many Faeces left in so well purified a Tartar. This liquor being thus prepared is very profitable for the taking away and curing of all kinds of Tartarous Diseases, by being daily used, or however, it doth at least strongly tame their violence, but you must first purge the Body by Antimonial Medicaments, one of which we will presently shew you.

N. B. This Medicament will be yet far more noble, if all the humidity be vapoured away and the reddish Salt that is left be dissolved in good spirit of Wine and filtered, and the said spirit of Wine be again separated therefrom by a gentle Distillation. For so by this second solution, there will be severed yet more Faeces and the salt it self

will get a yet greater purity.

This Salt may be safely used as a most precious Treasure against all the abovesaid tartareous Diseases; For it expells Urine, and drives out all the impurities out of the Reins and Bladder, and hinders the gathering together, and generation of Sand or Stones in those Members. But if there be already Stones generated, and that they be not too hard, it consumes them by little and little, and carrys them off; provided that Antimonial purges be (as we said but not) afore used to purge the Body with.

I have in these few words taught thee how the LUDUS, that is, the Dye like figured Tartar is changed by its own proper liquor Alkahest, or its own Alkalizate Salt into a Medicine resisting all Tartareous Diseases. The Dose thereof is a Scruple in Wine, Ale, or other Vehicles, oftentimes every day, or twice at the least, viz. Morning and Night, for such as are fifteen or twenty years old and upwards, and they must fast after the taking of the medicament, for some due time.

Such as are younger, from three, four, to ten, or twelve may take at one time, three, four, six, eight, or ten grains, according as they are older or younger.

This so excellent a medicament have I described for the benefit of mankind, nor is there as far as I know, a better, though it seems to arise of so vile a Parentage, and be so mean Suffer not thy self to be affrighted by any one, but use the same boldly, whensoever necessity requires; and firmly believe me that thou wilt not find a better, I do not deceive thee; and the truth hereof will be demonstrated by its use.

This is a quick and wonderfull purification of Tartar, and a changing it into a sweet Salt, which is neither sweet nor sour, but a midling taste 'twixt both, and it gets a middle nature, from the Acid and the Alkalizate Tartar. Now follows the Antimonial Purge.

C. An universal Antimonial Purge to be used in all grievous Diseases, with a very happy success.

Take of Crude Antimony, Tartar, and Niter, of each alike, Powder them each apart, commix the Powders, being mixt, put them in a melting Pot or Crucible, and kindle them with a live Coal, that by this kindling they may flame up, and go into a ruddish kind of coloured mass. Your Pot being yet hot set it into your Wind Furnace, and melt it, that all your matter may flow in the Crucible like water, then pour it out into your

Cone, and being cold take it out, and separate the REGULUS therefrom, and lay it by for other uses, because 'tis not serviceable for the operation here minded. Now out of one pound of Antimony, you'll have eight Lots, or four ounces of REGULUS, so that of your one pound you will get a REGULUS of four ounces or the fourth part of the pound. The SCORIA'S which will be of a reddish colour and of a fiery taste upon the Tongue must be again melted in the same Pot they were melted in, if it be whole, or in some new Pot, and when they flow, put a live Coal into the Pot. The Salt-peter will seize upon the Coal, and being occupied about corroding the same, will let fall the remainder of the REGULUS it as yet held up. Then the matters being poured out into your Cone, and cool, strike off the REGULUS at the bottom with the stroke of an hammer, and beat the SCORIA'S which will be of a red colour and fiery taste, into Powder, and being thus powdered let the Salts be extracted (or dissolved) in the heat with common fair water; the which holding in them the most pure Sulphur of Antimony do turn the water into a red LIXIVIUM, in which is hidden the Medicine that we seek after; and is to be gotten thence by the following way. For after that the Sulphur is dissolved, by dissolving all that will be separated by the Salts or Lye, the Reliques or Remainder are good for nothing.

Having so done, dissolve white and purified Tartar in fair water, in some glazed Pot, and thou shalt have an acid Solution; being thus hot as it is (for when 'tis cold the Tartar will again shoot in it) pour it by little and little into the Antimonial LIXIVIUM, and it will debilitate the same, so that the Sulphur of the Antimony will fall down to the bottom in the form of a yellowish or reddish Powder. When all the Sulphur is settled, separate the clear Water of the Salt, from the Sulphur, by canting it off; then pour on some warm Water and wash it so often till all the Salt be gone off. Then philter it, that all the Water may be separated and the Powder stay in the Philter, which you shall put upon new and dry Cap-paper thereby to remove all the wateriness, and then dry it in the heat of the Sun. This is that Universal purging Medicament which drives out all malignant humours by all the Emunctories, viz. by Vomit, Stool, Sweat, Urine, and Spittle, out of the whole Body; and that very safely if warily administred, and the Dose thereof not too much encreased; in which case even the Galenical medicines themselves do hurt, if their due Dose be exceeded. Hereupon it is better that there be used at the beginning rather a lesser Dose than too much, that so no errour may be committed and a safe trial may be

made, how much the strength of the Patient will bear or not bear. And albeit that the Dose of this medicament should be given in so small a Quantity as not to work, or have any visible Operation at all, yet nevertheless it well performs its Office, and drives out the Distempers, but yet more slowly than when 'tis administred in a due Dose, such as may give about one, two, or three Stools. And to such as are strong and youthfull Persons, the Dose may be given in such a Quantity as to cause Vomit, in such I say as can brook vomiting. The usual Dose for those that are above fifteen Years of Age is, one, two, three, four, or five Grains, according as they are older or younger. To Infants and such as are a little elder an eighth part, a quarter, or half a Grain even to an whole Grain, may be administred, with regard had to the Age and the Disease. This medicine is of good use in all kinds of Diseases, and in all kinds of Men, (and Women) save only Women with Child; and to them you must administer either none at all, or at least wise so little as to be sure it provokes not to any inclination of vomiting. And the like is to be observed by such Persons who are so weak, as that they clearly want strength requisite for this Operation (of vomiting). But yet it may be used even to new born Infants, viz. for Convulsion, Fits with which a great many of them are wont to be snatched away without any remedy. The Dose must not exceed the bigness of a Rape-seed, and it must be administred in the Mothers milk. But if the Infants are grown already up to be somewhat stronger and are above half a Year old, the Dose of the said medicament is to be a little encreased, that it may operate visible, and so cast forth all the malignant humours out of their Bodies; and they themselves may not be afterwards afflicted with the Small-pox, and other such like Diseases as Infants are subject unto. Verily, all the Children whom I have given this medicament unto, have not hitherto tasted of those Diseases; the which truth the Parents of such Infants and others can confirm by their Testimonies. But especially this medicament is a most present remedy against the Epilepsie both in young and old, and a most certain Secret in the Plague and all Feavers; and a most excellent purge in the Gout, Leoprosie, French pox and other most grievous Diseases; and likewise in external new Wounds, in Fistula's and old Ulcers, what Name soever they are called by, if it be but used inwardly to purge them. Briefly, this medicament hath scarce its fellow, so that we have no reason at all to regard such men as out of meer ignorance, oppose and slander Antimony in their learned howlings, and say that it is nothing else but Poison, and therefore no

ways profitable. But let no body believe their barking, but first try the same, and he will clearly find the contrary.

This indeed I readily confess that Antimony is of no use in the body of man, nor can it be, afore it is prepared; but after preparation I do boldly affirm it to be a most admirable medicine.

Concerning which, read but the chiefest of the Ancient Philosophers, especially BASIL VALENTINE, who in the honour of Antimony wrote the Triumphant Chariot (thereof). Do but see what PARACELSUS, ALEXANDER SUCHTEN, and several others have recorded in writing, concerning the incomparable Virtues and Power of Antimony; by all whose Writings is clearly evinced, what things lie hidden in Antimony, I forbear to speak of other Physicians as well modern as ancient. For it possesseth the Virtues and Powers of all Virtues and Powers concentrated. What need many words? Let it be brought but to the Test, and it will most apparantly testifie by its trial, what Treasures it carries in its bosom. The things that I speak of here proceed out of meer pity and love to my Neighbour, that I might help his sickness and miseries. A very small Portion of the said medicament may be able not only to preserve a whole Family for a whole Year free from all the Diseases that might befall them, but also to rid them of them. So likewise it sends packing all the sicknesses of beasts by its effectual Virtue. I was willing from a faithfull, and good mind to bestow this comfort and help upon mankind, against all incident Diseases, whether external or internal: In the third following Century shall be described more very excellent medicines against all kinds of Diseases, which may be made use of by such as without cause are afraid of Antimony.

And as touching that Salt which is made by the mixtion of the acid Water of the Tartar, and the LIXIVIUM made of the Tartar caldried; it is not inferiour as to its excellency and eminency to the but now spoken of Sulphur of the Antimony it self, herein only is the difference, that there is to be administred a bigger Dose thereof. And therefore it must not be thrown away, but after that the Sulphur is separated, the insipid Water is to be evaporated, and there will then remain a yellow Salt behind, which has even yet in it no small Portion of the Antimonial Sulphur; and therefore 'tis in a manner better than the Sulphur it self, because of its own peculiar Nature, which by the discharging its own office (or proper work) may be even per se reckoned up amongst those most excellent medicines which strongly resist all Tartareous diseases.

For that reason therefore do I commend this Salt most highly to all

such as are burdened with grievous Diseases. The preparation thereof is altogether easie, for it is not made of any chargeable matters, but mean ones, and therefore not without cause to be highly esteemed of.

The dose of this so excellent a Salt is to be increased or diminished according to the Quality of the Persons and the Diseases. To such as are of ripe Age, one Scruple or somewhat more is sufficient. To Infants, and to such as are a little older, from one to twelve Grains may be given, regard being had to the difference of their Years. It gently purgeth the belly, without any kind of Danger, it draws out all evil humours, and especially it helps the gouty and stony Persons with a most wisht for Easement.

The weight of those two contrary Salts, viz. of the fixt Salt of Tartar by which the Sulphur is extracted out of the Antimony, and of the common and acid Tartar dissolved in Water, and which precipitates the Sulphur of the Antimony out of the LIXIVIUM, cannot be certainly defined and limited. For according to the greater or lesser Quantity of the LIXIVIUM, is required more or less of the Tartar water to be poured upon the LIXIVIUM, that so being mortified it may let go that Sulphur of Antimony it holds up in it self. The LIXIVIUM it self will shew you if you have not poured on Water enough of the Tartar by its being not yet freed of all the Sulphur, and that there is more Water of Tartar required to allay all its Acrimony that all the whole Sulphur may be turned out. A bigger Quantity of the Water of Tartar poured on the LIXIVIUM (than just enough) doth not spoil it; it takes in as much of the dissolved Tartar as it can, and what is overplus remains an acid Tartar, and is not changed in its Nature. But whatever of it is dissolved in the LIXIVIUM is no more Tartar, because it becomes a midling Salt of the two, neither acid nor sweet, but partaking of both Natures, and dissolves in cold water, which the acid Tartar will not do.

This Salt therefore is able to perform great matters in medicine, and not only in medicine but in Alchemy too, and in other Arts can it exhibit abundance of riches; concerning which thing, more shall be spoken in another place.

Thus finish I now this my second Century, wherein I have not only abundantly supplied those things which be reason of the overmuch haste, I could not insert in the APPENDIX to the Fifth Part of the Prosperity of GERMANY, but have withall, laid open some part of the Use of my SAL MIRABILIS, as much as the shortness of my time would give me leave to do.

If by the Grace of God I have a yet longer Life vouchsafed me, I will about half a Year hence, bring so great a benefit not only unto my own Country, but perhaps even to the whole Christian World, as ever they received from any man, in so much that the World shall seem as if 'twere new, and so for the present I rest and make an End.