

The
Mirror
of
Alchemy

Composed by
the thrice-famous and learned fryer,

Roger Bacon,

sometimes fellow of Martin Colledge:
and afterwards of Brasen-nose Colledge in Oxenforde.

Also
a most excellent and learned discourse of the admirable force and efficacy of art and Nature,
written by the same author."

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The Preface.

In times past the Philosophers spake afters diverse and sundry manners throughout their writings, since that as it were in a riddle and cloudy voice, they have left unto us a certain most excellent and noble science, but altogether obscure, without all hope utterly denied, and that not without good cause. Wherefore I would advise you, that above all other books, you should firmly fix your mind upon these seven Chapters, containing in them the transmutation of metals, and often call to mind the beginning, middle, and end of the same, wherein you shalt find such subtlety, that your mind shall be fully contented therewith.

The Mirror¹ of Alchemy²,
composed by the famous Fryer,
Roger Bacon³,
sometime fellow of Martin College,
and Brasenose College⁴ in Oxenforde.

CHAPTER I. Of the Definitions of Alchemy.

In many ancient Books there are found many definitions of this Art, the intentions whereof we must consider in this Chapter. For Hermes said of this Science: *Alchemy is a Corporal Science simply composed of one and by one, naturally conjoining things more precious, by knowledge and effect, and converting them by a natural commixtion into a better kind.* A certain other said: *Alchemy is a Science, teaching how to transform any kind of metal into another:* and that by a proper medicine, as it appears by many Philosophers Books. Alchemy therefore is a science teaching how to make and compound a certain medicine, which is called *Elixir*, the which when it is cast upon metals or imperfect bodies, does fully perfect them in the very projection.

CHAPTER II. Of the natural principles, and procreation of Minerals.

Secondly, I will perfectly declare the natural principles & procreations of Minerals: where first it is to be noted, that the natural principles in the mines, are *Argent-vive*,

¹ A. G. Little states that the earliest legends with "Friar Roger called Bachon" are from 1385. The writer was the physician Peter of Trou, in Dalmatia, who mentioned two Oxford mirrors, by one of which candles might be lighted at any hour, and by the second of which one might perceive the doings of others in any part of the world.

² *Speculum alchimiae*.(1541), *Le Miroir d'Alquimie* (French, 1557).

³ Roger Bacon (ca.1214 - 1294) was an English Alchemist and Philosopher during the Middle Ages who insisted on conducting his own experiments and observing the results, as opposed to depending upon the writings of others.

⁴ Brasenose College established in 1509 by Sir Richard Sutton (Financial support), of Prestbury, Cheshire, and the Bishop of Lincoln, William Smyth (Land).

and *Sulphur*. All metals and minerals, whereof there be sundry and diverse kinds, are begotten of these two: but I must tell you, that Nature always intends and strives to the perfection of Gold: but many accidents coming between, change the metals, as it is evidently to be seen in diverse of the Philosophers books. For according to the purity and impurity of the two aforesaid principles, *Argent-vive*, and *Sulphur*, pure, and impure metals are engendered: to wit, Gold, Silver, Steel⁵, Lead, Copper, and Iron: of whose nature, that is to say, purity, and impurity, or unclean superfluity and defect, give ear to that which follows.

Of the nature of Gold.

Gold is a perfect body, engendered of *Argent-vive* pure, fixed, clear, red, and of *Sulphur* clean, fixed, red, not burning, and it wants nothing.

Of the nature of Silver.

Silver is a body, clean, pure, and almost perfect, begotten of *Argent-vive*, pure, almost fixed, clear, and white, & of such alike *Sulphur*. It wants nothing, save a little fixation, colour, and weight.

Of the nature of Steele⁶.

Steele is a body clean, imperfect, engendered of *Argent-vive* pure, fixed & not fixed clear, white outwardly, but red inwardly, and of the like *Sulphur*. It wants only decoction or digestion.

Of the nature of Lead.

Lead is an unclean and imperfect body, engendered of *Argent-vive* impure, not fixed, earthy, drossy, somewhat white outwardly, and red inwardly, and of such a *Sulphur* in part burning. It wants purity, fixation, colour, and firing⁷.

Of the nature of Copper.

Copper is an unclean and imperfect body, engendered of *Argent-vive*, impure, not fixed, earthy, burning, red not clear, and of the like *Sulphur*. It wants purity, fixation, and weight: and has too much of an impure colour, and earthiness not burning.

Of the nature of Iron.

Iron is an unclean and imperfect body, engendered of *Argent-vive* impure, too much fixed, earthy, burning, white and red not clear, and of the like *Sulphur*. It wants fusion, purity, and weight: It has too much fixed unclean *Sulphur*, and burning earthiness. That which has been spoken, every Alchemist must diligently observe.

⁵ Tin replaces steele in *Medicina practica* by William Salmon, 1692.

⁶ See note 5.

⁷ *Ignition* in *Medicina practica*.

CHAPTER III.

Out of what things the matter of Elixir must be more nearly extracted.

The generation of metals, as well perfect, as imperfect, is sufficiently declared by that which has been already spoken. Now let us return to the imperfect matter that must be chosen and made perfect. Seeing that by the former Chapters we have been taught, that all metals are engendered of *Argent-vive* and *Sulphur*, and how that their impurity and uncleanness does corrupt, and that nothing may be mingled with metals which has not been made or sprung from them, it remains clean enough, that no strange thing which has not his original from these two, is able to perfect them, or to make a change and new transmutation of them: so that it is to be wondered at, that any wise man should set his mind upon living creatures, or vegetables which are far off, when there be minerals to be found near enough: neither may we in any wise think, that any of the Philosophers placed the Art in the said remote things, except it were by way of comparison: but of the aforesaid two, all metals are made, neither does anything cleave unto them, or is joined with them, nor yet changes them, but that which is of them, and so of right we must take *Argent-vive* and *Sulphur* for the matter of our stone: Neither does *Argent-vive* by itself alone, nor *Sulphur* by itself alone, beget any metal, but of the commixtion of them both, diverse metals and minerals are diversely brought forth. Our matter therefore must be chosen of the commixtion of them both: but our final secrete is most excellent, and most hidden, to wit, of what mineral thing that is more near than others, it should be made: and in making choice hereof, we must be very wary. I put the case then, yet our matter were first of all drawn out of vegetables, (of which sort are herbs, trees, and whatsoever springs out of the earth) here we must first make *Argent-vive* & *Sulphur*, by a long decoction, from which things, and their operation we are excused: for Nature herself offers unto us *Argent-vive* and *Sulphur*. If we should draw it from living creatures (of which sort is mans blood, hair, urine, excrements, hens eggs, and what else proceed from living creatures) we must likewise out of them extract *Argent-vive* and *Sulphur* by decoction, from which we are freed, as we were before. Or if we should choose it out of middle minerals (of which sort are all kinds of *Magnesia*, *Marchasites*, of *Tutia*, *Coppers*⁸, *Allums*, *Baurach*⁹, *Salts*, and many other) we should likewise, as before, extract *Argent-vive* and *Sulphur* by decoction, from which as from the former, we are also excused. If we should take one of the seven spirits by itself, as *Argent-vive*, or *Sulphur* alone, or *Argent-vive* and one of the two *Sulphurs*, or *Sulphur-vive*, or *Auripigment*, or *Citrine Arsenicum*, or red alone, or the like: we should never effect it, because since Nature does never perfect anything without equal commixtion of both, neither can we: from these therefore, as from the foresaid *Argent-vive* and *Sulphur* in their nature we are excused. Finally, if we should choose them, we should mix everything as it is,

according to a due proportion, which no man knows, and afterward decoct it to coagulation, into a solid lump: and therefore we are excused from receiving both of them in their proper nature: to wit, *Argent-vive* and *Sulphur*, seeing we know not their proportion, and that we may meet with bodies, wherein we shall find the said things proportioned, coagulated & gathered together, after a due manner. Keep this secret more secretly.

Gold is a perfect masculine body, without any superfluity or diminution: and if it should perfect imperfect bodies mingled with it by melting only, it should be *Elixir* to red. Silver is also a body almost perfect, and feminine, which if it should almost perfect imperfect bodies by his common melting only, it should be *Elixir* to white, which it is not, nor cannot be, because they only are perfect. If this perfection might be mixed with the imperfect, the imperfect should not be perfected with the perfect, but rather their perfections should be diminished by the imperfect, & become imperfect. But if they were more than perfect, either in a two-fold, four-fold, hundred-fold, or larger proportion, they might then well perfect the imperfect. Forasmuch as Nature does always work simply, the perfection which is in them is simple, inseparable, & incommiscible, neither may they by art be put in the stone, for ferment to shorten the work, and so brought to their former state, because the most volatile does overcome the most fixed. For that gold is a perfect body, consisting of *Argent-vive*, red and clear, & of such a *Sulphur*, therefore we choose it not for the matter of our stone to the red *Elixir*, because it is so simply perfect, without artificial mundification, & so strongly digested and decocted with a natural heat, that with our artificial fire, we are scarcely able to work on gold or Silver. Though Nature does perfect anything, yet she cannot thoroughly mundify, or perfect and purify it, because she simply works on that which she has. If therefore we should choose Gold or Silver for the matter of the stone, we should hard and scantily find fire working in them. Although we are not ignorant of the fire, yet could we not come to the through mundification & perfection of it, by reason of his most firm knitting together, and natural composition: we are therefore excused for taking the first two red, or the second two white, seeing we may find out a thing or some body of as clean, or rather more clean *Sulphur* & *Argent-vive*, on which Nature has wrought little or nothing at all, which with our artificial fire, & experience of our art, we are able to bring unto his due concoction, mundification, colour and fixation, continuing our ingenious labour upon it. There must therefore be such a matter chosen, wherein there is *Argent-vive*, clean, pure, clear, white & red, not fully complete, but equally and proportionally commixt after a due manner with ye like *Sulphur*, & congealed into a solid mass, that by our wisdom and discretion, and by our artificial fire, we may attain unto the uttermost cleanness of it, and the purity of the same, and bring it to that pass, that after the work ended, it might be a thousand thousand times more strong and perfect, then the simple bodies themselves, decoct by their natural heat. Be therefore wise: for it you shalt be subtle and witty in my Chapters (wherein by manifest

⁸ *Vitriols* in in *Medicina practica*.

⁹ *Borax* in *Medicina practica*.

prose I have laid open the matter of the stone easy to be known) you shalt taste of that delightful thing, wherein the whole intention of the Philosophers is placed.

CHAPTER III.

Of the manner of working, and of moderating, and continuing the fire.

I hope ere this time you hast already found out by the words already spoken (if you best not most dull, ignorant, and foolish) the certain matter of the learned Philosophers blessed stone, whereon Alchemy works, whilst we endeavour to perfect the imperfect, and that with things more than perfect. For that Nature has delivered us the imperfect only with the perfect it is our part to make the matter (in the former Chapters declared unto us) more than perfect by our artificial labour. If we know not the manner of working, what is the cause that we do not see how Nature (which of long time has perfected metals) does continually work? Do we not see, that in the Mines through the continual heat that is in the mountains thereof, the grossness of water is so decocted & thickened, that in continuance of time it becomes *Argent-vive*? That of the fatness of the earth through the same heat and decoction, *Sulphur* is engendered? That through the same heat without intermission continued in them, all metals are engendered of them according to their purity and impurity? That Nature does by decoction alone perfect or make all metals, as well perfect as imperfect? O extreme madness! what, I pray you, constrains you to seek to perfect the foresaid things by strange melancholical and fantastical regiments? As one says: *Wo to you that will overcome Nature, and make metals more than perfect by a new regiment, or work sprung from your own senseless brains. God has given to Nature a strait way, to wit, continual concoction, and you like fools despise it, or else know it not. Again, fire and Azoth, are sufficient for thee.* In another place, *Heat perfects all things.* Elsewhere, *sees¹⁰, sees, sees, and be not weary.* In another place, *let your fire be gentle, & easy, which being always equal, may continue burning: and let it not increase, for if it do, you shalt suffer great loss.* In another place, *Know you that in one thing, to wit, the stone, by one way, to wit, decoction, and in one vessel the whole mastery is performed.* In another place, *patiently, and continually,* and in another place, *grind it seven times.* In another place, *It is ground with fire.* In another place, *this work is very like to the creation of man:* for as the Infant in the beginning is nourished with light meats, but the bones being strengthened with stronger: so this mastery also, first it must have an easy fire, whereby we must always work in every essence of decoction. Though we always speak of a gentle fire, yet in truth, we think that in governing the work, the fire must always by little and little be increased and augmented unto the end.

CHAPTER V.

Of the quality of the Vessel and Furnace.

The means and manner of working, we have already determined: now we are to speak of the Vessel and

Furnace, in what sort, and of what things they must be made. Whereas Nature by a natural fire decocts the metals in the Mines, she denies the like decoction to be made without a vessel fit for it. If we purpose to imitate Nature in concocting, wherefore do we reject her vessel? Let us first of all therefore, see in what place the generation of metals is made. It does evidently appear in the places of Minerals, that in the bottom of the mountain there is heat continually alike, the nature whereof is always to ascend, and in the ascension it always dries up, and coagulates the thicker or grosser water hidden in the belly, or veins of the earth, or mountain, into *Argent-vive*. If the mineral fatness of the same place arising out of the earth, be gathered warm together in the veins of the earth, it runs through the mountain, & becomes *Sulphur*. As a man may see in the foresaid veins of that place, that *Sulphur* engendered of the fatness of the earth (as is before touched) meets with the *Argent-vive* (as it is also written) in the veins of the earth, and begets the thickness of the mineral water. There, through the continual equal heat in the mountain, in long process of time diverse metals are engendered, according to the diversity of the place. In these Mineral places, you shall find a continual heat. For this cause we are of right to note, that the external mineral mountain is everywhere shut up within itself, and stony: for if the heat might issue out, there should never be engendered any metal. If therefore we intend to imitate Nature, we must needs have such a furnace like unto the Mountains, not in greatness, but in continual heat, so that the fire put in, when it ascends, may find no vent: but that the heat may beat upon the vessel being close shut, containing in it the matter of the stone: which vessel must be round, with a small neck, made of glass or some earth, representing the nature or close knitting together of glass: the mouth whereof must be signed or sealed with a covering of the same matter, or with lute. As in the mines, said heat does not immediately touch the matter of *Sulphur* and *Argent-vive*, because the earth of the mountain comes everywhere between: So this fire must not immediately touch the vessel, containing the matter of the foresaid things in it, but it must be put into another vessel, shut close in the like manner, that so the temperate heat may touch the matter above and beneath, and where ere it be, more aptly and fitly: whereupon Aristotle says, in the light of lights, that *Mercury is to be concocted in a threefold vessel*, and that the vessel must be of most hard Glass, or (which is better) of earth possessing the nature of glass.

CHAPTER VI.

Of the accidental and essential colours appearing in the work.

The matter of the stone thus ended, you shall know the certain manner of working, by what manner and regiment, the stone is often changed in decoction into diverse colours. Whereupon one said, *So many colours, so many names.* According to the diverse colours appearing in the work, the names likewise were varied by the Philosophers: whereon, in the first operation of our stone, it is called putrefaction, and our stone is made

¹⁰ *Decoct used in Medicina practica.*

black: whereof one said, *When you finds it black, know that in that blackness whiteness is hidden*, and you must extract the same from his most subtle blackness. But after putrefaction it waxes red, not with a true redness, of which one said: *It is often red, and often of a citrine colour, it often melts, and is often coagulated, before true whiteness*. It dissolves itself, it coagulates itself, it putrefies itself, it colours itself, it mortifies itself, it quickens itself, it makes itself black, it makes itself white, it makes itself red. It is also green: whereon another says, *Concoct it, till it appears green unto thee*, and that is the soul. Another, *Know that in that green his soul bears dominion*. There appears also before whiteness the peacock's colour, whereon one said thus. *Know you that all the colours in the world or it may be imagined, appear before whiteness, and afterward true whiteness follows*. Whereof one says: *When it has been decocted pure and clean, that it shines like the eyes of fishes, then are we to expect his utility, and by that time the stone is congealed round*. Another says: *When you shalt find whiteness a top in the glass, be assured that in that whiteness, redness is hidden: and this you must extract*: but concoct it while it become all red: for between true whiteness and true redness, there is a certain ash-colour. Of which it is said, *After whiteness, you canst not err, for increasing the fire, you shalt come to an ash-colour*. Of which another said: *Do not set light by the ashes, for God shall give it thee molten: then at the last the King is invested with a red crown by the will of God*.

CHAPTER VII.

How to make projection of the medicine upon any imperfect body.

I have largely accomplished my promise of that great mastery, for making the most excellent *Elixir*, red and white. For conclusion, we are to treat of the manner of projection, which is the accomplishment of the work, the desired & expected joy. The red *Elixir* does turn into a citrine colour infinitely, and changes all metals into pure gold. The white *Elixir* does instantly whiten, and brings every metal to perfect whiteness. But we know that one metal is farther off from perfection then another, & one more near then another. Although every metal may by *Elixir* be reduced to perfection, nevertheless the nearest are more easily, speedily, and perfectly reduced, then those which are far distant. When we meet with a metal that is near to perfection, we are there by excused from many that are far off. As for the metals which of them be near, and which far off, which of them I say be nearest to perfection, if you be wise and discrete, you shalt find to be plainly and truly set out in my Chapters. Without doubt, he that is so quick sighted in this my Mirror, that by his own industry he can find out the true matter, he does full well know upon what body the medicine is to be projected to bring it to perfection. For the forerunners of this Art, who have found it out by their philosophy, do point out with their finger the direct & plain way, when they say: *Nature contains Nature: Nature overcomes Nature: & Nature meeting with her nature, exceedingly rejoices, and is changed into other natures*. In another place, *Every like rejoices in his like*: for likeness is said to be the cause of friendship, whereof many Philosophers have left a notable secret, Know you that the soul does

quickly enter into his body, which may by no means be joined to another body. In another place, *The soul does quickly enter into his own body, which if you go about to join with another body, you shalt loose thy labour*: for the nearness itself is more clear. Because corporeal things in this regiment are made incorporeal, & contrariwise things incorporeal corporeal, and in the shutting up of the work, the whole body is made a spiritual fixed thing: and because also that spiritual *Elixir* evidently, whether white or red, is so greatly prepared and decocted beyond his nature, it is no marvel that it cannot be mixed with a body, on which it is projected, being only melted. It is also a hard matter to project it on a thousand thousand and more, and incontinently to penetrate and transmute them. I will therefore now deliver unto you a great and hidden secret. One part is to be mixed with a thousand of the next body, & let all this be surely put into a fit vessel, and set it in a furnace of fixation, first with a lent fire, and afterwards increasing the fire for three days, till they be inseparably joined together, and this is a work of three days: then again and finally, every part hereof by itself, must be projected upon another thousand parts of any near body: and this is a work of one day, or one hour, or a moment, for which our wonderful God is eternally to be praised.

**Here ends the Mirror of Alchemy,
composed by the most learned Philosopher,
Roger Bacon.**

**An excellent discourse
of the admirable force
and efficacy of Art and Nature,
written by the famous
Frier Roger Bacon,
Sometime fellow of Merton College,
and afterward of Brasen-nose in Oxford.**

Some there are that ask whether of these twain be of greatest force, and efficacy, Nature, or Art, whereto I make answer, and say, that although Nature be mighty and marvellous, yet Art using Nature for an instrument, is more powerful then natural virtue, as it is to be seen in many things. But whatsoever is done without the operation of Nature or Art, is either no human work, or if it be, it is fraudulently and colourably performed: for there are some, that by a nimble motion and show of members, or through the diversity of voices, and subtlety of instruments, or in the dark, and by consent do propose unto men diverse things, to be wondered at, that have indeed no truth at all. The world is everywhere full of such fellows. For jugglers juggle many things through the swiftness of their hands: and others with variety of voices, by certain devices that they have in their bellies, throats or mouths, will frame mens voices, far of, or near, as it pleases them, as if a man spoke at the same instant: yea they will counterfeit the sounds of bruit beasts. But the causes hidden in the grass, or buried in the sides of the earth, prove it to be done by a human force, and not by a spirit, as they would make men believe. In like manner, whereas they affirm things without life to move very swiftly in the twilight of the evening or morning, it is altogether false, and untrue. As for consent, it can feign anything that men desire, according as they are disposed together. In all these neither Physical reason, nor Art, nor natural power has any place: and for this cause it is more abominable, since it contemns the laws of Philosophy, and contrary to all reason, invocates wicked Spirits, that by their help they may have their desire. Herein are they deceived, that they think the Spirits to be subject unto them, and that they are compelled at mens pleasures, which is impossible: for human force is far inferior to that of the Spirits. Again, they fowly err, to dream that the cursed spirits are called up, and figured, by virtue of those natural means which the thou hast removed the weak from the strong, and put the powder thereto three, four, or five times, or more often, always working after one and the self-same manner. If you cannot work with warm water, you shall offer violence. But if it be broken by reason of the tartness and tenderness of the medicine, together with powder you must very warily put more Gold to, and mollify it: but if the plenty of the powder cause it to break, you shalt give it more of the medicine, and if it be long of the strength of the water: water it with a Pestill, and gather together the matter so well as you can, and separate the water by little and little, and it will return to his former state. This water you shall dry up, for it has both the powder and water of the medicine, which are to be incorporate as dust. Be not asleep now, for I have told thee a great and profitable secret. If you could tell how to place and set in order the parts of a burnt shrub,

or of a willow, and many such like things, they would naturally keep an union. Beware at any hand that you forgets not this, because it is very profitable for many things. You shalt mingle the Trinity with the union being first melted, and they will rise up as I suppose like unto the stone Iberus¹¹: doubtless it is mortified by the vapour of the lead, which lead you shalt find if you press it out of the dead body, and this dead body you shall bury in a stillitory. Hold fast this secret, for it is nought worth. In like manner shall you deal with the vapour of a Margarite¹² or the stone Tagus, burying the dead as before you art commanded.

Now forsooth the years of the Arabians being accomplished, I make answer to your demand after this manner. You must have a medicine that will dissolve in a thing that is melted, and be anointed in it, and enter into his second degree, and be incorporated with it, not proving a fugitive servant, and change it, and be mixed with the root of the Spirit, and be fixed by the calx of the metal. Now it is thought that fixation prepares, when the body & spirit are laid in their place, and sublimed, which must be so often reiterated, till the body be made a spirit, and the spirit become a body. Take therefore of the bones of Adam, and of calx the same weight, there must be six for the rocky stone, & five for the stone of unions, & these you must work together with *Aqua vitae* (whose property is to dissolve all other things) that it may be dissolved and boiled in it. This is a sign of Inceration, if the medicine will melt, when it is poured on an Iron red hot. This done, pour water into it in a moist place, or else hang it in the vapour of very hot and liquid Waters, and congeal it in the Sun then you shall take Salt-peter, & convert *Argent-vive* into lead: and again, you shalt wash and grind that therewith, that it may come nigh to Silver, and afterward work as you didst before. Moreover, you shalt drink up all after this sort. Notwithstanding, you shalt take of Salt-peter, *Luru Vopo Vir Can Utriet*¹³, and of Sulphur, and by this means make both to thunder and lighten¹⁴. Thus shalt your person do the work. Now consider with yourself whether speak in a riddle, or tell you the plain truth. There be some that have been of another mind: for it was said unto me, that all things must be resolved to the matter, whereof you may find Aristotle his judgement in vulgar & unknown places, and therefore I shall hold my peace. Now when you hast them, you shall have many simples and equals, and you

¹¹ 'Gold is sometimes designated also as stone or body of the river Iberus (the Ebro), of the Pactolus, or of the Tugas or some other, because grains of gold are found in these.' Stillman, JM. *Story of Alchemy and Early Chemistry*, (1924), p.269.

¹² 'Silver is also called margarita (pearl) on account of its white colour, as Solinus informs us in the book *De Mirabilibus Mundi*' Stillman, JM. *Story of Alchemy and Early Chemistry*, (1924), p.269.

¹³ (Charcoal) Taken from poorly printed Bacon's *Epistola*, "*De Secretis Operibus Artis et Naturae et de Nullitate Magiae*," 1248.

¹⁴ Gunpowder, of which Bacon has the first recorded publication in English.

shalt effect by contrary things and diverse, which before I termed the keys. Aristotle said that *the equality of the powers does contain in it the action and passion of bodies* and this likewise is the opinion of Averroes reproving Galen. It is thought that this is the most simple and pure medicine that may be found: It is good against the fevers and passions both of mind and bodies, more cheap than any medicine whatsoever. He that writ these things shall have the key that opens and no man shuts, and when he has shut, no man is able to open it again.

F I N I S.