

Adam McLean's Study Course on reading alchemical texts



Lesson 12 : The *Mirror of Alchemy*

This work *The Mirror of Alchemy*, composed by the famous Friar, Roger Bacon, sometime fellow of *Martin College and Brasen-nase College in Oxenforde*, is unlikely to have been actually written by the 13th century Franciscan friar Roger Bacon (1214-1292). It would appear, rather, to have been written in the 15th century nearly 200 years after Bacon died. This does not detract at all from the value of the work which was very influential on 16th and 17th century alchemy, being often reprinted and quoted as a key source by later authors. We often find that alchemical texts which at first sight appear to have been written by early authors, were actually created by someone at a later time and credited to an earlier writer (sometimes even to a fictitious alchemist). This is true, say, of the works written under the name of Raymond Lull, or Basil Valentine, or Nicholas Flamel. This does not mean that these works are devalued. We can value a work by the ideas it contains and also by its impact on the alchemical tradition. *The Mirror of alchemy* is such a key work and though short and seemingly straightforward and simple, nevertheless inspired many alchemists during the 16th and 17th centuries. They no doubt accepted that the work was written by Bacon, but it is not necessary for us to do so in order to assess this work.

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 appeared by many Philosophers' Books".

Alchemy therefore is a science teaching how to make and compound a certain medicine, which is called Elixir, which when it is cast upon metals or imperfect bodies, does fully perfect them in the very projection.

Here our author presents a straightforward definition of alchemy. He quotes from two earlier authors. Our author seems to want us to consider two different viewpoints on alchemy. Firstly, he wants us to see alchemical transformation resulting from a more precious and perfect thing, which being united with a matter less perfect, raises it into a better form. The second way he wants us to look at alchemy is that it is a method for transforming one metal into another, by means of a "proper medicine", here no doubt meaning some transformative agent, a philosophers' stone or elixir, that cures an imperfect metal of its imperfections.

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

Secondly, I will perfectly declare the natural principles and procreations of minerals: where first it is to be noted, that the natural principles in the mines, are Argent vive, 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, Steel, 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.

In this section our author wants us to understand the natural principles that work in minerals, and the way in which they procreate and grow. We can see that this is a work that presents a philosophical theory about alchemy, taking the view that metals and minerals grow in the earth from Mercury and Sulphur. Further, our author believes that the work of these two principles, Mercury and Sulphur should always give rise to gold, but because of the many accidents, special circumstances and impurities that get in the way, pure and impure metals are generated such as gold, silver, steel, lead, copper, and iron.

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, and of such a like Sulphur: It wants nothing, save a little fixation, colour, and weight.

Of the nature of Steel.

Steel 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, dressy, somewhat white outwardly, and red inwardly, and of such a Sulphur in part burning, It wants purity, fixation, colour, and firing.

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 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.

Here our author runs through some of the various possibilities of the working of Mercury and Sulphur. It will be instructive for you, as an exercise, to make a little analytic table or diagrammatic representation out of these descriptions.

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 have not been made or sprung from them, it remains clear enough, that no strange thing which does not have its origin 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 way 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 any thing cleave unto them or is joined with them, not 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.

He has described enough about how metals are formed, and wants now to focus on the imperfect matter that we chose to work on and make perfect. He has said that all metals are made from mercury and sulphur, and that different sort of impurities lead to the formation of the different metals. It follows that nothing may be mingled, alloyed or amalgamated with metals which has not been made from these two principles. Further, nothing is able to perfect or transmute imperfect metals, which does not have its origin in Mercury or Sulphur. The transmuting agent, he believes, must be made from Mercury and Sulphur, and is not to be sought in animal or vegetable materials which are far from the nature of metals. It is in minerals we should seek. None of the earlier philosophers placed the alchemical transmuting art in animal or vegetable material, except to make a comparison. He repeats so we can be entirely sure, that all metals are made of the two principles, Mercury and Sulphur, and nothing will join with metals, or transmute them, unless it arises from Mercury and Sulphur. To summarise, the matter of our transmuting stone lies in Mercury and Sulphur.

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 secret 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.

In this theory of the formation of metals, it is essential to realise that metals arise from a dynamic mixing of the two principles Mercury and Sulphur. Nothing can arise just from Mercury by itself, or from Sulphur acting alone. It is their mixing that makes the metals. In parallel with this he says that 'our matter', here presumably the transmuting agent, must also be brought forth from a mixture of both of the principles. The secret, he hints at, is to find a mineral matter, that is nearest in nature to our transmuting agent, from which we can prepare this. We must be very careful in our choice of this mineral material

I put the case then, if 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 and Sulphur, by a long decoction, from which things, and their operation we are excused: for Nature herself offers unto us Argent-vive and Sulphur. And if we should draw it from living creatures (of which sort is man's 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, Alums, Baurach, Salts, and many other) we should likewise, as afore, extract Argent-vive and Sulphur by decoction: from which as from the former, we are also excused.

If we were to try and make our matter out of vegetable matter, from plants, trees, or other things that grow out of the earth, then we would have first to make from these Mercury and Sulphur, as the transmuting substance is made from these principles. This would involve us in a long cooking and pointless work, for Nature herself provides us with Mercury and Sulphur, so we need not go to the bother of trying to make these from plant matter. The same is true if we seek to make our transmuting agent from parts of animals, from blood, hair, urine, excrements (including that of men) or even from hen's eggs. Just as with the plant sources we would have to first go to the unnecessary bother of making Mercury and Sulphur from these animal materials. Again, if we were to chose 'middle' minerals we would equally waste our time. Our author here identifies 'middle' minerals as forms of magnesia (probably a generic term for any white earthy powder), marchasite (probably here meaning any substance with a metallic lustre, including such things as pyrites), tutty (powdered zinc or other similar metal oxide), coppers (here meaning any coppery or brassy substance), alums (a group of substances familiar in early times made by heating certain rocks to extract an astringent complex aluminium sulphate, soluble in water and used in various industries of the times), baurach is borax, another substance like alum used in the commercial process of the time), and finally salts (here possibly meaning in the general sense a colourless crystal mineral, like common salt, or salt petre)

And 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.

If we should take one of the seven spirits by itself, we would not succeed, because Nature requires a mixture of things in order to produce perfection. Our author does not identify these seven spirits, but perhaps he is meaning the different types of Mercury and Sulphur he identified in chapter two,

which you should have tabulated. Here we have, for example, a red and white, a fixed and unfixed, etc, Sulphur and Mercury.

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 and gathered together, after a due manner.

But finally if we should chose to work with our two principles, Mercury and Sulphur, and just combine them together and coagulate them into a solid mass, then we would still then fail, because we do not know their correct proportions. We will instead seek to find substances in which these things, Mercury and Sulphur, are already brought together and coagulated in the correct proportions and in the correct way.

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 the 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 the Elixir to white which it is not, nor cannot be, because they only are perfect.

Our author reveals a secret to us. Gold is a perfect masculine substance that does not need anything added to it or taken away from its perfection. If it were able to turn imperfect bodies into perfect ones, merely by being melted with it, it would be the red elixir. Similarly, if silver, the almost perfect feminine substance, could turn imperfect metals into perfect ones by being melted with them, then it would be the white elixir. This is not so in either case, because only gold and silver then remain perfect.

And 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, and 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. And forasmuch as Nature does always work simply, the perfection which is in them is simple, inseparable, and 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.

Indeed, the mixing of the perfect with the imperfect in this case does not mean that the imperfect become perfected, but rather the opposite. The perfect nature of the gold and silver is diminished and adulterated by the imperfect metals to which it is added. If gold and silver were more than perfect, say two, four or a hundred times more than perfect, then perhaps they might have enough perfection in them to change the imperfect they are mixed with into perfect materials. Nature works in a straightforward way to make changes, but the perfection in gold and silver, is inseparable from their own nature, and cannot be mixed or shared with other metals or substances. Thus neither of them may be, through the art of alchemy, made into a transmuting stone or ferment. Gold and silver cannot themselves bring other materials into their own form, because the volatile and imperfect in these materials, overcomes the fixed perfect substance in gold and silver.

And for that gold is a perfect body, consisting of Argent-vive, red and clear, and 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, and so strongly digested and fed with a natural heat, that with our artificial fire, we are scarcely able to work on gold or silver. And 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.

Though gold is a perfect body, and must consist of red and clear Mercury and red and clear Sulphur, it is not possible for it to be used as the matter of our transmuting stone. This is because they are simply perfect, and have not needed any artificial mundification (cleansing or purifying). We cannot work on gold or silver with our artificial alchemical fires, because they are so strongly digested in themselves and have their own natural heat. Though Nature seeks to perfect everything, she cannot further perfect and purify gold and silver, because she can only work on that which she has to perfect. If we choose gold or silver as the matter of our transmuting stone, we will find that our fire does not work upon them.

And although we are not ignorant of the fire, yet could we not come to the thorough mundification and perfection of it, by reason of his most firm knitting together, and natural composition. We are therefore excused for taking the first too red, or the second too white, seeing we may find out a thing or some body of as clean, or rather more clean Sulphur and Argent-vive, on which Nature has wrought little or nothing at all, which with our artificial fire, and experience of our art, we are able to bring unto its due concoction, mundification, colour and fixation, continuing our ingenious labour upon it.

The author says he is aware of the nature of this fire, but it will not cleanse or further perfect gold and silver, because they are composed in such a way that they are knit firmly together. We can be excused for thinking to take gold as it is too red, or silver because it is too white, and instead should try and find a substance with a similar degree of clean sulphur and mercury, on which Nature has not already worked to the perfection of gold and silver. It is on such a substance that with our alchemical experience and our artificial fire, we are able by our ingenious alchemical work to bring it through a process of cooking, cleaning, colouring and fixing.

There must therefore be such a matter chosen, wherein there is Argent-vive, clean, pure, clear, white and red, not fully complete, but equally and proportionably commixed after a due manner with the like Sulphur, and 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, than the simple bodies themselves, decoct by their natural heat.

You must therefore choose such a material, in which there is a clean, pure, clear, white and red Mercury (though not entirely complete in its nature), and mix this equally with a clean, pure, clear, white and red Sulphur, so that it becomes a solid mass. Through the wise work of alchemy and its artificial fire, we will bring this to its greatest perfection, so that at the end it will be a thousand thousand times more strong and perfect than are the simple bodies cooked with their own natural

heat (he means gold and silver).

Be therefore wise: for if you shall be subtle and witty in my chapters (wherein by manifest prose I have laid open the matter of the stone easy to be known) you shall taste of that delightful thing, wherein the whole intention of the philosophers is placed.

Our author exhorts us to take heed, for he is telling us the secrets of that amazing delightful thing that the philosophers have sought after.

CHAPTER IV.

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

I hope ere this time you have already found out by the words already spoken (if you are not most dull, ignorant, and foolish) the certain matter of the learned Philosophers blessed stone, whereon Alchemy works, while we endeavour to perfect the imperfect, and that with things more than perfect. And 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.

Our author hope that we have, from what he has been saying, now been able to identify the matter of the Philosophers' stone, with which we can perfect the imperfect, with something more than perfect through the work of alchemy. Nature has given us the imperfect only with the perfect. It is our task as alchemists to make the matter (identified in the earlier chapters) into a substance more than perfect.

And 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 and thickened, that in continuance of time it becomes Argent-vive? And that of the fatness of the earth through the same heat and decoction, Sulphur is engendered! And that through the same heat without intermission continued in them, all metals are engendered of them according to their purity and impurity? And that Nature does by decoction alone perfect or make all metals, as well perfect as imperfect?

What is the reason why we do not know the method of working this, when we can see how Nature continually works for a long time perfecting metals. Surely we see that in the mines under the mountains the continual heat, cooks the grossness of the water and thickens it so that over a long space of time it becomes Mercury. Similarly, through the same heat and cooking, the oiliness of the earth is made into Sulphur. Surely we recognise that this same heat, grows metals from this Mercury and Sulphur, the different metals forming according to the degrees of purity of the Mercury and Sulphur. Nature makes these metals, but the perfect and the imperfect ones, by cooking alone.

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: "Woe 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 straight way, to wit, continual concoction, and you like

fools despise it, or else know it not". Again, "Fire and Azot, are sufficient for you".

Our author now shows his exasperation with those people who seek to perfect metals by some invented process of their own deluded imagination. He quotes a number of writers, the first saying that it is stupid to try and work against Nature by some new process of ones own invention, when God has given Nature the simple straightforward way of continual cooking, which you should follow, rather than despising it. Another writer says that fire and azoth (here meaning the prime matter) are enough for the work of alchemy.

And in another place, "Heat perfects all things". And elsewhere, "See, see, see, and be not weary". And in another place, "Let your fire be gentle, and easy, which being always equal, may continue burning: and let it not increase, for if it does, you shall suffer great loss". And 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". And in another place, "Patiently, and continually", and in another place, "grind it seven times". And in another place, "It is ground with fire". And 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. And 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."

He continues his tirade, quoting from various authors, the gist of which is that the work is a simple cooking, once one has found the matter of the stone.

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 same decoction to be made without a vessel fit for it. And if we propose to imitate Nature in concocting, do we therefore 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. And 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, and becomes Sulphur.

Having talked about the means of working with the matter though steady cooking, our author now wants to discuss the vessel within which alchemists create their work and the furnace they use. Just as Nature cooks the metals in the mines with her fire, she requires that a similar vessel be found if one is to work this outside the mines. We cannot reject Nature's vessel. We have to consider that underneath the mountains there is a constant heat which always rises upwards, so that it dries up and thickens the heavy liquid hidden in the veins of the earth and turns it into Mercury. Similarly the oily part of the earth is gradually heated as it runs through the veins of the earth and becomes Sulphur.

And 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. And in these mineral places, you shall find a continual heat. For this cause we are 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.

It is not difficult for us to see that in these veins in the mines, the Sulphur meets with the Mercury and gives rise to a mineral water, and over a long period of time the various metals are formed, depending on the nature of the place. In such places you find a continual heat. We should note how mountains are on the outside stony so as to entirely enclose this heat and stop it coming out, for otherwise no metals would be formed.

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. And as in the mines, the 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 aforesaid things in it, but it must be put into another vessel, shut closed in the like manner, that so the temperate heat may touch the matter above and beneath, and wherever it be, more aptly and fitly. Whereupon Aristotle says, in the Light of Lights, that Mercury is to be concocted in a three-fold vessel, and that the vessel must be of most hard glass, or (which is better) of earth possessing the nature of glass.

An alchemist wishing to imitate Nature must therefore try and create a furnace in the same form as these mountains. Not of the same size of course, but of the same structure in that once the heat is placed in the vessel, it will not escape when it ascends. The vessel necessary for heating the matter of the stone, should be round and with a small neck. It should be made of glass or a close grained earthenware similar to glass. The mouth of the vessel must be tightly luted or sealed with clay. In the mountains the heat does not directly touch the Mercury and Sulphur material as the stony material comes between them, and so it must be with our vessel that the fire does not directly touch it. This is done by placing it inside another vessel, sealed in the same manner. Then the heat will be distributed evenly and temperately, above and below. Aristotle in the early alchemical text (ascribed to Aristotle or Rhases) *Lumen Luminum* seems to go even further by requiring a threefold vessel, rather than a double walled one. At any rate, evenness of heat is required and this cannot be done by heating the vessel directly.

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 says, "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 black. Whereof one says, "When you find 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 says: "It is often red, and often of a citrine colour, it often melts, and is often coagulated, before true whiteness". And 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 you, and that is the soul". And another, "Know, that in that green his soul bears dominion".

Our author now informs us of the colours that appear in the cooking of the matter. He quotes various authorities, one of whom states there are so many colours and so many names for them. The first stage where it is made black is called putrefaction by the philosophers. One of them says that in this blackness is hidden the whiteness, and this must be extracted from the blackness. After putrefaction it grows red, but not with true redness. One writer says that the matter is often red or a yellow colour, and often melts before it coagulates and becomes white. It goes through cycles of changes, dissolving, coagulating, putrefying, dying, then becoming black white and red, and also sometimes green. Some writers identify this greenness as its soul.

There appears also before whiteness the peacock's colour, whereon one says thus, "Know you that all the colours in the world, or that 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".

There also appears before the whiteness, the stage of the multicoloured peacock's tail. One authority is quoted who says that after all the colours that can be imagined have appeared then comes the whiteness. Another compared these colours to the iridescent eyes of fish.

And another says: "When you shall find whiteness atop in the glass, be assured that in that whiteness, redness is hidden: and this you must extract: but concoct it while it becomes all red: for between true whiteness and true redness, there is a certain ash-colour" Of which it is said, "After whiteness, you cannot err, for increasing the fire, you shall come to an ash-colour". Of which another says: "Do not set light by the ashes, for God shall give it to you molten: and then at the last the King is invested with a red crown by will of God".

Now we have the idea that just as the whiteness was earlier hidden in the blackness, now the redness is hidden in the white. Between these two stages a certain ashy colour can be seen.

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 and expected joy. The red Elixir turns into a citrine colour

infinitely, and changes all metals into pure gold. And the white Elixir does infinitely whiten, and brings every metal to perfect whiteness. But we know that one metal is farther off from perfection than another, and one more near than another. And although every metal may by the elixir be reduced to perfection, nevertheless the nearest are more easily, speedily, and perfectly reduced, than those which are far distant. And when we meet with a metal that is near to perfection, we are thereby excused from many that are far off. And as for which of the metals be near, and which far off, which of them I say be nearest to perfection, if you are wise and discrete, you shall find to be plainly and truly set out in my chapters.

Our author feels he has sufficiently explained the way of making the elixir and now want to move on to explain how we complete the work in the projection. The red elixir yellows things infinitely and changed metals into gold, and the white elixir similarly whitens metals infinitely. Each metal is a different degree removed from perfection, some being nearer and some further away. Those nearer to perfection are more easily tinged and transformed. Our author has set out in the chapters a description of those metals closest and those furthest away from perfection. We assume he is referring here to the list he gave in chapter 2.

And 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 and plain way, when they say: "Nature contains Nature: Nature overcomes Nature: and Nature meeting with her nature, exceedingly rejoices, and is changed into other natures". And 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". And in another place, "The soul does quickly enter into his own body, which if you go about to join with another body, you shall loose your labour: for the nearness itself is more clear".

He who has understood this Mirror of alchemy will by his own work find the true matter and also know what metal on which to project his medicine or elixir. Our author quotes from his alchemical predecessors. The first says that Nature contains its own being and has the power to overcome its constraints. Thus through Nature we can make the transforming stone which has a power above the natural to change the very nature of metals. When Nature meets with this power, she rejoices and can be transformed into other essential forms. Another writer says that like things are drawn together into friendships and affinities. Some other philosophers state that once the soul has entered the body it may not so easily be joined to another body. Here perhaps our author is drawing our attention to the fact that in the alchemical projection, which he is here attempting to describe, the addition of the elixir is like a soul entering the body of the metal. If you attempt to project onto a substance too far removed from perfection, this soul or elixir may not successfully join with it and transmute it. The more close to perfection the metal is, the more clear will be its transformation.

And because corporeal things in this regiment are made incorporeal, and 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.

In this process corporeal earthly matters are made incorporeal and more spiritual, and simultaneously the incorporeal nature of the spiritual elixir is made corporeal and fixed at the conclusion of the work. It is consequently quite miraculous that the spiritual elixir becomes mixed into a body only through it being melted. It is extremely difficult to project the elixir on a million or more times its weight of metal and immediately penetrate and transmute such a mass.

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, and 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 do this 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.

Our author is going to tell us a great secret, to help us in the projection. Instead of projecting one part of the elixir on a million parts of metal, instead one does this in two stages. This is the idea of the alchemical multiplication of the elixir, though this term is not used here. One part of the elixir is mixed with a thousand parts of the body of metal to be transmuted placed in a vessel and heated firstly with a lent fire, a slow or gentle heat, then increasing the heat gradually over a period of three days, till the elixir and the metal are thoroughly united. Then one takes one part of the resulting substance and projects this upon a thousand parts of any metal close to perfection, and the transmutation will be effected even in a moment, certainly in an hour or within the period of a day.

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

Our author wants to leave us with the idea that this text was written by Roger Bacon. At the time this work was composed (mid 15th century or later) Roger Bacon was already established as a great ancient authority. Our author wishes to link his text to that authority.

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We can see that this work is not a work of practical alchemy. It provides little practical laboratory information. The reader will not gain many insights from this text into how to undertake an actual laboratory process to make a transmutation. Instead this book is a work that presents a philosophical theory about alchemy, namely that metals are formed in the earth through the interplay of Mercury and Sulphur. It further suggests that if an alchemist wants to be successful then he must recreate the conditions in which metals are formed in the mines of the earth, within his flasks and furnaces. The alchemist then acts like Nature does under the mountains and in the mines. Alchemy is thus a working of natural processes in the small scale of the alchemists' flasks. This idea was very popular in later alchemy and made complete sense. To its practitioners, alchemy was not some unique act of magic, but the attempt to replicate a process that takes place every day in Nature. Perhaps this explains the popularity and influence of this text. It might seem to our modern mind that little has been said, but in fact the book provided a substantial philosophical foundation for the practice of alchemy to the times in which it appeared.

