

Democritus, *On the Making of Purple and Gold: Natural and Secret Questions* (=PM)

3. Having learned these things from the abovementioned master and known the differences of the matter, I strove to combine natures. Since our master died before our initiation was completed, while we were still devoted to investigating the matter, I tried to conjure him from Hades. As soon as I was ready to do it, I immediately conjured him by saying: "Are you giving me any gift in return for what I did for you?" So I spoke, but he kept silence. Since I conjured him several times asking how to combine natures, he replied to me that it was difficult to speak, because he was not allowed to do so by his daemon. He told me only: "The books are in the temple." I came back to the temple and prepared myself for exploring it in the hope of finding the books. He did not speak about them when he was alive, and he died intestate: some people claim that he swallowed a poison for separating soul from body; according to his son, he died suddenly during a banquet. But before dying he made sure that the books would have been shown only to his son after he had passed his first age [i.e. his childhood]: so none of us knew anything about them. Since we did not find anything despite our searches, we worked very hard to make substances and natures mix together and to bring them into aggregation. When we accomplished the combinations of the matter, after a little while a feast took place in the temple and all of us joined the banquet. We were in the *sancta sanctorum* when a column broke up by itself, which at first sight did not contain anything inside. But <...> said that the books of his father had been preserved within this column, and he took them out and showed them publicly. Peering [into the books] we were surprised [to find] that we had not neglected anything, except this very helpful saying that we found there: "Nature delights in nature, nature conquers nature, nature masters nature." We marvelled greatly at how he had summarised all his work in such a short saying.

15. O natures, artificers of natures! O greatest natures that conquers natures with your transformations! O natures above nature, which delight in natures! These are the substances that have a great nature; no other natures are greater than these natures in dyeing, no others are equivalent, no others are subordinated: these substances when dissolved produce everything. O you who are prophets with me, I know that you are no incredulous, but rather open to wonder; you know in fact the power of the matter. And [you know] that because of their ignorance of the matter young men will be misled and distrustful of this writing, since they do not know that students of physicians who want to prepare a beneficial drug do not set about making it on a rash impulse, but first of all they test which kind of [drug] is hot; which kind, when joined to it, produces a balanced mixture; which kind is cold or wet; and of which kind is the affection, whether it [the drug?] is appropriate for the balanced mixture. In this way they administer the drug that has been judged suitable for good health.

16. On the contrary, these novices who rashly and without reasoning want to prepare a medicine for the soul and for relieving any distress are not aware that they will fail. In fact, they believe that we are presenting a legendary rather than a secret discourse, so they do not carry out any close examination of the species: for example, where one species can cleanse, another can be applied; where one species can dye, another can combine; and whether one species can make things bright and, with respect to this brightness, whether it is vanishing and vanishes from inside; and whether one species can resist fire, and another, when mixed, can make things fire-resisting; for instance, whether salt cleanses the surface of the copper and whether it properly cleanses its inner part; and after this cleansing process, whether it rusts the surface and whether it rusts the inner part; and whether mercury cleanses and whitens the surface of a

gold=copper alloy, and whether it makes its inner part white; and whether it [i.e. the whitening produced by mercury] vanishes from the surface and whether it will vanish from inside. If these novices had practised these kinds of investigations, they would not be in trouble, since they could set to work with good judgement. But they do not know the antipathies of natures, how one species upsets ten: a drop of oil can remove much purple, and a pinch of sulphur can burn many species. Let this suffice concerning dry substances and concerning how people must approach this writing. Let us deal with washes [i.e. dyeing liquids] in the following part.

17. Take Pontic rhubarb and triturate it into rough Aminean wine and make it as thick as a salve. Take a silver leaf in order to make gold; make it as thick as a fingernail and even thicker than that. Rub <half> of the drug [on the leaf] and put it into a new vessel well closed all around; burn by applying a gentle fire below until [the drug] soaks in [lit. reaches the middle (of the leaf)]. Then put the leaf into the rest of the drug and dilute with the wine prescribed above, until the wash looks thick. Put the leaf again into this solution before it gets cold: let [the leaf] soak it up. Then take it out, melt it, and you will find gold. When the rhubarb is stale, mix it with the same amount of celandine that has been macerated as is customary. For celandine has affinity with rhubarb. Nature delights in nature.

18. Take Cilician saffron; dissolve the saffron flowers with the above prescribed grape juice; make a wash as is customary. Dip in silver leaves, until you like their colour. But, it is better if the leaf is made of copper; clean first the copper as is customary. Then add two parts of the herb *Aristolochia*, the double amount of saffron and celandine, and make them as thick as a salve. Rub the leaf [with it], work following the foregoing method and you will marvel. In fact, Cilician saffron produces the same effect as mercury as well as cassia [produces the same effect as] cinnamon. Nature conquers nature.

19. Take out lead, the lead that has become harder [by losing its own moisture] by means of Chian earth, Parian earth, and alum; melt it with [a fire of] chaff and pour it over pyrite, and saffron, and flowers of safflower and *oichomenion*, and celandine, and saffron-sauce, and *Aristolochia*. Triturate [these ingredients] with the sharpest vinegar, and make a wash as is customary. Let the lead soak up rhubarb, and you will find gold. Let the compound have also a pinch of unburnt sulphur. Nature masters nature.

20. This is <the method> of Pammenes which he taught to the Egyptian priests. The matter for the making of gold extends up to these natural substances. But do not marvel that just on species can perform such a mystery. Do you not see that many drugs can [only] with difficulty, even given time, close up a wound made by iron, while human excrement produces this effect immediately? And often, when many drugs are administered for cauterising, they do not produce any effect, while treated quicklime alone cures the disease. And often, when a complex treatment is provided for ophthalmia it can be harmful, while the Rhamnus plant, which has an effect on any disease of this kind, does not fail. So we have to disregard such a worthless and unsuitable matter, and make use only of the natural substances. And now evaluate the question also on the basis of this point: who could ever work without the above mentioned natures? And, if working is not possible without those natures, why do we like the illusion that a plurality of matters exists? Why do we need many species to concur in order to do the same, when one nature conquers everything? Let us clearly examine also the composition of the species for the making of silver.