OF THE FACE APPEARING WITHIN THE ORB OF THE MOON.

LAMPRIAS, APOLLONIDES, LUCIUS, PHARNACES, SYLLA, ARISTOTELES, THEON, MENELAUS

[The beginning of this discourse is lost.]

- 1. These things then, said Sylla, agree with my story, and are taken thence. But I should first willingly ask, what need there is of making such a preamble against these opinions, which are at hand and in every man's mouth, concerning the face that is seen within the orb of Why should we not, said I, being, by the difficulty there is in these discourses, forced upon those? For, as they who have long lain lingering under chronical diseases, after they have been worn out and tired with experimenting all ordinary remedies and the usual rules of living and diet, have at last recourse to lustrations and purifications, to charms and amulets fastened about the neck, and to the interpretation of dreams; so in such obscure and abstruse questions and speculations, when the common, apparent, and ordinary reasons are not satisfactory, there is a necessity of trying such as are more extravagant, and of not contemning but enchanting ourselves (as one may say) with the discourses of the ancients, and endeavoring always to find out the truth.
- 2. For you see at the very first blush, how impertinent his opinion is who said, that the form appearing in the moon is an accident of our sight, by its weakness giving way to her brightness, which we call the dazzling of our

eyes; for he perceives not that this should rather befall our looking against the sun, whose lustre is more resplendent, and whose rays are more quick and piercing; as Empedocles also in a certain passage of his has not unpleasantly noted the difference of these two planets, saying,

The sharp-rayed sun, and gently shining moon.

For thus does he call her alluring, favorable, and harmless light. No less absurd appears the reason he afterwards gives why dull and weak eyes discern no difference of form in the moon, her orb appearing to them plain and smooth, whereas those whose sight is more acute and penetrating better descry the lineaments and more perfectly observe the impressions of a face, and more evidently distinguish its different parts. For it should, in my opinion, be quite contrary, if this were a fancy caused by the weakness of the vanquished sight; so that where the patient's eye is weaker, the appearance would be more express and evident. Moreover, the inequality every way confutes this reason; for this face is not seen in a continuance and confused shadow, but the poet Agesianax not unelegantly describes it, saying,

With shining fire it circled does appear, And in the midst is seen the visage clear Of a young maid, whose eyes more gray than blue, Her brow and cheeks a blushing red do show.

For indeed dark and shady things, encompassed with others that are bright and shining, sink underneath and reciprocally rise again, being repelled by them; and in a word, they are so interlaced one within another, that they represent the figure of a face painted to the life; and there seems to have been great probability in that which was spoken against your Clearchus, my dear Aristotle. For he appears not inconveniently to be called yours, for he

was intimately acquainted with the ancient Aristotle, although he perverted many of the Peripatetic doctrines.

3. Then Apollonides taking up the discourse, and asking what that opinion of Clearchus was; It would more, said I, beseem any man than you to be ignorant of this discourse, as being grounded on the very fundamental principles of geometry. For he affirms, that what we call a face, is the image and figure of the great ocean, represented in the moon as in a mirror. For the circumference of a circle, when it is reflected back,* is wont in many places to touch objects which are not seen in a direct line. And the full moon is for evenness and lustre the most beautiful and purest of all mirrors. As then you hold, that the heavenly bow appears, when the ray of light is reflected back towards the sun, in a cloud which has got a little liquid smoothness and consistence; so, said he, there is seen in the moon the surface of the sea, not in the place where it is situated, but from whence the reflection gives a sight of it by its reverberated and reflexed light, as Agesianax again says in another passage,

> This flaming mirror offers to your eyes The vast sea's figure, as beneath it lies Foaming with raging billows.

4. Apollonides therefore, being delighted with this, said: A singular opinion indeed is this of his, and (to speak in a word) strangely and newly invented by a man sufficiently presumptuous, but not void of learning and wit. But how, I pray, was it refuted?

First, said I, the superficies of the sea is all of a nature, the current of it being uniform and continuous; but the appearance of those black and dark spots which are seen in the face of the moon is not continued, but has certain

* See the account of various ancient doctrines of vision and the reflection of light in the treatise on the Opinions of Philosophers, Book IV. Chapters 13 and 14. The idea that vision was caused by something proceeding from the eye to the object is especially to be noticed. (G.)

isthmuses or partitions clear and bright, which divide and separate what is dark and shady. Whence every place being distinguished and having its own limits apart, the conjunctions of the clear with the obscure, taking a resemblance of high and low, express and represent the similitude of a figure seeming to have eyes and lips; so that we must of necessity suppose, either that there are main oceans and main seas, distinguished by isthmuses and continents of firm land, which is evidently absurd and false; or that if there is but one, it is not credible its image should appear so distracted and dissipated into pieces. And as for this, there is less danger in asking than in affirming in your presence, whether, since the habitable earth has both length and breadth, it is possible that the sight of all men, when it is reflected by the moon, should equally touch the ocean, even of those that sail and dwell in it, as do the Britons; especially since the earth, as you have maintained, has but the proportion of a point, if compared to the sphere of the moon. This therefore, said I, it is your business to observe, but the reflection of the sight against the moon belongs neither to you nor Hipparchus. And yet, my friend Lamprias, there are many naturalists, who approve not this doctrine of his touching the driving back of the sight, but affirm it to be more probable that it has a certain obedient and agreeing temperature and compactness of structure, than such beatings and repercussions as Epicurus feigned for his atoms.* Nor am I of opinion that Clearchus would have us suppose the moon to be a massy and weighty body, but a celestial and light-giving star, as you say it is, which must have the property of breaking and turning aside the sight; so that all this reflection would come to nothing. But if we are desired to receive and admit it, we shall ask why this face or image of the sea is to be seen only in the body of the

^{*} The text in this passage is defective, and the sense chiefly conjectural. (G)

moon; and not in any of the other stars? For the laws of probability require that the sight should suffer this equally in all, or else in none.

But pray, sir, said I, casting mine eyes upon Lucius, call a little to mind what was said at first by those of our party.

5. Nay rather, answered he, — lest we should seem too injurious to Pharnaces, in thus passing by the opinion of the Stoics, without opposing any thing against it, — let us make some reply to this man, who supposes the moon to be wholly a mixture of air and mild fire, and then says that, as in a calm there sometimes arises on a sudden a breeze of wind which curls and ruffles the superficies of the sea, so, the air being darkened and rendered black, there is an appearance and form of a face.

You do courteously, Lucius, said I, thus to veil and cover with specious expressions so absurd and false an opinion. But so did not our friend; but he said, as the truth is, that the Stoics disfigured and mortified the moon's face, filling it with stains and black spots, one while invocating her by the name of Diana and Minerva, and another while making her a lump and mixture of dark air and charcoal-fire, not kindling of itself or having any light of its own, but a body hard to be judged and known, always smoking and ever burning, like to those thunders which by the poets are styled lightless and sooty. Now that a fire of coals, such as they would have that of the moon to be, cannot have any continuance nor yet so much as the least subsistence, unless it meets with some solid matter fit to maintain it, keep it in, and feed it, has, I think, far better than it is by these philosophers, been understood by those poets who in merriment affirm that Vulcan was therefore said to be lame because fire can no more go forward without wood or fuel than a cripple without a crutch. If then the moon is fire, whence has it so much air? For that region above, which is with a continual motion carried round, consists

not of air, but some more excellent substance, whose nature it is to subtilize and set on fire all other things. And if it has been since engendered there, how comes it that it does not perish, being changed and transmuted by the fire into an ethereal and heavenly substance? And how can it maintain and preserve itself, cohabiting so long with the fire, as a nail always fixed and fastened in one and the same place? For being rare and diffused, as by Nature it is, it is not fitted for permanency and continuance, but for Neither is it possible that it change and dissipation. should condense and grow compact, being mixed with fire, and utterly void of water and earth, the only two elements by which the nature of the air suffers itself to be brought to a consistency and thickness. And since the swiftness and violence of motion is wont to inflame the air which is in stones, and even in lead itself, as cold as it is; much more will it that which, being in fire, is with so great an impetuosity whirled about. For they are displeased with Empedocles for making the moon a mass of air congealed after the manner of hail, included within a sphere of fire. And yet they themselves say, that the moon, being a globe of fire, contains in it much air dispersed here and there, and this, though it has neither ruptures, concavities, nor depths (which they who affirm it to be earthly admit), but the air lies superficially on its convexity. Now this is both against the nature of permanency, and impossible to be accorded with what we see in full moons; for it should not appear separately black and dark, but either be wholly obscured and concealed or else co-illuminated, when the moon is overspread by the sun. For with us the air which is in the pits and hollows of the earth, whither the rays of the sun cannot penetrate, remains dark and lightless; but that which is spread over its exterior parts has clearness and a lightsome color. For it is by reason of its rarity easily transformed into every quality and faculty, but principally that of light and brightness, by which, being never so little touched, it incontinently changes and is illuminated. This reason therefore, as it seems greatly to help and maintain the opinion of those who thrust the air into certain deep valleys and caves in the moon, so confutes you, who mix and compose her sphere, I know not how, of air and fire. For it is not possible that there should remain any shadow or darkness in the superficies of the moon, when the sun with his brightness clears and enlightens whatsoever we can discern of her and ken with our sight.

6. Whilst I was yet speaking, Pharnaces interrupting my discourse said: See here again the usual stratagem of the Academy brought into play against us, which is to busy themselves at every turn in speaking against others, but never to afford an opportunity for reproving what they say themselves; so that those with whom they confer and dispute must always be respondents and defendants, and never plaintiffs or opponents. You shall not therefore bring me this day to give you an account of those things you charge upon the Stoics, till you have first rendered me a reason for your turning the world upside down.

Then Lucius smiling said: This, good sir, I am well contented to do, provided only that you will not accuse us of impiety, as Cleanthes thought that the Greeks ought to have called Aristarchus the Samian into question and condemned him of blasphemy against the Gods, as shaking the very foundations of the world, because this man, endeavoring to save the appearances, supposed that the heavens remained immovable, and that the earth moved through an oblique circle, at the same time turning about its own axis. As for us therefore, we say nothing that we take from them. But how do they, my good friend, who suppose the moon to be earth, turn the world upside down more than you, who say that the earth remains here hang-

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