

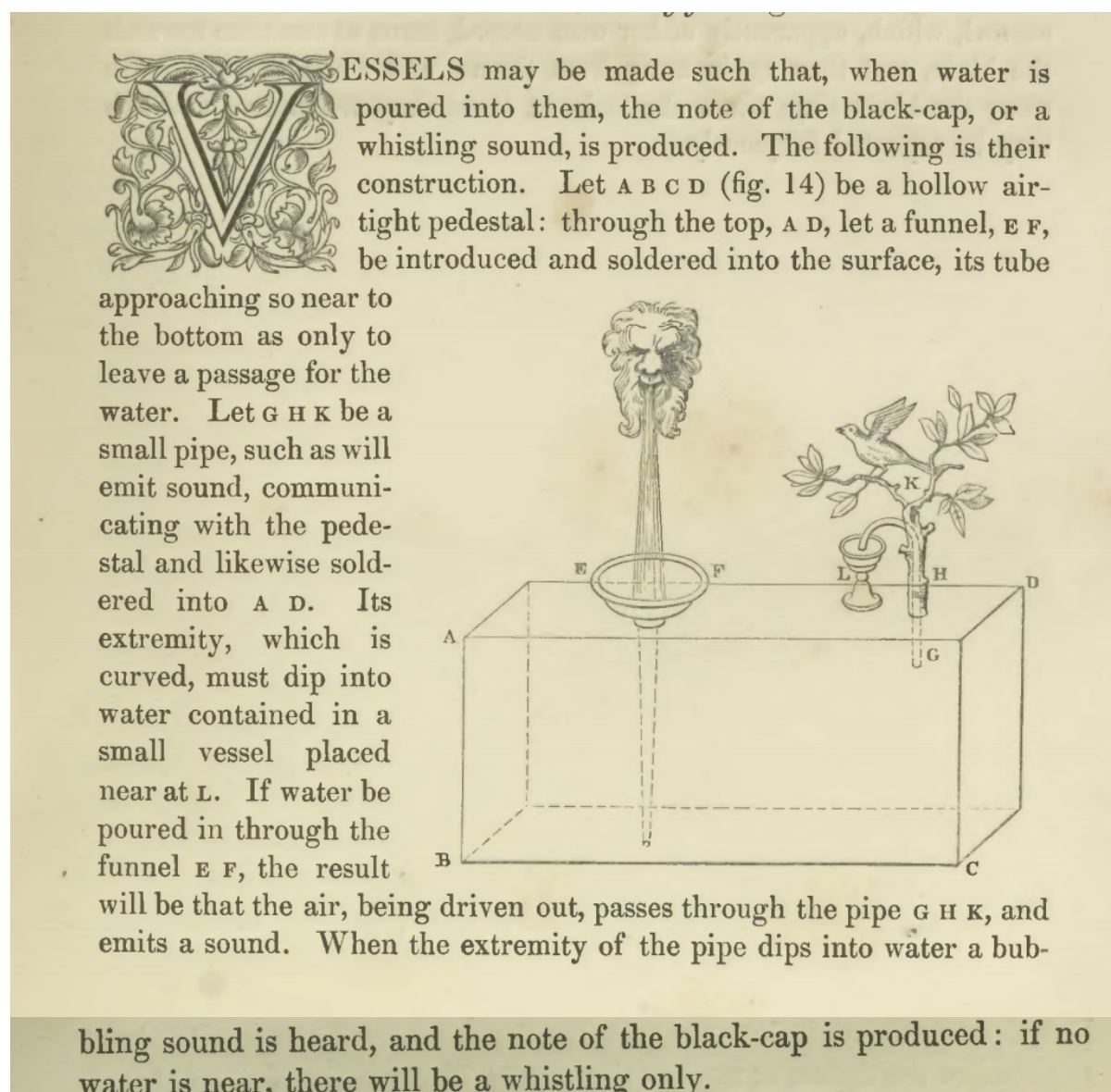
Aristotle, *On the Soul* 420b 5-34

περὶ μὲν οὖν ψόφου ταύτη διωρίσθω. ἡ δὲ φωνὴ ψόφος τίς ἐστὶν ἐμψύχου· τῶν γὰρ ἀψύχων οὐθὲν φωνεῖ, ἀλλὰ καθ' ὁμοιότητα λέγεται φωνεῖν, οἷον αὐλὸς καὶ λύρα καὶ ὅσα ἄλλα τῶν ἀψύχων ἀπότασιν ἔχει καὶ μέλος καὶ διάλεκτον. ἔοικε γάρ, ὅτι καὶ ἡ φωνὴ ταύτ' ἔχει. πολλὰ δὲ τῶν ζώων οὐκ ἔχουσι φωνήν, οἷον τὰ τε ἄναιμα καὶ τῶν ἐναίμων ἰχθύες (καὶ τοῦτ' εὐλόγως, εἴπερ ἀέρος κίνησις τίς ἐστὶν ὁ ψόφος), ἀλλ' οἱ λεγόμενοι φωνεῖν, οἷον <οἱ> ἐν τῷ Ἀχελῷῳ, ψοφοῦσι τοῖς βραγχίοις ἢ τινι ἐτέρῳ τοιούτῳ, φωνὴ δ' ἐστὶ ζώου ψόφος οὐ τῷ τυχόντι μορίῳ. ἀλλ' ἐπεὶ πᾶν ψοφεῖ τύπτοντός τινος καὶ τι καὶ ἐν τινι, τοῦτο δ' ἐστὶν ἀήρ, εὐλόγως ἂν φωνοίη ταῦτα μόνον ὅσα δέχεται τὸν ἀέρα. τῷ γὰρ ἤδη ἀναπνεομένῳ καταχρήται ἡ φύσις ἐπὶ δύο ἔργα—καθάπερ τῇ γλώττῃ ἐπὶ τε τὴν γεῦσιν καὶ τὴν διάλεκτον, ὧν ἡ μὲν γεῦσις ἀναγκαῖον (διὸ καὶ πλείοσιν ὑπάρχει), ἡ δ' ἐρμηνεία ἔνεκα τοῦ εὐ, οὕτω καὶ τῷ πνεύματι πρὸς τε τὴν θερμότητα τὴν ἐντὸς ὡς ἀναγκαῖον <ὄν> (τὸ δ' αἴτιον ἐν ἐτέροις εἰρήσεται) καὶ πρὸς τὴν φωνὴν ὅπως ὑπάρχει τὸ εὐ. ὄργανον δὲ τῇ ἀναπνοῇ ὁ φάρυγξ· οὐ δ' ἔνεκα τὸ μόριόν ἐστὶ τοῦτο, πνεύμων· τούτῳ γὰρ τῷ μορίῳ πλεον ἔχει τὸ θερμὸν τὰ περὶ τῶν ἄλλων. δεῖται δὲ τῆς ἀναπνοῆς καὶ ὁ περὶ τὴν καρδίαν τόπος πρῶτος. διὸ ἀναγκαῖον εἴσω ἀναπνεόμενον εἰσιέναι τὸν ἀέρα. ὥστε ἡ πληγὴ τοῦ ἀναπνεομένου ἀέρος ὑπὸ τῆς ἐν τούτοις τοῖς μορίοις ψυχῆς πρὸς τὴν καλουμένην ἀρτηρίαν φωνὴ ἐστὶν (οὐ γὰρ πᾶς ζώου ψόφος φωνή, καθάπερ εἶπομεν—ἐστὶ γὰρ καὶ τῇ γλώττῃ ψοφεῖν καὶ ὡς οἱ βήττοντες—ἀλλὰ δεῖ ἔμψυχόν τε εἶναι τὸ τύπτον καὶ μετὰ φαντασίας τινός· σημαντικὸς γὰρ δὴ τις ψόφος ἐστὶν ἡ φωνή)· καὶ οὐ τοῦ ἀναπνεομένου ἀέρος ὡσπερ ἡ βήξ, ἀλλὰ τούτῳ τύπτει τὸν ἐν τῇ ἀρτηρίᾳ πρὸς αὐτήν. [ed. Ross]

Voice is the sound produced by a creature possessing a soul; for inanimate things never have a voice; they can only metaphorically be said to give voice, e.g., a flute or a lyre, and all the other inanimate things which have a musical compass, and tune, and modulation. The metaphor is due to the fact that the voice also has these, but many animals—e.g., those which are bloodless, and of animals which have blood, fish—have no voice. And this is quite reasonable, since sound is a kind of movement of the air. The fish, such as those in the Achelous,^a which are said to have a voice, only make a sound with their gills, or with some other such part. Voice, then, is a sound made by a living animal, and that not with any part of it indiscriminately. But, since sound only occurs when something strikes something else in a certain medium, and this medium is the air, it is natural that only those things should have voice which admit the air. As air is breathed in Nature makes use of it for two functions: just as she uses the tongue both for taste and for articulation, of which taste is an essential to life (and consequently belongs to more species), and articulate speech is an aid to living well; so in the same way she employs breath both to conserve internal heat, as something essential (why it is so will be explained in another treatise),^b and also for the voice, that life may be of good standard. The organ of respiration is the throat, and the part which this is designed to serve is the lung; it is because of this part that the land animals have more heat than the rest. But the region about the heart also has a primary need of respiration. Hence it is necessary that in respiration the air should enter the body. Hence voice consists in the impact of the inspired air upon what is called the windpipe under the agency of the soul in those parts. For, as we have said, not every sound made by a living creature is a voice (for one can make a sound even with the tongue, or as in coughing), but that which even causes the impact, must have a soul, and use some imagination; for the voice is a sound which means something, and is not merely indicative of air inhaled, as a cough is; in uttering voice the agent uses the respired air to strike the air in the windpipe against the windpipe itself. [tr. W. S. Hett]

Hero Pneumatics 1.15

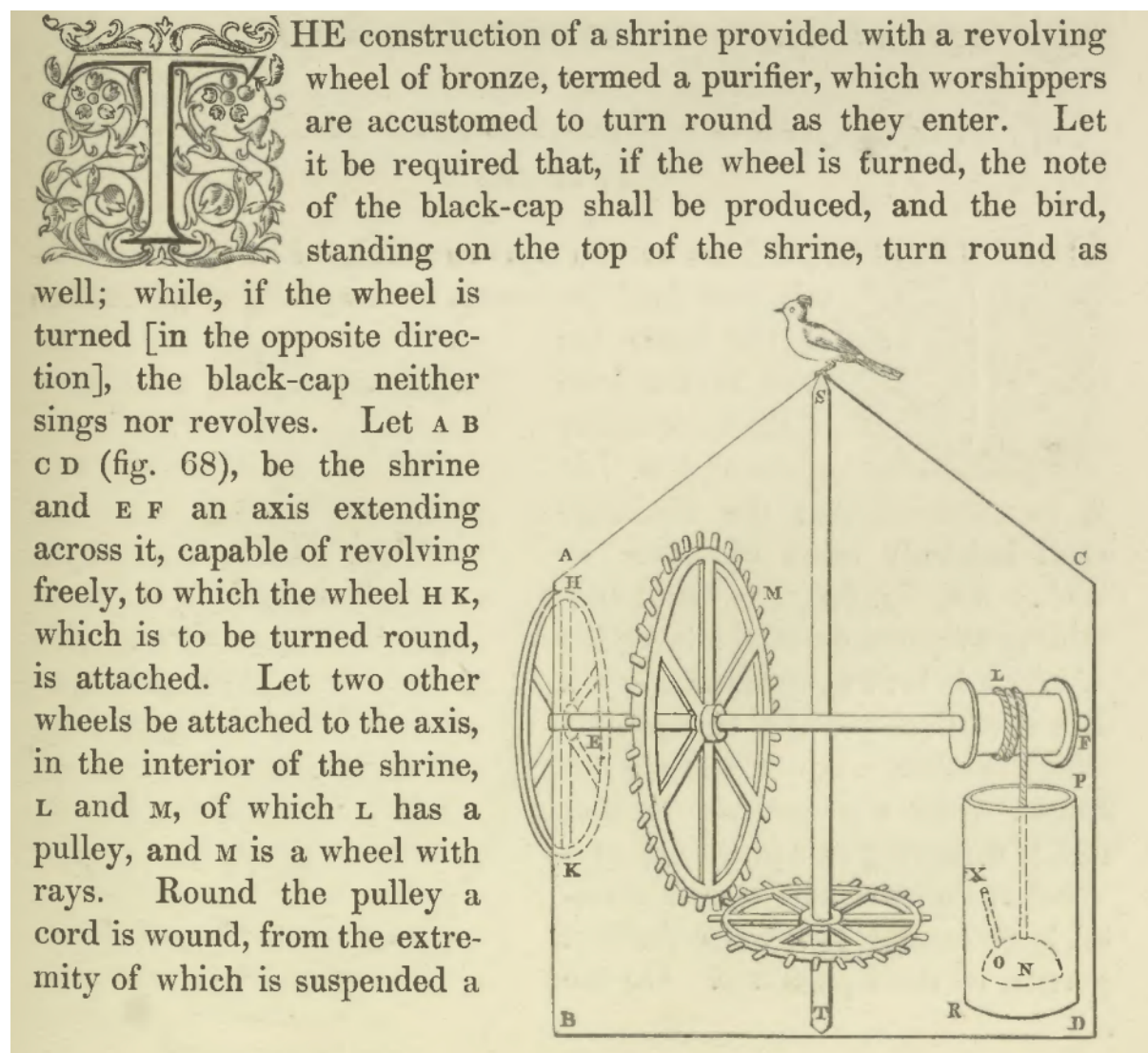
Εἰς ἓνια ἀγγεῖα ὕδατος ἐγγυθέντος μελαγκορύφου γίνεται φωνὴ ἢ συριγμός· κατασκευάζεται δὲ οὕτως. Ἐστω βάσις στεγνὴ ἢ ΑΒΓΔ· καὶ διὰ τῆς στέγης τῆς ΑΔ διώσθω χώνη ἢ ΕΖ, ἧς ὁ καυλὸς ἀπεχέτω τοῦ πυθμένος ὅσον ὕδατι διάρρυσιν καὶ συνεστεγνώσθω τῇ στέγῃ. ἔστω δὲ καὶ συρίγγιον τὸ ΗΘΚ τῶν εἰθισμένων φθέγγεσθαι· συντετρήσθω δὲ τῇ βάσει καὶ συνεστεγνώσθω ὁμοίως τῇ ΑΔ στέγῃ· τὸ δὲ Κ στόμιον αὐτοῦ ἐπικεκάμφθω εἰς ὑδάτιον ἀγγειδίου παρακειμένου τοῦ Λ. συμβήσεται οὖν ἐγγυνομένου τοῦ ὕδατος διὰ τῆς ΕΖ χώνης τὸν ἐν τῇ βάσει ἀέρα ἐκθλιβόμενον χωρεῖν διὰ τοῦ ΗΘΚ συριγγίου καὶ τὸν ἦχον ἀποδιδόναι. ἐὰν μέντοι τοῦ συριγγίου τὸ ἄκρον ἐπικεκαμμένον ἢ πρὸς τῷ ὕδατι, ἀνακαχλάζων εἶδεται ὁ ἦχος, ὥστε μελαγκορύφου γίνεσθαι φωνήν· ἐὰν δὲ μὴ παρακέηται τὸ ὑδάτιον, συριγμὸς μόνος ἔσται.



Tr. Woodcroft [<https://www.loc.gov/item/07041532/>]

Hero Pneumatics 2.32

Θησαυροῦ κατασκευὴ τροχὸν ἔχοντος στρεφόμενον χάλκεον, ὃς καλεῖται ἀγνιστήριον· τοῦτο γὰρ εἰώθασιν οἱ εἰς τὰ ἱερὰ εἰσιόντες στρέφειν. ἔστω οὖν τοῦ τροχοῦ στραφέντος μελαγκορύφου γίνεσθαι φωνήν, καὶ αὐτὸ δὲ τὸ ὀρνύφιον ἐφεστὼς στρέφεσθαι, σταθέντος δὲ τοῦ τροχοῦ μηκέτι φθέγγεσθαι τὸν μελαγκόρυφον μήτε στρέφεσθαι. Ἔστω θησαυρὸς μὲν ὁ ΑΒΓΔ, ἄξων δὲ διακείμενος ἐν αὐτῷ ὁ ΕΖ εὐλύτως δυνάμενος στρέφεσθαι, ᾧ συμφυῆς ἔστω ὁ ΘΚ τροχός, ὃν δεῖ στρέφειν. ἔστωσαν δὲ τῷ ἄξονι δύο τροχοὶ συμφυεῖς ἐντὸς οἱ Λ, Μ, ὧν ὁ μὲν Λ ἐξελίκτηρα ἔχεται, ὁ δὲ Μ ἀκτινωτὸς ἔστω. περὶ δὲ τὴν ἐξελίκτηρα σπάρτος ἐπιλήσθω, ἥς ἀπὸ τοῦ ἄκρου ἐκκρεμάσθω πνιγεὺς ὁ Ν σωλήνα ἔχων τὸν ΕΟ καὶ συρίγγιον ἔχων ἐπ' ἄκρου μελαγκορυφίζον. ὑποκείσθω δὲ τῷ πνιγῆι ὕδατος ἀγγεῖον τὸ ΠΡ. καθείσθω δὲ καὶ ἄξονισκος ὁ ΣΤ ἀπὸ τῆς κορυφῆς τοῦ θησαυροῦ εὐλύτως δυνάμενος στρέφεσθαι, πρὸς μὲν τῷ Σ ἔχων τὸν μελαγκόρυφον, πρὸς δὲ τῷ Τ ἀκτινωτὸν τύμπανον ἐμπεπλεγμένον τῷ Μ τυμπάνῳ. συμβήσεται οὖν ἐπιστραφέντος τοῦ ΘΚ τροχοῦ ἐπιλείσθαι τὴν σπάρτον περὶ τὴν ἐξελίκτηρα καὶ ἀνέχειν τὸν πνιγέα, ἀφεθέντος δὲ τοῦ τροχοῦ τῷ βάρει καταφερόμενον τὸν πνιγέα εἰς τὸ ὕδωρ τὸν ἦχον ἀποτελεῖν τοῦ ἀέρος ἐκθλιβομένου, ἅμα δὲ καὶ τὸν μελαγκόρυφον ἐπιστρέφειν διὰ τῆς τῶν τυμπάνων ἐπιστροφῆς. [ed. Schmidt]



vessel N, shaped like a conical oven, and provided with a tube x o, terminating in a small pipe which produces the note of a black-cap : under the conical vessel N must be placed a vessel of water. From the top of the shrine let fall a small axis s r capable of revolving freely : at the extremity s let a black-cap be placed, and at r a wheel with rays, the rays of which are implicated with, or take into, the rays of the wheel m. It will be found that, when the wheel η κ is made to revolve, the cord is wound round the pulley and raises the conical vessel N ; but, if the wheel is let go, N descends by its own weight into the water and produces the sound by the expulsion of the air. The black-cap turns round at the same time owing to the revolution of the wheels.

Tr. Woodcroft [<https://www.loc.gov/item/07041532/>]

Lucian Alexander, *The False Prophet* 12

Εισβαλὼν οὖν ὁ Ἀλέξανδρος μετὰ τοιαύτης τραγωδίας διὰ πολλοῦ εἰς τὴν πατρίδα περίβλεπτός τε καὶ λαμπρὸς ἦν, μεμνημένοι προσποιούμενοι ἐνίοτε καὶ ἀφροῦ ὑποπιμπλάμενος τὸ στόμα· ῥαδίως δὲ τοῦτο ὑπῆρχεν αὐτῷ, στρουθίου τῆς βαφικῆς βοτάνης τὴν ῥίζαν διαμασησαμένῳ· τοῖς δὲ θεῖόν τι καὶ φοβερὸν ἐδόκει καὶ ὁ ἀφρός· ἐπεποίητο δὲ αὐτοῖς πάλαι καὶ κατεσκευάστο κεφαλὴ δράκοντος ὀθονίνη ἀνθρωπόμορφόν τι ἐπιφαίνουσα, κατάγραφος, πάνυ εἰκασμένη, ὑπὸ θριξίν ἰππεύειας ἀνοίγουσά τε καὶ αὐθις ἐπικλείουσα τὸ στόμα, καὶ γλῶττα οἷα δράκοντος διττὴ μέλαινα προέκυπτεν, ὑπὸ τριχῶν καὶ αὐτὴ ἐλκομένη. καὶ ὁ Πελλαῖος δὲ δράκων προὔπῆρχεν καὶ οἴκοι ἐτρέφετο, κατὰ καιρὸν ἐπιφανησόμενος αὐτοῖς καὶ συντραγωδῆσων, μᾶλλον δὲ πρωταγωνιστῆς ἐσόμενος. [ed. Harmon]

Well, upon invading his native land with all this pomp and circumstance after a long absence, Alexander was a man of mark and note, affecting as he did to have occasional fits of madness anti causing his mouth to fill with foam. This he easily managed by chewing the root of soapwort, the plant that dyers use; but to his fellow-countrymen even the foam seemed supernatural and awe-inspiring. Then, too, they had long ago prepared and fitted up a serpent's head of linen, which had something of a human look, was all painted up, and appeared very lifelike. It would open and close its mouth by means of horsehairs, and a forked black tongue like a snake's, also controlled by horsehairs, would dart out. Besides, the serpent from Pella was ready in advance and was being cared for at home, destined in due time to manifest himself to them and to take a part in their show—in fact, to be cast for the leading rôle. [tr. Harmon]

Lucian Alexander, *The False Prophet* 26

Πολλάκις μὲν οὖν, ὡς προεῖπον, ἔδειξε τὸν δράκοντα τοῖς δεομένοις, οὐχ ὅλον, ἀλλὰ τὴν οὐρὸν μάλιστα καὶ τὸ ἄλλο σῶμα προβεβληκῶς, τὴν κεφαλὴν δὲ ὑπὸ κόλπου ἀθέατον φυλάττων. ἐθελήσας δὲ καὶ μειζόνως ἐκπλήξαι τὸ πλῆθος, ὑπέσχετο καὶ λαλοῦντα παρέξειν τὸν θεόν, αὐτὸν ἄνευ ὑποφῆτου χρησιμφοδούντα. εἶτα οὐ χαλεπῶς γεράνων ἀρτηρίας συνάψας καὶ διὰ τῆς κεφαλῆς ἐκείνης τῆς μεμηχανημένης πρὸς ὁμοιότητα διείρας, ἄλλου τινὸς ἔξωθεν ἐμβοῶντος, ἀπεκρίνετο πρὸς τὰς ἐρωτήσεις, τῆς φωνῆς διὰ τοῦ ὀθονίνου ἐκείνου Ἀσκληπιοῦ προπιπτούσης. Ἐκαλοῦντο δὲ οἱ

TECHNOLARYNGES

MARIA GEROLEMOU, CHS 2022-2023

χρησμοὶ οὗτοι αὐτόφωνοι, καὶ οὐ πᾶσιν ἐδίδοντο οὐδὲ ἀνέδην, ἀλλὰ τοῖς εὐπαρύφοις καὶ πλουσίοις καὶ μεγαλοδώροις.

Again and again, as I said before, he exhibited the serpent to all who requested it, not in its entirety, but exposing chiefly the tail and the rest of the body and keeping the head out of sight under his arm. But as he wished to astonish the crowd still more, he promised to produce the god talking—delivering oracles in person without a prophet. It was no difficult matter for him to fasten cranes' windpipes together and pass them through the head, which he had so fashioned as to be lifelike. Then he answered the questions through someone else, who spoke into the tube from the outside, so that the voice issued from his canvas Asclepius. These oracles were called autophones, and were not given to everybody promiscuously, but only to those who were noble, rich, and free-handed. [tr. Harmon]

Plutarch, *The Obsolescence of Oracles* 432d-f

ἐξίσταται δὲ κράσει καὶ διαθέσει τοῦ σώματος ἐν μεταβολῇ γιγνόμενον, ὄν ἐνθουσιασμόν καλοῦμεν. αὐτὸ μὲν οὖν ἐξ αὐτοῦ τὸ σῶμα τοιαύτην οὐ πολλάκις ἴσχει διάθεσιν· ἢ δὲ γῆ πολλῶν μὲν ἄλλων δυνάμεων πηγὰς ἀνίησιν ἀνθρώποις τὰς μὲν ἐκστατικὰς καὶ νοσώδεις καὶ θανατηφόρους τὰς δὲ χρηστὰς καὶ προσηνεῖς καὶ ὠφελίμους, ὡς δῆλοι γίνονται πείρα προστυγχάνουσι, τὸ δὲ μαντικὸν ῥεῦμα καὶ πνεῦμα θειότατόν ἐστι καὶ ὀσιώτατον, ἂν τε καθ' ἑαυτὸ δι' ἀέρος ἂν τε μεθ' ὑγροῦ νάματος ἀναφέρεται. [ed. W. Sieveking]

Its withdrawal is brought about by a temperament and disposition of the body as it is subjected to a change which we call inspiration. Often the body of itself alone attains this disposition. Moreover the earth sends forth for men streams of many other potencies, some of them producing derangements, diseases, or deaths; others helpful, benignant, and beneficial, as is plain from the experience of persons who have come upon them. But the prophetic current and breath is most divine and holy, whether it issue by itself through the air or come in the company of running waters [tr. Babbitt]

Callistratus *Description 9* (on the statue of Memnon)

ΕΙΣ ΤΟ ΤΟΥ ΜΕΜΝΟΝΟΣ ΑΓΓΑΛΜΑ

Ἐθέλω δέ σοι καὶ τὸ Μέμνονος ἀφηγήσασθαι θαῦμα· καὶ γὰρ ὄντως παράδοξος ἡ τέχνη καὶ κρείττων ἀνθρωπίνης χειρός. τοῦ Τιθωνοῦ Μέμνονος εἰκὼν ἦν ἐν Αἰθιοπία ἐκ λίθου πεποιημένη, οὐ μὴν ἐν τοῖς οἰκείοις ὄροις ἔμενε λίθος ὢν οὐδὲ τὸ τῆς φύσεως σιγηλὸν ἠνείχετο, ἀλλὰ καὶ λίθος ὢν εἶχεν ἐξουσίαν φωνῆς· νῦν μὲν γὰρ ἀνίσχουσιν τὴν Ἥμεραν προσεφθέγγετο ἐπισημαίνων τῇ φωνῇ τὴν χαρὰν καὶ ἐπὶ ταῖς τῆς μητρὸς παρουσίαις φαιδρυνόμενος, νῦν δὲ ἀποκλινομένης εἰς νύκτα ἐλεεινόν τι καὶ ἀλγεινὸν ἔστενε πρὸς τὴν ἀπουσίαν ἀνιώμενος. ἠπόρει δὲ οὐδὲ δακρύων ὁ λίθος, ἀλλ' εἶχεν ὑπηρετούμενα τῇ βουλήσει καὶ ταῦτα καὶ ἦν † Μεμνόσιος ἢ εἰκὼν μόνω μὲν τοῦ ἀνθρωπίνου διαλλάττειν μοι δοκεῖ σῶματι, ὑπὸ δὲ ψυχῆς τινος καὶ ὁμοίας προαιρέσεως ἀγομένη κατηρθύνετο. εἶχε γοῦν ἐγκεκραμένα καὶ τὰ λυπούντα καὶ πάλιν ἠδονῆς αἰσθησις αὐτὸν κατελάμβανεν ὑπ' ἀμφοτέρων τῶν παθῶν πληττόμενον καὶ ἢ μὲν φύσις τὴν λίθων γένεσιν ἀφθογγον παρήγαγε καὶ κωφὴν καὶ μήτε ὑπὸ λύπης ἐθέλουσαν διοικεῖσθαι μήτε εἰδυῖαν ἠσθῆναι, ἀλλὰ καὶ πάσαις τύχαις ἄτρωτον, ἐκείνω δὲ τῷ Μέμνονος λίθῳ καὶ ἠδονὴν παρέδωκεν ἡ τέχνη καὶ πέτρῳ ἀνέμιξεν ἀλγεινῶ καὶ μόνῃ τῇ ἐπιστάμεθα τὴν τέχνην νοήματα τῷ λίθῳ καὶ φωνῇ ἐνθεΐσαν. ὁ μὲν γὰρ

TECHNOLARYNGES

MARIA GEROLEMOU, CHS 2022-2023

Δαίδαλος μέχρι μὲν κινήσεως ἐνεανιεύετο καὶ δύναμιν εἶχεν ἢ ἐκείνου τέχνη ἐξιστάναι τὰς ὕλας καὶ εἰς χορείαν κινεῖν, ἀμήχανον δὲ ἦν καὶ παντελῶς ἄπορον καὶ φωνῆς μέτοχα πραγματεύεσθαι τὰ ποιήματα, αἱ δὲ Αἰθιοπῶν χεῖρες πόρους τῶν ἀμηχάνων ἐξεύρον καὶ τὴν ἀφθογγίαν. ἐξενίκησαν τοῦ λίθου. ἐκείνῳ τῷ Μέμνονι καὶ τὴν Ἥχῳ λόγος ἀντηγεῖν, ὅποτε φθέγγοιτο, καὶ γοερὸν μὲν στενάζοντι γοερὸν ἀντιπέμπειν μέλος, εὐπαθοῦντι δὲ ἀνταποδιδόναι τὴν ἠχὴν ἀντίμιμον. ἐκείνο τὸ δημιούργημα καὶ τῇ Ἡμέρᾳ τὰς ἀνίας ἐκοίμιζε καὶ οὐκ εἶα μαστεύειν τὸν παῖδα, ὡς ἂν ἀντιτιθείσης αὐτῷ τῆς Αἰθιοπῶν τέχνης τὸν ἐκ τῆς εἰμαρμένης ἀφανισθέντα Μέμνονα. [ed. A. Reisch and K. Schenkl]

ON THE STATUE OF MEMNON

I wish to describe to you the miracle of Memnon also; for the art it displayed was truly incredible and beyond the power of human hand. There was in Ethiopian an image of Memnon, the son of Tithonus, made of marble; however stone though it was, it did not abide within its proper limits nor endure the silence imposed on it by nature, but stone though it was it had the power of speech. For at one time it saluted the rising Day, by its voice giving token of its joy and expressing delight at the arrival of its mother; and again, as day declined to night, it uttered piteous and mournful groans in grief at her departure. Nor yet was the marble at a loss for tears, but they too were at hand to serve its will. The statue of Memnon, as it seems to me, differed from a human being only in its body, but it was directed and guided by a kind of soul and by a will like that of man. At any rate it both had grief in its composition and again it was possessed by a feeling of pleasure according as it was affected by each emotion. Though nature had made all stones from the beginning voiceless and mute and both unwilling to be under the control of grief and also unaware of the meaning of joy, but rather immune to all the darts of chance, yet to that stone of Memnon art had imparted pleasure and had mingled the sense of pain in the rock; and this is the only work of art of which we know that has implanted in the stone perceptions and a voice. Daedalus did indeed boldly advance as far as motion, and the materials of which they were made and to move in the dance; but it was impossible and absolutely out of the question for him to make statues that could speak. Yet the hands of Aethiopians discovered means to accomplish the impossible,³⁴ and they overcame the inability of stone to speak. The story runs that Echo answered this Memnon when it spoke, uttering a mournful note in response to its mournful lament and returning a mimicking sound in response to its expressions of joy. The statue in questions both lulled to rest the sorrows of Day and caused her to abandon her search for her son, as though the art of the Aethiopians were compensating her by means of the statue for the Memnon who had been snatched away from her by fate. [tr. Fairbanks]