ΜΟΧΛΙΚΟΝ[1]

Ι. Ὀστέων φύσις· δακτύλων μὲν ἁπλᾶ καὶ ὀστέα καὶ ἄρθρα, χειρὸς δὲ καὶ ποδὸς πολλά, ἄλλα ἀλλοίως συνηρθρωμένα· μέγιστα δὲ τά ἀνωτάτω. πτέρνης δὲ ἕν, οἷον ἔξω φαίνεται, πρὸς δὲ αὐτὴν οἱ ὀπίσθιοι τένοντες τείνουσιν. κνήμης δὲ δύο, ἄνωθεν καὶ κάτωθεν συνεχόμενα, κατὰ μέσον δὲ διέχοντα σμικρόν· τὸ ἔξωθεν, κατὰ τὸν σμικρὸν δάκτυλον λεπτότερον βραχεῖ, πλεῖστον δὲ ταύτῃ διεχούσῃ καὶ σμικροτέρῃ ῥοπῇ κατὰ γόνυ, καὶ ὁ τένων ἐξ αὐτοῦ πέφυκεν, ὁ παρὰ τὴν ἰγνύην ἔξω. ἔχουσι δὲ κάτωθεν κοινὴν ἐπίφυσιν πρὸς ἣν ὁ ποὺς κινεῖται· ἄλλην δὲ ἄνωθεν ἔχουσιν ἐπίφυσιν, ἐν ᾗ τὸ τοῦ μηροῦ ἄρθρον κινεῖται, ἁπλόον καὶ εὐσταλὲς ὡς ἐπὶ μήκει· εἶδος κονδυλῶδες, ἔχον ἐπιμυλίδα· αὐτὸς δὲ ἔγκυρτος ἔξω καὶ ἔμπροσθεν· ἡ δὲ κεφαλὴ ἐπίφυσίς ἐστι στρογγύλη, ἐξ ἧς τὸ νεῦρον τὸ ἐν τῇ κοτύλῃ τοῦ ἰσχίου πέφυκεν· ὑποπλάγιον δὲ καὶ τοῦτο προσήρτηται, ἧσσον δὲ βραχίονος. τὸ δὲ ἰσχίον προσίσχεται πρὸς τῷ μεγάλῳ σπονδύλῳ τῷ παρὰ τὸ ἱερὸν ὀστέον χονδρονευρώδει δεσμῷ.

[1] ΜΟΧΛΙΚΟΣ Littré ; and the word is used as a synonym for μοχλίσκος in XLII. : but ΜΟΧΛΙΚΟΝ is supported by the MSS., and by the analogy of ΠΡΟΓΝΩΣΤΙΚΟΝ and ΠΡΟΡΡΗΤΙΚΟΝ. Cf. also Galen XVIII.(2) 327.

INSTRUMENTS OF REDUCTION

I. Nature of bones. In the fingers and toes, both bones and joints are simple; but in hand and foot they are diverse and diversely articulated, the uppermost being largest. The heel has a single bone which appears as a projection, and the hind tendons pull upon it. There are two leg-bones joined together above and below, but slightly separated in the middle. The outer one, towards the little toe, is rather more slender, most so in the separated part, and in the smaller inclination at the knee;[1] and the tendon on the outer side of the ham has its origin from it. They have below a common epiphysis on which the foot moves; and above they have another epiphysis, in which the articular end of the thigh-bone moves. This is simple and compact, considering the length of the bone; it is knuckle-shaped, and has a knee-cap. The bone itself is curved outwards and forwards; its head is a spherical epiphysis, from which the ligament arises which has its attachment in the cavity[2] of the hip; this (tendon)[3] is inserted rather obliquely, but less so than that of the arm.[4] The hip-bone is attached to the great vertebra[5] next the sacrum by a fibro-cartilaginous ligament.

[1] Or, "with the greatest deviation (from the vertical) at this point, and less at the knee"; but the passage is obscure.
[2] Acetabulum.
[3] Ligamentum teres.
[4] Long head of the biceps.
[5] Fifth lumbar.

Ράχις δὲ ἀπὸ μὲν τοῦ ἱεροῦ ὀστέου μέχρι τοῦ μεγάλου σπονδύλου κυφή. κύστις τε καὶ γονὴ καὶ ἀρχοῦ τὸ ἐγκεκλιμένον ἐν τούτῳ. ἀπὸ δὲ τούτου ἄχρι φρενῶν ἦλθεν ἡ ἰθύλορδος, καὶ αἱ ψόαι κατὰ τοῦτο· ἐντεῦθεν δὲ ἄχρι τοῦ μεγάλου σπονδύλου τοῦ ὑπὲρ τῶν ἐπωμίδων ἰθυκυφής· ἔτι δὲ μᾶλλον δοκεῖ ἢ ἐστιν· αἱ γὰρ ὄπισθεν τῶν σπονδύλων ἀποφύσιες ταύτῃ ὑψηλόταται· τὸ δὲ τοῦ αὐχένος ἄρθρον λορδόν. σπόνδυλοι δὲ ἔσωθεν ἄρτιοι πρὸς ἀλλήλους, ἀπὸ δὲ τῶν ἔξωθεν χόνδρων νεύρῳ συνεχόμενοι· ἡ δὲ συνάρθρωσις αὐτῶν ἐν τῷ ὄπισθεν τοῦ νωτιαίου· ὄπισθεν δὲ ἔχουσιν ἔκφυσιν ὀξείαν ἔχουσαν ἐπίφυσιν χονδρώδεα· ἔνθεν νεύρων ἀπόφυσις καταφερής, ὥσπερ καὶ οἱ μῦες παραπεφύκασιν ἀπὸ αὐχένος ἐς ὀσφύν, πληροῦντες δὲ πλευρέων καὶ ἀκάνθης τὸ μέσον. πλευραὶ δὲ κατὰ τὰς διαφύσιας τῶν σπονδύλων νευρίῳ προσπεφύκασιν ἀπ᾽ αὐχένος ἐς ὀσφὺν ἔσωθεν, ἐπίπροσθεν δὲ κατὰ τὸ στῆθος χαῦνον καὶ μαλθακὸν τὸ ἄκρον ἔχουσαι· εἶδος ῥαιβοειδέστατον τῶν ζώων· στενότατος γὰρ ταύτῃ ὁ ἄνθρωπος ἐπ᾽ ὄγκον· ᾗ δὲ μὴ πλευραί εἰσιν, ἔκφυσις πλαγίη, βραχεία καὶ πλατεία· ἐφ᾽ ἑκάστῳ σπονδύλῳ νευρίῳ προσπεφύκασιν.

Στῆθος δὲ συνεχὲς αὐτὸ ἑωυτῷ, διαφύσιας ἔχον πλαγίας, ᾗ πλευραὶ προσήρτηνται, χαῦνον δὲ καὶ χονδρῶδες. κληῖδες δὲ περιφερέες ἐς τοὔμπροσθεν, ἔχουσαι πρὸς μὲν τὸ στῆθος βραχείας κινήσιας, πρὸς δὲ τὸ ἀκρώμιον συχνοτέρας. ἀκρώμιον δὲ ἐξ ὠμοπλατέων πέφυκεν, ἀνομοίως δὲ τοῖσι πλείστοισι. ὠμοπλάτη δὲ

[1] "The ensemble of the articulations." Pq.

The spine from the end of the sacrum to the great vertebra is convex backwards. The bladder, generative organs, and inclined portion of the rectum are in this part. From here to the diaphragm it ascends in a forward curve, and there are the psoa-muscles; but thence up to the great vertebra above the shoulders it rises in a curve backwards, and seems more convex than it is, for the backward processes of the vertebrae are here at their highest. The neck-joint[1] is concave behind. The vertebrae on the inside are fitted to one another, being held together by a ligament from the outer side of the cartilages; but their jointing (synarthrosis) is behind the spinal cord, and they have posteriorly a sharp process with a cartilaginous epiphysis. Hence arise the ligaments which pass downwards, just as muscles also are disposed at the side from neck to loins, filling up the part between the ribs and the spinal ridge. The ribs are attached by a ligament at the intervals between the vertebrae from neck to loins behind, but in front to the breast-bone, having the termination spongy and soft. In shape they are the most curved of any animal; for man is flattest here in proportion to his size. Where there are no ribs, there is a short and broad lateral process; they are connected with each vertebra by a small ligament.

The sternum is a continuous bone, having lateral interstices where the ribs are inserted; it is spongy and cartilaginous. The collar-bones are rounded in front, having slight movements at the sternal end, but more extensive ones at the acromion. The acromion has its origin from the shoulder-blades in a different way from that in most animals.[2] The

[1] See notes on *Joints* XIII.

χονδρώδης τὸ πρὸς ῥάχιν, τὸ δ' ἄλλο χαύνη, τὸ ἀνώμαλον ἔξω ἔχουσα, αὐχένα δὲ καὶ κοτύλην ἔχουσα χονδρώδεα, ἐξ ἧς αἱ πλευραὶ κίνησιν ἔχουσι, εὐαπόλυτος ἐοῦσα ὀστέων, πλὴν βραχίονος. τούτου δὲ ἐκ τῆς κοτύλης νευρίῳ ἡ κεφαλὴ ἐξήρτηται, χόνδρου χαύνου περιφερῆ ἐπίφυσιν ἔχουσα· αὐτὸς δ' ἔγκυρτος ἔξω καὶ ἔμπροσθεν πλάγιος, οὐκ ὀρθὸς πρὸς κοτύλην· τὸ δὲ πρὸς ἀγκῶνα αὐτοῦ πλατὺ καὶ κονδυλῶδες καὶ βαλβιδῶδες καὶ στερεόν, ἔγκοιλον ὄπισθεν, ἐν ᾧ ἡ κορώνη ἡ ἐκ τοῦ πήχεος, ὅταν ἐκταθῇ ἡ χείρ, ἔνεστιν· ἐς τοῦτο καὶ τὸ ναρκῶδες νεῦρον, ὃ[1] ἐκ τῆς διαφύσιος τῶν τοῦ πήχεος ὀστέων, ἐκ μέσων ἐκπέφυκε καὶ περαίνεται.

II. Ῥὶς δὲ κατεαγεῖσα ἀναπλάσσεσθαι οἵη τε αὐθωρόν. κἢν μὲν οὖν ὁ χόνδρος, ἐντίθεσθαι[2] ἄχνην ὀθονίου, ἐναποδέοντα λοπῷ Καρχηδονίῳ, ἢ ἐν ἄλλῳ ὃ μὴ ἐρεθιεῖ· τῷ λοπῷ δὲ τὰς παραλλάξιας παρακολλᾶν καὶ ἀναλαμβάνειν· ταῦτα δὲ ἐπίδεσις κακὰ ποιεῖ.[3] ἴησις ἄλλη· ἅμα δὲ τῷ συμβαλεῖν σὺν μάνῃ[4] ἢ θείῳ σὺν κηρωτῇ· αὐτίκα ἀναπλάσσειν, ἔπειτα ἀνακωχήσειν, τοῖσι δακτύλοισι ἐσματευόμενον καὶ παραστρέφοντα· καὶ τὸ Καρχηδόνιον· πωροῖτο ἂν καὶ ἦν ἕλκος ἔνῃ· καὶ ἦν ὀστέα ἀπιέναι μέλλῃ—οὐ γὰρ παλιγκοτώτατα—οὕτω ποιητέα.

[1] τὸ. [2] ἐντιθέναι Littré, Kw.
[3] καταποιεῖ codd.; κακοποιεῖ M marg.; κακὰ ποιέει Lit. conj.
[4] ἀλήτῳ σὺν μάννῃ.

[1] Long tendon of the biceps.
[2] Galen *U. P.* II. 14. Our "olecranon." Both processes of the ulna were called *κορωνόν*, because of their semicircular shape.

shoulder-blade is cartilaginous in the part towards the spine, and spongy elsewhere; it has an irregular shape on the outer side, and the neck and articular cavity are cartilaginous. Its disposition allows free movement to the ribs, since it is not closely connected with the bones, except that of the upper arm. The head of this bone is attached to its socket by a small ligament,[1] and has a rounded epiphysis of spongy cartilage. The bone itself is convex outwards and oblique in front, and does not meet the cavity at right angles. Its elbow end is broad, knuckle-shaped, and grooved; it is also solid, and has a hollow at the back, in which the coronoid process[2] of the ulna is lodged when the arm is extended. Here too the cord which stupefies,[3] arising from the interstice between the bones of the forearm, has its issue and termination.

II. A fractured nose is a thing to be adjusted at once. If the cartilage is the part affected, introduce lint, rolling it up in thin Carthaginian leather, or in some other non-irritant substance. Glue strips of the leather to the distorted parts, and raise them up. Bandaging does harm[4] in these cases. Another treatment: while bringing the parts together, apply frankincense or sulphur with cerate; adjust at once. Afterwards keep it up by inserting the fingers, feeling for and reducing the deviation; also the Carthaginian leather. It will consolidate, even though there be a wound; and if bones are going to come away—for there are no very grave exacerbations—this is the treatment to use.

[3] Surely our ulnar nerve (funny-bone), though Foës and others call it "a ligament void of sensation."

[4] Pq. renders "depresses," reading *καταποιεῖ*, as opposed to *ἀναπλάσσειν*.

III. Οὓς *κατεαγὲν μὴ ἐπιδεῖν, μηδὲ καταπλάσσειν· ἢν δέ τι δέῃ, ὡς κουφότατον, ἡ κηρωτὴ· καὶ θείῳ κατακολλᾷν. ὧν δὲ ἔμπυα τὰ ὦτα διὰ παχέος εὑρίσκεται, πάντα δὲ τὰ ὑπόμυξα καὶ τῇ ὑγρῇ σαρκὶ πλήρεα ἐξαπατᾷ· οὐ μὴ βλάβη* [γένηται][1] *στομωθὲν τὸ τοιοῦτον· ἔστι γὰρ ἄσαρκα καὶ ὑδατώδεα, μύξης πλέα· ὅπου δὲ καὶ οἷα ἐόντα θανατώδεά ἐστι, παρεθέντα.*[2] *ὥτων καῦσις πέρην, τάχιστα ὑγιάζει· κυλλὸν δὲ καὶ*
10 *μεῖον γίνεται τὸ οὖς, ἢν πέρην καυθῇ. ἢν δὲ*
11 *στομωθῇ, κούφῳ ἐναίμῳ δεήσει χρῆσθαι.*

IV. *Γνάθοι δὲ κατασπῶνται μὲν πολλάκις καὶ καθίστανται· ἐκπίπτουσι δὲ ὀλιγάκις, μάλιστα μὲν χασμωμένοισιν· οὐ γὰρ ἐκπίπτει, ἢν μή τις χανὼν μέγα παραγάγοι· ἐκπίπτει δὲ μᾶλλον, ὅτι τὰ νεῦρα ἐν πλαγίῳ καὶ λελυγισμένα συνδιδοῖ. σημεῖα· προΐσχει ἡ κάτω γνάθος καὶ παρέσταπται τἀναντία τοῦ ἐκπτώματος· συμβάλλειν οὐ δύνανται· ἢν δὲ ἀμφότεραι, προΐσχουσι μᾶλλον, συμβάλλουσιν ἧσσον, ἀστραβέες· δηλοῖ δὲ τὰ*
10 *ὅρια τῶν ὀδόντων τὰ ἄνω τοῖσι κάτω κατ' ἴξιν. ἢν οὖν ἀμφότεραι ἐκπεσοῦσαι μὴ αὐτίκα ἐμπέσωσι, θνήσκουσι δεκαταῖοι οὗτοι μάλιστα πυρετῷ συνεχεῖ ιωθρῇ τε καρώσει· οἱ γὰρ μῦες οὗτοι τοιοῦτοι. γαστὴρ ἐπιταράσσεται ὀλίγα ἄκρητα· καὶ ἢν ἐμέωσι, τοιαῦτα ἐμέουσιν· ἡ δ' ἑτέρη ἀσινεστέρη. ἐμβολὴ δὲ ἡ αὐτὴ ἀμφοτέρων· κατακειμένου ἢ καθημένου τοῦ ἀνθρώπου, τῆς*

[1] Kw. omits. [2] Cf. *Art.* XL. παρεῖται.

III. Do not bandage a broken ear, and do not apply a plaster. If one is required, let it be cerate plaster as light as possible, and agglutinate with sulphur. When there is suppuration of the ears, it is found at a depth; for all pulpy tissues and those full of moisture are deceptive. There is certainly no harm in opening such an abscess, for the parts are fleshless and watery, full of mucus; but the position and nature of abscesses which cause death are not mentioned. Perforating cautery of the ears cures a case very quickly; but the ear becomes mutilated and smaller if it is burnt through. If an abscess is opened, a light wound application must be used.

IV. The jaw is often partially displaced, and reduces itself. It is rarely put out, and that chiefly when yawning; for it is not put out unless it is drawn to one side during a wide yawn; and dislocation occurs the more because the ligaments, being oblique and twisted, give way. Symptoms: the lower jaw projects and deviates to the side opposite the dislocation; patients cannot close the mouth. If both sides are dislocated, the projection is greater, ability to close the mouth less, no deviation; this is shown by the upper row of teeth corresponding in line with the lower. If, then, bilateral dislocation is not reduced immediately, these patients usually die in ten days with continuous fever, stupor and coma; for such is the influence of the muscles in this region. The bowels are affected, and there are scanty, undigested motions; if there is vomiting, it is of a similar nature. One-sided dislocation is less harmful. Reduction is the same in both cases; the patient being either

κεφαλῆς ἐχόμενον, περιλαβόντα τὰς γνάθους ἀμφοτέρας ἀμφοτέρῃσι χερσὶν ἔσωθεν καὶ ἔξωθεν, τρία ἅμα ποιῆσαι· ὧσαι ἐς ὀρθὸν καὶ ἐς τοὐπίσω, καὶ συσχεῖν τὸ στόμα. ἴησις· μαλάγμασι καὶ σχήμασι καὶ ἀναλήψει γενείου· ποιοῦσι ταῦτα[1] τῇ ἐμβολῇ.

V. Ὦμος δὲ ἐκπίπτει κάτω· ἄλλῃ δὲ οὔπω ἤκουσα. δοκεῖ μὲν γὰρ ἐς τοὔμπροσθεν ἐκπίπτειν, ὧν αἱ σάρκες αἱ περὶ τὸ ἄρθρον μεμινυθήκασι διὰ τὴν φθίσιν,[2] οἷον καὶ τοῖσι βουσὶ χειμῶνος φαίνεται διὰ λεπτότητα. καὶ ἐκπίπτει μᾶλλον τοῖσι δὲ λεπτοῖσιν ἢ ἰσχνοῖσιν ἢ ξηροῖσι καὶ τοῖσιν ὑγράσματα περὶ τὰ ἄρθρα ἔχουσιν ἄνευ φλεγμονῆς· αὕτη γὰρ συνδεῖ· οἱ δὲ καὶ βουσὶν ἐμβάλλοντες καὶ ἀποπερονῶντες ἐξαμαρτάνουσι, καὶ ὅτι διὰ τὴν χρῆσιν, ὡς χρῆται βοῦς σκέλει, λήθει, καὶ ὅτι κοινὸν καὶ ἀνθρώπῳ οὕτως ἔχοντι τὸ σχῆμα τοῦτο· τό τε Ὁμήρειον· καὶ διότι λεπτότατοι βόες τηνικαῦτα. ὅσα τε τὸν πῆχυν πλάγιον ἀπὸ πλευρέων ἄραντες δρῶσιν, οὐ πάνυ δύνανται δρᾶν, οἷσιν ἂν μὴ ἐμπέσῃ. οἷσι μὲν οὖν ἐκπίπτει μάλιστα, καὶ ὡς ἔχουσιν, εἴρηται. οἷσι δὲ ἐκ γενεῆς, τὰ ἐγγύτατα μᾶλλον βραχύνεται ὀστέα, οἷον ἐν τούτῳ οἱ γαλιάγκωνες· πῆχυς δὲ ἧσσον, χεὶρ δὲ ἔτι ἧσσον, τὰ δ' ἄνωθεν οὐδέν· καὶ ἀσαρκότατα ἐγγύς· μινύθει δὲ μάλιστα

[1] ταὐτὰ.

[2] Littré's correction. *φύσιν* MSS. would give sense, but the writer is evidently copying *Joints* I.

[1] The safety-pin was a very ancient instrument. Cf. *Iliad* XIV. 180. It is strange that there is no other mention

lying down or seated, his head fixed, take hold of both sides of the jaw with both hands, inside and out, and perform three actions at once—get it straight, thrust it back, and shut the mouth. Treatment: with emollients, position, and support of the chin; these things co-operate in the reduction.

V. The shoulder is dislocated downwards. I have no knowledge of any other direction. It appears indeed to be dislocated forwards in cases where the tissues about the joint have diminished through wasting disease, as one observes also with cattle in winter, because of their leanness. Dislocation occurs preferably in thin and slight subjects, or those of dry habit; also those who have the region of the joints charged with moisture without inflammation, for this braces them up. Those who use reductions and fixations with fibulae[1] in oxen are in error, and forget that the appearance is due to the way the ox uses its leg, and that this attitude is common also to man in the same condition—also the Homeric quotation, and the reason why oxen are very thin at that time. Actions requiring lateral elevation of the arm from the ribs are quite impossible for patients in whom the joint is not reduced. The subjects, then, most liable to dislocation, and their condition, have been described. In congenital cases, the proximal bones are shortened most, as is the case with the weasel-armed; the forearm less than the arm, the hand still less, and parts above the lesion not at all; the most fleshless parts are near the lesion. Atrophy occurs especially on the side

of it in the Hippocratic surgical works. That it was then in surgical use for closing wounds seems indicated by Eur. *Bacchae* 97.

τὰ ἐναντία τῶν ὀλισθημάτων, καὶ τὰ ἐν αὐξήσει, ἧσσον δέ τινι τῶν ἐκ γενεῆς. καὶ τὰ παραπυήματα, τὰ κατ' ἄρθρον βαθέα, νεογενέσι μάλιστα παρ' ὦμον γίνεται, καὶ τούτοισιν ὥσπερ τὰ ἐξαρθρήσαντα ποιεῖ. ἢν δὲ ηὐξημένοισι, τὰ μὲν ὀστέα οὐ μειοῦται, οὐδὲ γὰρ ἔχει ἢ ἄλλα οὐ συναύξεται ὁμοίως, αἱ δὲ μινυθήσιες τῶν σαρκῶν. τοῦτο γὰρ καθ' ἡμέρην καὶ αὔξεται καὶ μειοῦται, καὶ καθ' ἡλικίας. καὶ ἃ δύναται σχήματα, καὶ
30 αὖ σημεῖον τὸ παρὰ τὸ ἀκρώμιον κατεσπασμένον καὶ κοῖλον, διότι ὅταν τὸ ἀκρώμιον ἀποσπασθῇ καὶ κοῖλον ᾖ, οἴονται τὸν βραχίονα ἐκπεπτωκέναι· κεφαλὴ δὲ τοῦ βραχίονος ἐν τῇ μασχάλῃ φαίνεται· αἴρειν [γὰρ][1] οὐ δύνανται, οὐδὲ παράγειν ἔνθα καὶ ἔνθα ὁμοίως· ὁ ἕτερος ὦμος μηνύει. ἐμβολαὶ δέ· αὐτὸς μὲν τὴν πυγμὴν ὑπὸ μασχάλην ὑποθεὶς τὴν κεφαλὴν ἀνωθεῖν, τὴν δὲ χεῖρα ἐπιπαράγειν ἐπὶ τὸ στῆθος. ἄλλη· ἐς τοὐπίσω περιαναγκάσαι, ὡς ἀμφισφαλῇ. ἄλλη· κεφαλὴ
40 μὲν πρὸς τὸ ἀκρώμιον, χερσὶ δὲ ὑπὸ μασχάλην, κεφαλὴν ὑπάγειν βραχίονος, γούνασι δὲ ἀγκῶνα ἀπωθεῖν, ἢ ἀντὶ τῶν γουνάτων τὸν ἀγκῶνα τὸν ἕτερον παράγειν ὡς τὸ πρότερον· ἢ κατ' ὦμου ἵζεσθαι, ὑποθεὶς τῇ μασχάλῃ τὸν ὦμον· ἢ τῇ πτέρνῃ ἐνθέντα ἐκπληρώματα τῇ μασχάλῃ, δεξιῇ δεξιόν· ἢ περὶ ὕπερον· ἢ περὶ κλιμακτῆρα· ἢ περίοδος σὺν τῷ ξύλῳ τῷ ὑπὸ χεῖρα τεινομένῳ. ἴησις· τὸ σχῆμα, προς πλευρῇσι βραχίων, χεὶρ

opposite to the dislocations, and when they occur during adolescence, but is somewhat less than in congenital cases. Deep suppurations at a joint occur in infants, especially at the shoulder, and have the same effect as dislocations. In adults there is no shortening, for there is no opportunity for one bone to have less growth than another; but there is atrophy of the tissues; for in the young there is increase and decrease, both daily and according to age. [Consider] too the effect of attitudes, and also what is indicated by the hollow at the point of the shoulder, due to avulsion; for when the acromion is torn away and there is a hollow, people think the humerus has been dislocated. If so, the head of the humerus is found in the armpit, the patients cannot lift the arm, nor move it to either side equally;[1] the other shoulder is an index. Modes of reduction: let the patient put his fist in the armpit, push up the head of the bone, and bring the arm to the chest. Another method: force the arm backwards, so as to make a movement of circumduction. Another: with the head against the point of the shoulder, and the hands under the armpit, lift the head of the humerus, and push back the elbow with the knees, or, instead of using the knees, let the assistant bring the elbow to the side, as above; or suspend the patient on the shoulder, putting it under the armpit, or with the heel, putting plugs into the armpit, using the right heel for the right shoulder, or on a pestle or ladder; or make a circular movement with the wood (lever) fixed under the arm. Treatment; position; arm to

[1] Or, "as before"

[1] Omit.

ἄκρη ἄνω, ὦμος ἄνω· οὕτως ἐπίδεσις, ἀνάληψις. ἢν δὲ μὴ ἐμπέσῃ, ἀκρώμιον προσλεπτύνεται.

VI. Ἀκρώμιον ἀποσπασθέν, τὸ μὲν εἶδος φαίνεται οἷόν περ ὤμου ἐκπεσόντος, στερίσκεται δὲ οὐδενός, ἐς δὲ τὸ αὐτὸ οὐ καθίσταται. σχῆμα τὸ αὐτὸ ᾧ[1] καὶ ἐκπεσόντι, ἐν ἐπιδέσει καὶ ἀναλήψει· ἐπίδεσις καὶ ὡς νόμος.

VII. Ἀγκῶνος ἄρθρον παράλλαξαν μὲν[2] ἢ πρὸς πλευρὴν ἢ ἔξω, μένοντος τοῦ ὀξέος τοῦ ἐν τῷ κοίλῳ τοῦ βραχίονος, ἐς ἰθὺ[3] κατατείνοντα, τὰ ἐξέχοντα ἀνωθεῖν[4] ὀπίσω καὶ ἐς τὸ πλάγιον.

VIII. Τὰ δὲ τελέως ἐκβάντα ἢ ἔνθα ἢ ἔνθα· κατάτασις μὲν ἐν ᾗ ὁ βραχίων[5] ἐπιδεῖται· οὕτω γὰρ τὸ καμπύλον τοῦ ἀγκῶνος οὐ κωλύσει. ἐκπίπτει δὲ μάλιστα ἐς τὸ πρὸς πλευρέα[6] μέρος. τὰς δὲ κατορθώσιας, ἀπάγοντα ὅτι πλεῖστον, ὡς μὴ ψαύσῃ τῆς κορώνης ἡ κεφαλή, μετέωρον δὲ περιάγειν καὶ περικάμψαι, καὶ μὴ ἐς ἰθὺ[7] βιάζεσθαι, ἅμα δὲ ὠθεῖν τἀναντία ἑφ' ἑκάτερα, καὶ παρωθεῖν ἐς χώρην. συνωφελοίη δ' ἂν καὶ ἐπίστρεψις ἀγκῶνος ἐν τούτοισιν, ἐν τῷ μὲν ἐς τὸ ὕπτιον, ἐν τῷ δὲ ἐς τὸ πρηνές. ἐμβολὴ δέ·[8] σχήματος μὲν ὀλίγον[9] ἀνωτέρω ἄκρην χεῖρα ἀγκῶνος[10] ἔχειν, βραχίονα δὲ κατὰ τὰς[11] πλευράς· οὕτω δὲ ἡ ἀνάληψις,[12] καὶ εὔφορον, καὶ χρῆσις ἐν τῷ κοινῷ, ἢν ἄρα μὴ κακῶς πωρωθῇ· πωροῦται δὲ ταχέως. ἴησις·[13] ὀθονίοισι κατὰ τὸν νόμον τὸν ἀρθριτικόν, καὶ τὸ ὀξὺ προσεπιδεῖν.

IX. Παλιγκοτώτατον δὲ ἀγκὼν[14] πυρετοῖσι, ὀδύνῃ,[15] ἀσώδει, ἀκρητοχόλῳ· ἀγκῶνος δὲ μάλιστα ὀπίσω διὰ τὸ ναρκῶδες, δεύτερον τὸ ἔμπροσθεν. ἴησις ἡ αὐτή·[16] ἐμβολαὶ δὲ τοῦ μὲν ὀπίσω ἐκ-

ribs, hand elevated, shoulder elevated; bandaging and support in this attitude. If not reduced, the point of the shoulder atrophies as well.

VI. Avulsion of the acromion (process of the shoulder-blade), appears in form like a dislocation of the shoulder, but there is no loss of function; yet it does not stay in place when reduced. Position as regards bandaging and support the same as in a case of dislocation; the bandaging follows the customary rule.

VII–XIX. *Mochlicon* VII–XIX corresponds verbally (except a few "various readings" such as occur in different MSS.)[1] with *Joints* XVII–XXIX. Instead of repeating the translation, we may, therefore, attempt a few explanatory notes; for dislocation of the elbow has always been an obscure subject, owing to the complicated form of the joint, and the presence of three bones.

All the chief surgical commentators, Apollonius, Adams, Petrequin, agree that VII represents dislocation of the radius only, in directions which we call "forwards" and "backwards"; though Galen says that *Fractures* XXXVIII, of which it is an epitome, refers to partial lateral dislocations of the ulna. "Diastasis" (X) can hardly mean anything else than dislocation of the radius in the other possible direction—outwards, or away from the ulna.

[1] These are given in the notes.

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[1] ὁ. [2] Add ἢ παραρθρῆσαν. [3] εὐθύ.
[4] ἀπωθεῖν. [5] Add καταγελς. [6] πλευρὰς.
[7] εὐθύ. [8] ἴησις δέ (so Kw. here). [9] ὀλίγῳ.
[10] τοῦ ἀγκῶνος. [11] Omit τὰς. [12] Add καὶ θέσις.
[13] ἴησις δέ. [14] ὁ ἀγκών. [15] ὀδύνησι.
[13] ἴησις δὲ αὐτή.

τείνοντα[1] κατατεῖναι. σημεῖον δέ· οὐ γὰρ δύνανται ἐκτείνειν· τοῦ δὲ ἔμπροσθεν οὐ δύνανται συγκάμπτειν. τούτῳ δὲ ἐνθέντα τι σκληρὸν συνειλιγμένον, περὶ τοῦτο συγκάμψαι ἐξ ἑκτάσιος
9 ἐξαίφνης.

X. Διαστάσιος δὲ ὀστέων σημεῖον κατὰ τὴν φλέβα τὴν κατὰ τὸν βραχίονα σχιζομένην
3 διαψαύοντι.

XI. Ταῦτα δὲ ταχέως διαπωροῦται· ἐκ γενεῆς δέ, βραχύτερα τὰ κάτω ὀστέα τοῦ σίνεος,[2] πλεῖστον τὰ ἐγγύτατα πήχεος, δεύτερον χειρός, τρίτον δακτύλων. βραχίων δὲ καὶ ὦμος ἐγκρατέστερα διὰ τὴν τροφήν· ἡ δ' ἑτέρη χεὶρ διὰ τὰ ἔργα πλείω ἔτι ἐγκρατεστέρη. μινύθησις δὲ σαρκῶν, εἰ μὲν ἔξω ἐξέπεσεν, ἔσω·[3] εἰ δὲ μή, ἐς
8 τοὐναντίον ἢ ᾗ ἐξέπεσεν.

XII.[4] Ἀγκὼν δὲ ἢν μὲν[5] ἔσω ἢ ἔξω ἐκβῇ, κατάτασις μὲν ἐν σχήματι ἐγγωνίῳ, κοινῷ τῷ πήχει πρὸς βραχίονα· καὶ μασχάλην ἀναλαβὼν[6] ταινίῃ ἀνακρεμάσαι, ἀγκῶνι δὲ ἄκρῳ ὑποθείς[7] τι παρὰ τὸ ἄρθρον βάρος ἐκκρεμάσαι, ἢ χερσὶ καταναγκάσαι. ὑπεραιωρηθέντος δὲ τοῦ ἄρθρου, αἱ παραγωγαὶ τοῖσι θέναρσιν, ὡς τὰ ἐν χερσίν. ἐπίδεσις ἐν τούτῳ τῷ σχήματι, καὶ ἀνάληψις καὶ
9 θέσις.

XIII.[8] Τὰ δὲ ὄπισθεν, ἐξαίφνης ἐκτείνοντα διορθοῦν τοῖσι θέναρσιν· ἅμα δὲ δεῖ ἐν τῇ διορθώσει, καὶ τοῖσιν ἑτέροισιν. ἢν δὲ πρόσθεν, ἀμφὶ ὀθόνιον συνειλιγμένον, εὔογκον, συγκάμπ-
5 τοντα ἅμα διορθοῦσθαι.[9]

[1] ἐκτείναντα. [2] τοῦ σίνεος ὀστέα.
[3] ἔσωθεν.

As regards complete dislocations, Littré and Adams refer those in VIII to lateral cases, and those in IX to dislocation forwards and backwards; while Petrequin, turning the bend of the elbow inwards, takes the opposite view. The most frequent and mildest form of complete dislocation is that of the forearm backwards (or the humerus forwards), and the Hippocratic writers can only be got to agree with this by assuming the Petrequin attitude; for they evidently describe this form as a dislocation of the humerus inwards (cf. *Fract.* XL, XLI). The dislocation "backwards" which specially affects the ulnar nerve would thus be our external lateral dislocation of the forearm.

Still, the accounts remain obscure and often difficult to accommodate with facts; nor do we get much help from the existence of a sort of double epitome, XII and XIII repeating VIII and IX from a more practical standpoint, while XIV refers to the radius dislocations noticed above in VII and X.

The account of wrist dislocation (XVI, XVII) combines theoretic clearness with even greater practical obscurity. As Adams says, "in the wrist, nothing is more common than fracture, and nothing more rare than dislocation." Yet the epitomist gives us a neat schematic arrangement of dislocation in all four directions, and says nothing of fracture, unless we take "with the epiphysis" to imply this. The original account is lost; but its essence is doubtless contained in *Joints* LXIV, on compound dislocations of the wrist.

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[4] Variant of VIII.
[5] Omit *μὲν*.
[6] *ἀναλαβόντα.*
[7] *ὑποθέντα.*
[8] Cf. IX.
[9] *διορθοῦν.*

XIV.[1] Ἢν δὲ ἑτεροκλινὲς ᾖ, ἐν τῇ διορθώσει ἀμφότερα χρὴ ποιεῖν· τῆς δὲ μελέτης[2] κοινὸν καὶ τὸ σχῆμα καὶ ἡ ἐπίδεσις· δύναται γὰρ[3] ἐκ τῆς διατάσιος κοινῇ συμπίπτειν πάντα.[4]

XV. Τῶν δὲ ἐμβολέων αἱ μὲν ἐξ ὑπεραιωρήσιος ἐμβάλλονται, αἱ δὲ ἐκ κατατάσιος, αἱ δὲ ἐκ περισφάλσιος· αὗται δὲ ἐκ τῶν ὑπερβολέων τῶν σχημάτων ἢ τῇ ἢ τῇ σὺν τῷ τάχει.

XVI. Χειρὸς δὲ ἄρθρον ὀλισθάνει ἢ ἔσω ἢ ἔξω, ἔσω δὲ τὰ πλεῖστα. σημεῖα δ' εὔσημα· ἢν μὲν ἔσω, συγκάμπτειν ὅλως σφῶν[5] τοὺς δακτύλους οὐ δύνανται· ἢν δὲ ἔξω, ἐκτείνειν. ἐμβολὴ δέ· ὑπὲρ τραπέζης τοὺς δακτύλους ἔχων, τοὺς μὲν τείνειν, τοὺς δὲ ἀντιτείνειν· τὸ δὲ ἐξέχον ἢ θέναρι ἢ πτέρνῃ ἅμα ἀπωθεῖν[6] πρόσω καὶ κάτωθεν,[7] κατὰ τὸ ἕτερον ὀστέον ὄγκον τε[8] μαλθακὸν ὑποθείς, κἢν[9] μὲν ἄνω, καταστρέψας τὴν χεῖρα, ἢν δὲ κάτω, ὑπτίην. ἴησις,[10] ὀθονίοισιν.

XVII. Ὅλη δὲ χεὶρ ὀλισθάνει ἢ ἔσω ἢ ἔξω, μάλιστα δὲ ἔξω, ἢ ἔνθα ἢ ἔνθα.[11] ἔστι δ' ὅτε ἡ ἐπίφυσις[12] ἐκινήθη· ἔστι δ' ὅτε τὸ ἕτερον τῶν ὀστέων διέστη. τούτοισι κατάτασις ἰσχυρὴ ποιητέη, καὶ τὸ μὲν ἐξέχον ἀπωθεῖν, τὸ δὲ ἕτερον ἀντωθεῖν, δύο εἴδεα ἅμα καὶ ἐς τοὐπίσω καὶ ἐς τὸ πλάγιον, ἢ χερσὶν ἐπὶ τραπέζης ἢ πτέρνῃ. παλίγκοτα δὲ καὶ ἀσχήμονα, τῷ χρόνῳ δὲ κρατύνεται ἐς χρῆσιν. ἴησις, ὀθονίοισι σὺν τῇ χειρὶ καὶ τῷ πήχει· καὶ νάρθηκας μέχρι δακτύλων τιθέναι· ἐν νάρθηξι δὲ τεθέντα[13] ταῦτα πυκνότερον λύειν ἢ τὰ κατήγματα, καὶ καταχύσει πλέονι χρῆσθαι.

[1] Cf. VII.
[2] Add τῆς θεραπείης.
[3] Add καὶ.
[4] ἅπαντα.

Here the writer evidently describes dislocation of the bones of the forearm from the wrist; while the epitomist (unless, with Littré and Petrequin, we put some strain on the Greek) speaks of dislocation of the hand, but follows Hippocrates in saying that "when the dislocation is inwards (our 'forwards'), they cannot flex the fingers, when outwards, they cannot extend them."

This is the view of Celsus (VIII. 17), and is most in accordance with modern experience—when the hand is dislocated backwards, the flexor tendons are on the stretch and the fingers cannot be extended, and vice versa, though exceptions have been observed, and the accidents are too rare and complicated for the establishment of neat rules. The typical "dislocation" of the wrist is the fracture of the end of the radius, known as Colles's fracture.

The brief account of congenital dislocation (XVIII) may have been added to complete the picture. The results described are those of all congenital dislocations, as frequently given in *Joints*. Perhaps, however, "nothing can show more remarkably the attention which our author must have paid to the subject than his being acquainted with a case of such rarity" (Adams).[1]

[1] Littré treats these subjects at length in his Introductions, and Petrequin at still greater length in his Notes and Excursus. They confirm the observation of Adams that a full discussion would lead to no conclusion, and would be tedious even to professional readers.

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[5] Omit ὅλως σφῶν. [6] Add καὶ ὠθεῖν.
[7] πρόσω κάτω, κάτωθεν. [8] δὲ. [9] ἦν.
[10] ἴησις δέ. [11] ἢ ἔνθα ἢ ἔνθα, μάλιστα δὲ ἔσω.
[12] καὶ ἡ ἐπίφυσις. [13] δεθέντα.

XVIII. Ἐκ γενεῆς δέ, βραχυτέρη ἡ χεὶρ γίνεται, καὶ ἡ[1] μινύθησις σαρκῶν μάλιστα τἀναντία ἢ ὡς[2] τὸ ἔκπτωμα· ηὐξημένῳ δὲ τὰ ὀστέα μένει.

XIX. Δακτύλου δὲ ἄρθρον ὀλισθὸν μὲν εὔσημον [οὐ δεῖ γράφειν].[3] ἐμβολὴ δὲ αὐτοῦ ἥδε·[4] κατατείναντα ἐς ἰθὺ τὸ μὲν ἐξέχον ἀπωθεῖν, τὸ δὲ ἐναντίον ἀντωθεῖν. ἴησις δὲ ἡ προσήκουσα,[5] τοῖσι ὀθονίοισι[6] ἐπίδεσις.[7] μὴ ἐμπεσὸν γὰρ ἐπιπωροῦται ἔξωθεν. ἐκ γενεῆς δὲ ἢ ἐν αὐξήσει ἐξαρθρήσαντα τὰ ὀστέα βραχύνεται κάτω[8] τοῦ ὀλισθήματος· καὶ σάρκες μινύθουσι τἀναντία μάλιστα ἢ ὡς[9] τὸ ἔκπτωμα· ηὐξημένῳ δὲ τὰ ὀστέα μένει.

XX. Μηροῦ ἄρθρον ἐκπίπτει κατὰ τρόπους τέσσαρας· ἔσω πλεῖστα, ἔξω δεύτερον, τὰ δὲ ἄλλα ὁμοίως. σημεῖα· κοινὸν μὲν τὸ ἕτερον σκέλος· ἴδιον δὲ τοῦ μὲν ἔσω. παρὰ τὸν περίναιον[10] ψαύεται ἡ κεφαλή· συγκάμπτουσι οὐχ ὁμοίως, δοκεῖ δὲ μακρότερον[11] τὸ σκέλος, καὶ πολύ, ἢν μὴ ἐς μέσον ἀμφότερα ἄγων παρατείνῃς· καὶ γὰρ οὕτι ἔξω ὁ ποὺς καὶ τὸ γόνυ ῥέπει. ἢν μὲν οὖν ἐκ γενεῆς ἢ ἐν αὐξήσει ἐκπέσῃ, βραχύτερος ὁ μηρός, ἧσσον δὲ κνήμη, κατὰ λόγον δὲ τἄλλα· μινύθουσι δὲ σάρκες, μάλιστα δὲ ἔξω. οὗτοι κατοκνέουσιν ὀρθοῦσθαι, καὶ εἰλέονται ἐπὶ τὸ ὑγιές· ἢν δὲ ἀναγκάζωνται, σκίμπονι ἐνὶ ἢ δυσὶν ὁδοιπορέουσι, τὸ δὲ σκέλος αἴρουσιν· ὅσῳ γὰρ μεῖον, τόσῳ ῥᾷον. ἢν δὲ ηὐξημένοισι, τὰ μὲν ὀστέα μένει, αἱ

[1] Omit ἡ. [2] ἢ ἦ. [3] Omit ("probably a gloss." Kw.).
[4] Omit αὐτοῦ ἥδε. [5] Omit ἡ προσήκουσα.

The problem of the knee (XXVI) seems insoluble. All writers, from the author of *Mochlicon* to Ambroise Paré, copy the statement of Hippocrates (*Fract.* XXXVII) that dislocation is frequent and of slight severity. We know that it is rare and requires great violence which usually has serious results. Suggestions such as confusion with "internal derangement," or displacement of the knee-cap, seem unsatisfactory. The existence of some peculiar grip in wrestling which dislocated the knee without further injury seems the most probable explanation. One of the modern causes—being dragged in the stirrup by a runaway horse—was absent in antiquity.

XX. The thigh-joint is dislocated in four ways, most frequently inwards, secondly outwards, in the other directions equally. Symptoms: in general, comparison with the other leg. Peculiar to internal dislocation: the head of the thigh-bone is felt towards the perineum; they do not flex the thigh as on the other side; the leg appears longer, especially if you do not bring both legs to the middle line for comparison, for the foot and knee incline outwards. If then the dislocation is congenital, or occurs during adolescence, the thigh is shortened, the lower leg less so, and the rest in proportion. There is atrophy of the tissues, especially on the outer side. These patients shrink from standing erect, and wriggle along on the sound leg. If they have to stand up, they walk with a crutch or two, and keep the leg up, which they do more easily the smaller it is. In adults the bones are unaltered, but

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[6] ταινίοισι ὀθονίοισι.
[7] Omit ἐπίδεσις.
[8] τὰ κάτω.
[9] μάλιστα, ἢ ἧ.
[10] περίνεον.
[11] πολὺ μακρότερον.

δὲ σάρκες μινύθουσι, ὡς προείρηται. ὁδοιπορέουσι δὲ περιστροφάδην, ὡς βόες, ἐν δὲ κενεῶνι[1] καμπύλοι, ἐπὶ τὸ ὑγιὲς ἐξίσχιοι ἐόντες· τῷ μὲν γὰρ ἀνάγκη ὑποβαίνειν ὡς ὀχῇ, τὸ[2] δὲ ἀποβαίνειν (οὐ γὰρ δύναται ὀχεῖν), ὥσπερ οἱ ἐν ποδὶ ἕλκος ἔχοντες. κατὰ δὲ τὸ ὑγιές, πλάγιον[3] ξύλῳ τῷ σώματι ἀντικοντοῦσι, τὸ δὲ σιναρὸν τῇ χειρὶ ὑπὲρ τοῦ γόνατος καταναγκάζουσι ὡς ὀχεῖν ἐν τῇ μεταβάσει τὸ σῶμα· ἰσχίῳ κάτωθεν[4] εἰ χρῆται, κάτωθεν[5] ἧσσον μινύθει καὶ τὰ ὀστέα, μᾶλλον δὲ σάρκες.

XXI. Τοῦ δὲ ἔξω τἀναντία καὶ τὰ σημεῖα καὶ αἱ στάσιες· καὶ τὸ γόνυ καὶ ὁ ποὺς ἔξω ῥέπει βραχύ. τοῖσι δὲ ἐν αὐξήσει ἢ ἐκ γενεῆς παθοῦσιν οὐχ ὁμοίως συναύξεται[6] κατὰ τὸν αὐτὸν λόγον· ἰσχίον ἀνωτέρω τινί, οὐχ ὁμοίως. οἷσι δὲ πυκινὰ ἐκπίπτει ἐς τὸ ἔξω ἄνευ φλεγμονῆς, ὑγροτέρῳ τῷ σκέλει χρῶνται, ὥσπερ ὁ μέγας τῆς χειρὸς δάκτυλος· μάλιστα δὲ οὗτος ἐκπίπτει φύσει· οἷς μὲν ἐκπίπτει μᾶλλον ἢ ἧσσον, καὶ οἷς μὲν ἐκπίπτει χαλεπώτερον ἢ ῥηΐον, καὶ οἷσιν ἐλπὶς θᾶσσον ἐμπεσεῖν, καὶ οἷσιν οὐκ ἀκὴ τούτου, καὶ οἷσι πολλάκις ἐκπίπτει, ἴησις τούτου. ἐκ γενεῆς δὲ ἢ ἐπ' αὐξήσει ἢ ἐν νούσῳ (μάλιστα γὰρ ἐκ νούσου) ἔστι μὲν [οὖν][7] οἷσιν ἐπισφακελίζει τὸ ὀστέον, ἀτὰρ καὶ οἷσι μή, πάσχει μὲν πάντα, ἧσσον δὲ ἢ τὸ ἔσω, ἣν χρηστῶς ἐπιμεληθῶσιν, ὥστε καὶ ὅλῳ βαίνοντας τῷ ποδὶ διαῤῥίπτειν· διὰ μελέτης

[1] τῷ κενεῶνι. [2] τῷ. [3] πλάγιοι.
[4] ἰσχίων κατωτέρω. [5] κάτω τε.
[6] Kw. puts colon after συναύξεται. [7] Omit.

[1] Cf. *J.* LIV.

there is atrophy of the tissues in the way described. They walk with shambling gait, like oxen, bent in at the loin and projecting at the hip on the sound side; for they have to bring the leg under to serve as support, and keep the other leg out (for it cannot give support), like people with a wound on the foot. On the sound side they use a staff as a lateral prop, and press down the injured limb with the hand above the knee, so as to support the body in the change of step. If the part below the hip is used, there is less atrophy of the bones (below). It occurs more in the tissues.

XXI. In outward dislocation, both symptoms and attitudes are the reverse. Knee and foot incline slightly inwards. In adolescent or congenital patients there is inequality of growth, in the same proportion (as with inward dislocation). Hip somewhat elevated, not corresponding.[1] Those in whom outward dislocation is frequent without inflammation have the limb more charged with humours, as is the case with the thumb; for this is by its nature most liable to dislocation. In some the dislocation is more or less complete; in some it takes place with more or less difficulty; in some there is hope of speedy reduction: in some there is no cure for the condition; in cases of frequent dislocation there is a treatment. In congenital and adolescent cases, and those due to disease (for disease is the principal cause), in some cases there is necrosis of bone, but in others not. They have all the affections above mentioned, but to a less degree than those with internal dislocation, if they are well cared for, so as to balance themselves and walk on the whole foot. The youngest require the greatest care. Left to

πλείστης τοῖσι νηπιωτάτοισιν· ἐαθέντα κακοῦται, ἐπιμεληθέντα δὲ ὠφελεῖται· τοῖσιν ὅλοισιν, ἦσσον δέ τι, μινύθουσι.

XXII. Οἷσι δ' ἂν ἀμφότερα οὕτως ἐκπέσῃ, τῶν ὀστέων ταὐτὰ παθήματα· εὔσαρκοι μέν, πλὴν ἔσωθεν, ἐξεχέγλουτοι, ῥοικοὶ μηροί, ἢν μὴ ἐπισφακελίσῃ. εἰ κυφοὶ τὰ ἄνωθεν ἰσχίων γένοιντο, ὑγιηροὶ μέν, ἀναυξέες δὲ τὸ σῶμα, πλὴν κεφαλῆς.

XXIII. Οἷσι δὲ ὄπισθεν, σημεῖα· ἔμπροσθεν λαπαρώτερον, ὄπισθεν ἐξέχον, ποὺς ὀρθός· συγκάμπτειν οὐ δύνανται, εἰ μὴ μετ' ὀδύνης, ἐκτείνειν ἥκιστα· τούτοισι σκέλος βραχύτερον. ἀτὰρ οὐδ' ἐκτανύειν δύνανται κατ' ἰγνύην ἢ[1] κατὰ βουβῶνα, ἢν μὴ πάνυ αἴρωσιν, οὐδὲ συγκάμπτειν. ἡγεῖται ἐν τοῖσι πλείστοισι τὸ ἄνω ἄρθρον τὸ πρῶτον· κοινὸν τοῦτο ἄρθροισι, νεύροισι, μυσίν, ἐντέροισιν, ὑστέρῃσιν, ἄλλοισιν· τούτοις τοῦ ἰσχίου τὸ ὀστέον καταφέρεται εἰς τὸν γλουτόν· διὰ τοῦτο βραχύ, καὶ ὅτι ἐκτείνειν οὐ δύνανται. σάρκες παντὸς τοῦ σκέλεος ἐν πᾶσι μινύθουσιν· ἐφ' οἷσι δὲ μάλιστα, καὶ οἷ,[2] εἴρηται· τὰ ἔργα τὰ ἑωυτοῦ ἕκαστον τοῦ σώματος ἐργαζόμενον μὲν ἰσχύει, ἄργεον δὲ κακοῦται, πλὴν κόπου, πυρετοῦ, φλεγμονῆς. καὶ τὸ ἔξω, ὅτι ἐς σάρκα ὑπείκουσαν, βραχύτερον· τὸ δὲ ἔσω, ὅτι ἐπ' ὀστέον προέχον, μακρότερον. ἢν μὲν οὖν ηὐξημένοισι μὴ ἐμπέσῃ, ἐπὶ βουβῶσι καμπύλοι ὁδοιπορέουσι, καὶ ἡ ἑτέρη

[1] ἢ = "and not" (cf. *Surg.* XIV); but Kw. reads ⟨ἢν⟩ μὴ, from *J.* LVII.

[2] *I.e.* "to what extent" (?); but Kw. (M) has ᾗ.

[1] Hardly intelligible without reference to *J.* LVII.

itself, the lesion gets worse; if cared for, it improves. There is atrophy of all the parts, but somewhat less (than in dislocation inwards).

XXII. When both hips are thus dislocated, the bones are similarly affected. The patients have well-nourished tissues, except on the outer side; they have prominent buttocks, and arched thighs, unless there is also necrosis of the bone. If they become hump-backed above the hips, they retain health; but the body ceases to grow, except the head.

XXIII. Symptoms of posterior dislocation: anterior region rather hollow, posterior projecting, foot straight; they cannot flex the thigh without pain, nor extend it at all; the limb is shorter in these cases. Note also that people cannot do extension at the knee and not at the groin unless they lift it quite high, nor can they flex.[1] In most cases the proximal joint takes precedence (in function); this applies to the joints, ligaments, muscles, intestines, uterus, and other organs.[2] In these dislocations, the hip-bone is carried to the buttock, which causes the shortening and inability to extend the joint. In all cases there is atrophy of the tissues throughout the leg; in which cases this occurs most, and where, has been explained. Each part of the body which performs its proper function gets strong; but when idle, it deteriorates, unless the inaction is due to fatigue, fever, or inflammation. External dislocation, because it is into yielding tissue, produces shortening: internal, because it is on to projecting bone, lengthening. If then it is unreduced in adults, they walk in a bent attitude at the groins,

[2] *I.e.* movements, including contractions, start from above.

ἰγνύη κάμπτεται· στήθεσι μόλις[1] καθικνεῖται·[2] χειρὶ τὸ σκέλος καταλαμβάνει, ἄνευ ξύλου, ἢν ἐθέλωσιν· ἢν μὲν γὰρ μακρότερον ᾖ, οὐ βήσεται· ἢν δὲ βαίνῃ, βραχύ. μινύθησις δὲ σαρκῶν, οἷσι πόνοι, καὶ ἡ ἴξις ἔμπροσθεν, καὶ τῷ ὑγιεῖ κατὰ λόγον· οἷσι δὲ ἐκ γενεῆς ἢ αὐξομένοισι ἢ ὑπὸ νούσου ἐνόσησε καὶ ἔξαρθρα ἐγένετο (ἐν αἷς, εἰρήσεται), οὗτοι μάλιστα κακοῦνται διὰ τὴν τῶν νεύρων καὶ ἄρθρων ἀργίην· καὶ τὸ γόνυ διὰ τὰ εἰρημένα συγκακοῦνται. συγκεκαμμένον οὗτοι ἔχοντες ὁδοιπορέουσιν ἐπὶ ξύλου, ἑνὸς ἢ δύο· τὸ δὲ ὑγιές, εὔσαρκον διὰ χρῆσιν.

XXIV. Οἷσι ἐς τοὔμπροσθεν, σημεῖα τἀναντία· ὄπισθεν λαπαρόν, ἔμπροσθεν ἐξέχον· ἥκιστα συγκάμπτουσιν οὗτοι τὸ σκέλος, μάλιστα δὲ ἐκτείνουσι· ὀρθὸς πούς, σκέλος ἴσον, πτέρνα· βραχεῖ ἄκρως ἀνέσταλται. [ᾗ][3] πονέουσι μάλιστα οὗτοι αὐτίκα, καὶ οὖρον ἴσχεται μάλιστα ἐν τούτοισι τοῖσιν ἐξαρθρήμασιν· ἐν γὰρ τόνοισιν ἔγκειται τοῖσιν ἐπικαίροισιν. τὰ ἔμπροσθεν κατατέταται [ἀναυξέα, νοσώδεα, ταχύγηρα][4]· τὰ ὄπισθεν στολιδώδεες· οἷσιν ηὐξημένοισιν, ὁδοιπορέουσι ὀρθοί, πτέρνῃ μᾶλλον βαίνοντες· εἰ δὲ ἠδύναντο μέγα προβαίνειν, κἂν πάνυ· σύρουσι δέ. μινύθει δὲ ἥκιστα, τούτοισι δὲ ἡ χρῆσις αἰτία· μάλιστα δὲ ὄπισθεν· διὰ παντὸς τοῦ σκέλεος, ὀρθότεροι τοῦ μετρίου, ξύλου δέονται κατὰ τὸ

[1] *μόγις.*
[2] *κινεῖται* codd.; *ἱκνεῖται* Littré.
[3] Kw. deletes. Perhaps *ἦ* emphatic.
[4] Words from *J.* LVIII referring to effects of disuse, evidently out of place here.

and the sound knee is flexed. The ball of the foot barely reaches the ground; they hold the leg with the hand if they choose to walk without a crutch. A crutch for walking should be short; if too long, he will not use the foot. There is wasting of the flesh in painful cases[1] down the front, and on the sound side in proportion. In congenital and adolescent patients, or where the dislocation follows disease (what the diseases are will be explained), these cases especially go to the bad through disuse of the sinews and joints; and the knee shares in the deterioration, for the reasons given. They walk with the leg flexed, on one or two crutches; but the sound limb is well nourished, because it is used.

XXIV. In cases of dislocation forwards the symptoms are reversed; hind region depressed, front projecting. These patients are least able to flex the leg, but have most power to extend it. The foot is straight, and the leg equal to the other, if measured to the heel; the foot is a little drawn up at the tip. Now these patients suffer especially at first, and there is a special liability to retention of urine in these dislocations; for the bone lies upon cords of vital importance. The parts in front are stretched [cease to grow, and are liable to disease and premature age]; the hinder parts are wrinkled. In the case of adults, they walk erect, chiefly on the heel, and, if they could take long strides, would do so entirely; but they drag the leg. There is very little atrophy in these cases on account of the exercise, and it is chiefly in the hinder parts. Because the whole leg is straighter than it should be, they require a crutch

[1] Pq. renders "in those who exercise the limb" (!); surely the sense is, "where it is too painful to use."

σιναρόν. οἷσι δὲ ἐκ γενεῆς ἢ αὐξομένοισι, χρηστῶς μὲν ἐπιμεληθεῖσιν ἡ χρῆσις, ὥσπερ τοῖσιν ηὐξημένοισιν· ἀμεληθεῖσι δὲ βραχύ, ἐκτεταμένον· πωροῦται[1] γὰρ τούτοισι, μάλιστα δὲ ἐς ἰθὺ τὰ
20 ἄρθρα· αἱ δὲ τῶν ὀστέων μειώσιες καὶ αἱ τῶν
21 σαρκῶν μινυθήσιες κατὰ λόγον.

XXV. Μηροῦ δὲ κατάτασις μὲν ἰσχυρή· καὶ ἡ διόρθωσις κοινή, ἢ χερσὶν ἢ σανίδι ἢ μοχλῷ, τὰ μὲν ἔσω στρογγύλῳ, τὰ δὲ ἔξω πλατεῖ, μάλιστα δὲ τὰ ἔξω. καὶ τὰ μὲν ἔσω ἀσκοῖσιν ἀκεσάμενον ἐς τὸ ὑπόξηρον τοῦ μηροῦ, καταστάσιος δὲ καὶ συνδέσιος σκελέων· κρεμάσαι διαλείποντα σμικρὸν τοὺς πόδας, ἔπειτα πλέξαντα ἐκκρεμασθῆναί τινα, ἐν τῇ διορθώσει ἀμφότερα ἅμα ποιεῦντα. καὶ τῷ ἔμπροσθεν τοῦτο ἱκανὸν
10 καὶ τοῖσιν ἑτέροισιν, ἥκιστα δὲ τῷ ἔξω. ἡ τοῦ ξύλου ὑπόστασις,[2] ὥσπερ ὤμῳ, ὑπὸ τὴν χεῖρα, οἷς ἔσω· τοῖσι γὰρ ἄλλοισιν ἧσσον· καταναγκάσεις δὲ μετὰ διατάσιος, μάλιστα τῶν ἔμπροσθεν ἢ ὄπισθεν, ἢ ποδὶ ἢ χειρὶ ἐφίζεσθαι
15 ἢ σανίδι.

XXVI. Γόνυ δὲ εὐηθέστερον ἀγκῶνος διὰ τὴν εὐσταλίην καὶ εὐφυίην, διὸ καὶ ἐκπίπτει καὶ ἐμπίπτει ῥᾷον. ἐκπίπτει δὲ πλειστάκις ἔσω, ἀτὰρ καὶ ἔξω καὶ ὄπισθεν. ἐμβολαὶ δέ· ἡ ἐκ τοῦ συγκεκάμφθαι, ἢ ἐκλακτίσαι ὀξέως, ἢ συνελίξας ταινίης ὄγκον, ἐν ἰγνύῃ θείς, ἀμφὶ τοῦτον ἐξαίφνης ἐς ὄκλασιν ἀφεῖναι τὸ σῶμα, [μάλιστα

[1] πηροῦται, perhaps the correct reading, as in *J.* LX. Foës, Littré, Kw.

[2] ὑπόστασις.

on the injured side. In congenital and adolescent cases, if exercise is well managed, they get on like adults; but in neglected patients, the leg is short and extended. Ankylosis occurs in these cases, with the joints usually in an extended position. The shortening of the bones and atrophy of the tissues are according to rule.

XXV. For the thigh strong extension is required, and the adjustment in all cases is with the hands or a board or lever, rounded for internal, flat for external dislocations. The external cases want it most. As to internal cases, there is a treatment with bags to the tapering part of the thigh, with extension and binding together of the legs. Suspend the patient with his legs slightly parted; then let someone be suspended from him, twisting [his arms between the patient's legs],[1] performing both acts of adjustment at once (extension and leverage outwards). This suffices in anterior dislocation and the rest, but is no good in the external form. The plan with wood beneath the limb, as under the arm in shoulder dislocation, suits internal cases, but is not so good in the others; you will succeed in reducing anterior and posterior cases especially by double extension, using foot or hand or a plank to make pressure from above.

XXVI–XXXI. In these chapters we have an epitome of an obscure subject already given verbally (with a few various readings) in *Joints* LXXXII–LXXXVII. Instead of repeating the English version, we may therefore attempt some explanation of the difficulties.[2] The chief of these are:—Why is there no mention of the astragalus in ankle dis-

[1] Cf. *J.* LXX. [2] For note on § XXVI, see p. 417.

ἐν τῇ τῶν ὄπισθεν·][1] δύναται δὲ καὶ κατατειυόμενα μετρίως, ὥσπερ ἀγκών, ἐμπίπτειν τὰ ὄπισθεν· τὰ δὲ ἔνθα ἢ ἔνθα, ἐκ τοῦ συγκεκάμφθαι ἢ ἐκλακτίσαι ἢ [ἐν] κατατάσει, [μάλιστα δὲ αὐτὴ[2] τὸ ὄπισθεν]. ἀτὰρ καὶ ἐκ κατατάσιος μετρίης, ἡ διόρθωσις ἅπασι κοινή. ἢν δὲ μὴ ἐμπέσῃ, τοῖσι μὲν ὄπισθεν συγκάμπτειν οὐ δύνανται, ἀτὰρ οὐδὲ τοῖσιν ἄλλοισιν πάνυ τι. μινύθει δὲ μηροῦ καὶ κνήμης τὸ ἔμπροσθεν. ἢν δὲ ἐς τὸ ἔσω, βλαισότεροι, μινύθει δὲ τὰ ἔξω· ἢν δὲ ἐς τὸ ἔξω, γαυσότεροι, χωλοὶ δὲ ἧσσον· κατὰ γὰρ τὸ παχύτερον ὀστέον ὀχεῖ· μινύθει δὲ τὰ ἔσω. ἐκ γενεῆς δὲ ἢ ἐν αὐξήσει, κατὰ λόγον τὸν ἔμπροσθεν.

XXVII. Τὰ δὲ κατὰ σφυρὰ κατατάσιος ἰσχυρῆς δεῖται, ἢ τῇσι χερσὶν ἢ ἄλλοισι τοιούτοισι, κατορθώσιος δὲ ἅμα ἀμφότερα ποιεύσης· κοινὸν δὲ πᾶσιν.

XXVIII. Τὰ δὲ ἐν ποδί, ὡς τὰ ἐν χειρί, ὑγιῆ.

XXIX. Τὰ δὲ ἐν τῇ κνήμῃ συγκοινωνέοντα καὶ μὴ ἐμπεσόντα, ἐκ γενεῆς καὶ ἐν αὐξήσει ἐξαρθρήσαντα, ταὐτὰ ἃ καὶ ἐν χειρί.

XXX. Ὅσοι δὲ πηδήσαντες ἄνωθεν ἐστηρίξαντο τῇ πτέρνῃ, ὥστε διαστῆναι τὰ ὀστέα καὶ φλέβας ἐκχυμωθῆναι καὶ νεῦρα ἀμφιφλασθῆναι, ὅταν γένηται οἷα τὰ δεινότατα, κίνδυνος μὲν σφακελίσαντα τὸν αἰῶνα πρήγματα παρασχεῖν· καὶ ῥοικώδη[3] μὲν τὰ ὀστέα, τὰ δὲ νεῦρα ἀλλήλοισι κοινωνέοντα. ἐπεὶ καὶ οἷσιν ἂν κατεαγείσιν ἢ ὑπὸ τρώματος, οἷα ἐν κνήμῃ, ἢ μηρῷ, νεύρων ἀπολυθέντων ἃ κοινωνεῖ τούτοισιν, ἢ ἐξ ἄλλης κατακλίσιος ἀμελέος ἐμελάνθη[4] ἡ πτέρνη, καὶ τούτοισι παλίγκοτα ἐκ τοιούτων. ἔστιν ὅτε

locations? and, What is meant by the epiphysis of the foot and leg?

We are told (*Fract.* XII, *Mochl.* I) that the leg-bones towards the foot have "a common epiphysis" against which (*πρὸς ἥν*) the foot moves. The bones may be dislocated with the epiphysis, or the epiphysis only may be displaced (*Fract.* XIII). In the epitome, however, the epiphysis is considered part of the foot, which may be dislocated either with or without it. Littré discusses the subject at great length,[1] and concludes, somewhat doubtfully, that the epiphysis is "la réunion des deux malléoles considérées comme une seule pièce." Its dislocation is the separation of the two bones. But Hippocrates has a special word for each of these, *συμφνάς* for the union and *διάστασις* for the separation; and he uses neither here. Adams,[2] following a suggestion by Gardeil, confines the term to the lower end of the fibula; dislocation of the epiphysis is fracture or displacement of the fibula. He admits, however, that a full discussion would be futile and tedious even to the professional reader. The chief argument in favour of this view is that fracture of the lower end of the fibula frequently accompanies ankle dislocation. On the other hand *Fract.* XIII seems to distinguish clearly between the epiphysis and either of the leg-bones.

A third view, hardly bolder than that of Adams,

[1] III. 393 ff.; IV. 45 ff. Petrequin agrees with Littré.
[2] II. 522, also 504.

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[1] *J.* LXXXII omits here and below.
[2] *ῥοιώδεα.*
[3] *αὐτῇ.*
[4] *μελαν θῇ.*

πρὸς σφακελισμῷ γίνονται πυρετοὶ ὑπερόξεες, λυγγώδεες, τρομώδεες, γνώμης ἁπτόμενοι, ταχυθάνατοι, καὶ ἔτι φλεβῶν αἱμορρόων πελιώσιες καὶ γαγγραινώσιες. σημεῖα τῶν παλιγκοτησάντων· ἢν τὰ ἐκχυμώματα καὶ τὰ μελάσματα καὶ τὰ περὶ ταῦτα ὑπόσκληρα καὶ ὑπέρυθρα ᾖ· ἢν γὰρ σὺν σκληρύσματι πελιωθῇ, κίνδυνος μελανθῆναι· ἢν δὲ ὑποπέλια ᾖ, καὶ πελιὰ μάλα καὶ κεχυμένα,[1] ἢ ὑπόχλωρα καὶ μαλθακά, ταῦτα ἐν[2] πᾶσι τοῖσι τοιούτοισιν ἀγαθά. ἴησις δέ· ἢν μὲν ἀπύρετοι ἔωσιν, ἐλλεβορίζειν·[3] ἢν δὲ μή, μή· ἀλλὰ ποτὸν διδόναι ὀξύγλυκυ, εἰ δέοι. ἐπίδεσις δὲ ἡ ἄρθρων σύνθεσις· ἔτι δὲ[4] πάντα μᾶλλον τοῖσι φλάσμασι· καὶ ὀθονίοισι πλέοσι καὶ μαλθακωτέροισι χρῆσθαι· πίεξις ἧσσον· ὕδωρ πλέον·[5] προσπεριβάλλειν τὰ πλεῖστα τῇ πτέρνῃ· τὸ σχῆμα ὅπερ ἡ ἐπίδεσις, ὡς μὴ ἐς τὴν πτέρνην ἀποπιέξηται· ἀνωτέρω γούνατος ἔστω εὔθετος· νάρθηξι μὴ χρήσασθαι.[6]

XXXI. Ὅταν δὲ ἐκστῇ ὁ πούς, ἢ μοῦνος[7] ἢ σὺν τῇ ἐπιφύσει, ἐκπίπτει μᾶλλον ἐς τὸ ἔσω· εἰ[8] δὲ μὴ ἐμπέσῃ, λεπτύνεται ἀνὰ χρόνον ἰσχίου καὶ μηροῦ καὶ κνήμης τὸ ἀντίον τοῦ ὀλισθήματος. ἐμβολή, ὡς ἡ καρποῦ, κατάτασις δὲ ἰσχυροτέρη. ἴησις, νόμος ἄρθρων· παλιγκοτεῖ ἧσσον καρποῦ, ἢν ἡσυχάσῃ. δίαιτα μείων, ἐλινύουσι γάρ. τὰ δὲ ἐκ γενεῆς μὲν ἢ ἐν αὐξήσει, κατὰ λόγον τὸν πρότερον.

XXXII. Ἐπεὶ τὰ σμικρὸν ὠλισθηκότα ἐκ γενεῆς, ἔνια οἷά τε διορθοῦσθαι. μάλιστα δὲ

[1] ἐκκεχυμωμένα. [2] ἐπὶ.
[3] ἀπύρετος ᾖ, ἐλλέβορον.

is that the epiphysis is our astragalus, looked upon either as an annex to the leg-bones or an epiphysis of the foot. This would explain much, *e.g.*, the fact that Hippocrates speaks of dislocation of the leg from the foot (*Fract.* XIII, *Joints* LIII, LXIII); for, with the astragalus, the leg-bones would have a convex end; so too the foot is said to move *on* (πρός) not *in* this joint. We may also note that the epitomist, taking the epiphysis as part of the foot, adopts the modern view, dislocating the foot from the leg, yet retains the language of his original (*Fract.* XIV) in saying that the commonest dislocation is inwards. The commonest dislocation is that of the leg inwards and the foot outwards, so we can only make him correct by a bold translation such as that of Gardeil, who renders ὁ ποὺς ἐκπίπτει μᾶλλον ἐς τὸ ἔσω, "la partie supérieure de l'astragale se place communément en dedans."

The other Hippocratic account of the ankle-joint (*Loc. Hom.* VI) says, "towards the foot the leg has a joint at the ankles and another below the ankles." The part between is the astragalus; and it is left doubtful whether this belongs to the foot or the leg.[1]

XXXII. Among slight congenital dislocations, some can be put straight, and especially club-foot.[2]

[1] So, too, in *Joints* LIII, we hear of a "bone of the leg at the ankle" which seems distinct from the leg-bones proper, and more closely connected with those of the foot.

[2] An almost ludicrous epitome of *J.* LXII.

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[4] ἐπίδεσις δέ, ἄρθρων σύνδεσις· ἐπιδεῖν Kw.
[5] Omit. [6] χρῆσθαι.
[7] αὐτὸς. [8] ἦν.

ποδὸς κύλλωσις· κυλλώσιος γὰρ οὐχ εἷς ἐστὶ τρόπος. ἡ δὲ ἴησις τούτου, κηροπλαστεῖν· κηρωτὴ ῥητινώδης,[1] ὀθόνια συχνά, ἢ πέλμα ἢ μολύβδιον προσεπιδεῖν, μὴ χρωτί· ἀνάληψις, τά
7 τε σχήματα ὁμολογείτω.

XXXIII. Ἢν δὲ ἐξαρθρήσαντα ἕλκος ποιησάμενα ἐξίσχῃ, ἐώμενα ἀμείνω, ὥστε δὴ μὴ ἀπαιωρεῖσθαι μηδ' ἀπαναγκάζεσθαι. ἴησις δέ· πισσηρῇ ἢ σπλήνεσιν οἰνηροῖσι θερμοῖσιν—ἅπασι γὰρ τούτοισι τὸ ψυχρὸν κακόν—καὶ φύλλοισιν· χειμῶνος δέ, εἰρίοισι ῥερυπωμένοισι τῆς σκέπης εἵνεκα· μὴ καταπλάσσειν, μηδ' ἐπιδεῖν· δίαιτα λεπτή· ψῦχος, ἄχθος πολύ, πίεξις, ἀνάγκη, σχήματος τάξις· εἰδέναι μὲν οὖν ταῦτα πάντα
10 ὀλέθρια. μετρίως δὲ θεραπευθέντες, χωλοὶ αἰσχρῶς· ἢν γὰρ παρὰ πόδας γένηται, ποὺς ἀναστᾶται, καὶ ἢν πῃ ἄλλῃ, κατὰ λόγον. ὀστέα οὐ μάλα ἀφίσταται· μικρὰ γὰρ ψιλοῦται, περιωτειλοῦται λεπτῶς. τούτων τὰ μέγιστα κινδυνωδέστατα, καὶ τὰ ἀνωτάτω. ἐλπὶς δὲ μούνη σωτηρίης, ἐὰν μὴ ἐμβάλλῃ, πλὴν τὰ κατὰ δακτύλους καὶ χεῖρα ἄκρην· ταῦτα δὲ προειπέτω[2] τοὺς κινδύνους. ἐγχειρεῖν ἐμβάλλειν ἢ τῇ πρώτῃ ἢ τῇ δευτέρῃ, ἢν δὲ μή, πρὸς τὰ δέκα· ἥκιστα
20 τεταρταῖα. ἐμβολὴ δέ, οἱ μοχλίσκοι. ἴησις δέ, ὡς κεφαλῆς ὀστέων, καὶ θερμή· ἐλλεβόρῳ δὲ καὶ αὐτίκα ἔπειτα[3] τοῖσιν ἐμβαλλομένοισι βέλτιον χρῆσθαι. τὰ δ' ἄλλα εὖ εἰδέναι δεῖ ὅτι ἐμβαλλομένων θάνατοι· τὰ μέγιστα καὶ τὰ ἀνωτάτω

[1] κηρωτῇ ῥητινώδει. [2] προειπόντα.
[3] καὶ ἔπειτα.

Now there is more than one kind of club-foot. Here is the treatment of it: moulding, resined cerate, plenty of bandages, a sandal or sheet of lead bound in with the bandaging, not directly on the flesh; let the slinging up and attitude of the foot be in accordance.

XXXIII. If dislocated bones make a wound and project, they are best let alone, seeing, of course, that they are not left unsupported or subject to violence. Treatment with pitch cerate, or compresses soaked in warm wine (for cold is bad in all these cases), also leaves, and, in winter, crude wool as a protection; do not use a plaster application or bandaging; low diet; cold, heavy weight, constriction, violence, a forcibly ordered attitude—bear in mind that all these are pernicious. Suitably treated, they survive badly maimed; for if the lesion is near the foot, the foot is drawn up; and if anywhere else, there is a corresponding deformity. Bones do not usually come away, for only small surfaces are denuded, and a thin scar forms. In these cases there is greatest danger with the largest and proximal joints. The only hope of safety is not to reduce them, except the fingers and bones of the hand. In these cases let the surgeon explain the risks beforehand. Perform reduction on the first or second day; failing that, about the tenth; by no means on the fourth. Reduction: the small levers. Treatment: as for bones of the head; warmth; it is rather a good thing to give a dose of hellebore to the patients immediately after reduction. As to other bones, one must bear well in mind that their reduction means death, the quicker and more certain the larger and higher up they are. In the

μάλιστα καὶ τάχιστα. πονὺς δὲ ἐκβάς, σπασμός, γάγγραινα· καὶ γὰρ ἦν ἐμβληθέντι ἐπιγένηταί τι τούτων, ἐκβάλλοντι ἐλπίς, εἴ τις ἄρα ἐλπίς· οὐ γὰρ ἀπὸ τῶν χαλώντων οἱ σπασμοί, ἀλλ' ἀπὸ
29 τῶν ἐντεινόντων.

XXXIV. Αἱ δὲ ἀποκοπαὶ ἢ ἐν ἄρθρῳ ἢ κατὰ τὰ ὀστέα, μὴ ἄνω, ἀλλ' ἢ παρὰ τῷ ποδὶ ἢ παρὰ τῇ χειρὶ ἐγγὺς περιγίνονται, ἢν μὴ αὐτίκα μάλα[1] λειποθυμίῃ ἀπόλωνται. ἴησις, ὡς κεφαλῆς,
5 θερμή.

XXXV. Ἀποσφακελίσιος μέντοι σαρκῶν, καὶ ἐν τρώμασι αἱμορρόοις ἀποσφιγχθέν, καὶ ἐν ὀστέων κατήγμασι πιεχθέν, καὶ ἐν δεσμοῖς ἀπομελανθέν. καὶ οἷσι μηροῦ μέρος ἀποπίπτει καὶ βραχίονος, ὀστέα τε καὶ σάρκες ἀποπίπτουσι, πολλοὶ περιγίνονται, ὡς τά γε ἄλλα εὐφορώτερα· οἷσι μὲν οὖν κατεαγέντων ὀστέων, αἱ μὲν περιρρήξιες ταχεῖαι, αἱ δὲ τῶν ὀστέων ἀποπτώσιες, ἢ ἂν τὰ ὅρια τῆς ψιλώσιος ᾖ, ταύτῃ ἀποπίπτουσι,
10 βραδύτερον δέ. δεῖ[2] δὲ τὰ κατωτέρω τοῦ τρώματος προσαφαιρεῖν καὶ τοῦ σώματος τοῦ ὑγιέος —προθνήσκει γάρ—φυλασσόμενον·[3] ὀδύνῃ ἅμα γὰρ λειποθυμίῃ θνήσκουσιν. μηροῦ ὀστέον ἀπελύθη ἐκ τοιούτου ὀγδοηκοσταῖον, ἡ δὲ κνήμη ἀφῃρέθη εἰκοσταίῃ· κνήμης δὲ ὀστέα κατὰ μέσην ἑξηκοσταῖα ἀπελύθη. ἐκ τοιούτων ταχὺ καὶ

[1] ἅμα. [2] χρὴ Kw.

case of a (compound) dislocation of the foot, spasm and gangrene (are to be expected). If anything of this kind supervenes on reduction, there is hope from dislocation, if indeed there is hope at all; for spasms do not come from relaxation of parts, but from their tension.

XXXIV. Amputations at a joint or in the length of the bones, if not high up, but either near the foot or near the hand, usually[1] result in recovery, unless the patients perish at once from collapse. Treatment: as for the head; warmth.

XXXV. (Causes) of gangrene of the tissues are: constriction in wounds with haemorrhage, compression in fractures of bones, and mortification from bandages.[2] Even in cases where part of the thigh or arm falls off and bones and flesh come away, many survive; and in other respects this is rather well borne. In cases of fractured bones, lines of demarcation form quickly; but the falling off of the bones (it is where the limit of the denudation occurs that they fall off) occurs more slowly. One must[3] intervene to remove the parts below the lesion and the sound part of the body (for these parts die first), and be careful;[4] for patients die from pain and collapse combined. A thigh-bone separated in such a case on the eightieth day, but the leg was removed on the twentieth; leg-bones separated at the middle on the sixtieth day. In such cases the compression

[1] ἐγγὺς corresponds to τοῖς πλείστοισι, *J.* LXVIII; but it is a curious use.

[2] *J.* LXIX.

[3] "Should" (Kw.).

[4] "Avoid pain"—Kw.'s punctuation.

[3] φυλασσόμενον absolute: cf. *Head Wounds* XVIII. Kw. follows a conjecture of Foës and reads φυλασσόμενον ὀδύνην.

βραδέως, αἱ πιέξιες αἱ ἰητρικαί. τὰ δ' ἄλλα ὅσα ἡσυχαίως, τὰ μὲν ὀστέα οὐκ ἀποπίπτει οὐδὲ σαρκῶν ψιλοῦται, ἀλλ' ἐπιπολαιότερον.[1] προσ-
20 δέχεσθαι ταῦτα χρή· τὰ γὰρ πλεῖστα φοβερώτερα ἢ κακίω. ἡ ἴησις πραεῖα, θερμῇ διαίτῃ ἀκριβεῖ· κίνδυνος αἱμορῥαγιῶν, ψύχεος· σχήματα δὲ ὡς μὲν ἀνάῤῥοπα, ἔπειτα ὑποστάσιος πόου εἵνεκα ἐξ ἴσου ἢ ὅσα συμφέρει. ἐπὶ τοῖσι τοιούτοισι καὶ ἐπὶ τοῖσι μελασμοῖσιν, αἱμορῥαγίαι, δυσεντερίαι, περὶ κρίσιν, λαῦροι μέν, ὀλιγήμεροι δέ. οὐκ ἀπόσιτοι δὲ πάνυ οὐδὲ πυρετώδεες, οὐδέ τι
28 κενεαγγητέον.

XXXVI. Ὕβωσις, ἡ μὲν ἔσω ἐπιθάνατος, οὔρων σχέσιος, ἀποναρκώσιος·[2] τὰ δὲ ἔξω, τούτων ἀσινέα τὰ πλεῖστα, πολὺ μᾶλλον ἢ ὅσα σεισθέντα μὴ ἐξέστη. αὐτὰ μὲν ἑωυτοῖσι κρίσιν ποιησάμενα, κεῖνα δὲ ἐπὶ πλέον τῷ σώματι ἐπιδιδόντα, καὶ ἐν ἐπικαίροις ἐόντα.

Οἷον πλευραὶ κατεαγεῖσαι μέν, ὀλίγαι πυρετώδεες καὶ αἵματος πτύσιος καὶ σφακελισμοῦ, ἤν τε μία, ἤν τε πλείους μὴ καταγῇ ἔσω δέ·[3]
10 καὶ ἴησις φαύλη, μὴ κενεαγγοῦντα, ἢν ἀπύρετος ᾖ. ἐπίδεσις ὡς νόμος· ἡ δὲ πώρωσις ἐν εἴκοσιν ἡμέρῃσιν, χαῦνον γάρ. ἢν δ' ἀμφιφλασθῇ, φυματίαι, καὶ βηχώδεες, καὶ ἔμμοτοι, καὶ πλευρὰς ἐσφακέλισαν· παρὰ γὰρ πλευρὴν ἑκάστην ἀπὸ
15 πάντων τόνοι εἰσίν.

XXXVII. Τὰ δὲ ἀπὸ καταπτώσιος ἧσσον

[1] ἐπιπολαιότερα. [2] εἵνεκα understood.
[3] μὴ καταγεῖσαι δέ . . . Kw. He suspects a mutilation in the text.

[1] "Which have been gently constricted." Littré (Adams).

used during treatment makes it quick or slow. For the rest, in cases of mild character [1] the bones do not come away, nor are they denuded of flesh; but the mortification is more superficial. One should take on these cases, for they are most of them more terrifying than dangerous. Treatment: gentle, with warmth and strict diet; dangers: haemorrhage, chill; attitudes rather elevated; afterwards, because of collection of pus, on a level, or whatever suits. Haemorrhage supervenes in such cases, also in mortification, and dysentery at the crisis, copious, but of short duration. Patients do not lose their appetites much, nor are they feverish; and there is no reason why one should starve them.

XXXVI. Spinal curvature: inwards it is fatal, from retention of urine and loss of sensation; external curvatures are most of them without serious lesions, much more so than cases of concussion without displacement, for they make their own crisis; but the latter have a greater effect on the body and on parts of vital importance.

So, too, fractured ribs rarely give rise to fever, spitting of blood, or necrosis, where there is one or more fractured, if it is not broken inwards; [2] and the treatment is simple, without starvation diet, if there is no fever. Bandaging as customary. Callus forms in twenty days, for the bone is spongy. But if there is great contusion, tubercles, chronic coughs and suppurating wounds supervene, with necrosis of the ribs; for along each rib there are cords coming from all parts.

XXXVII. Curvatures due to a fall are less sus-

[2] Or, "if not splintered," Littré (Adams); "if they are not broken (but contused)," Kw.

δύναται ἐξιθύνεσθαι· χαλεπώτερα δὲ τὰ ἄνω φρενῶν ἐξιθύνεσθαι. οἷσι δὲ παισίν, οὐ συναύξεται, ἀλλ' ἢ σκέλη καὶ χεῖρες καὶ κεφαλή· ηὐξημένοισιν ὕβωσις, παραχρῆμα μὲν τῆς νούσου ῥύεται, ἀνὰ χρόνον δ' ἐπισημαίνεται δι'[1] ὧνπερ καὶ τοῖσι νεωτέροισιν, ἧσσον δὲ κακοήθως. εἰσὶ δὲ οἳ εὐφόρως ἤνεγκαν, οἷσιν ἂν ἐς εὔσαρκον καὶ πιμελῶδες τράπηται· ὀλίγοι δὲ τούτων περὶ ἑξήκοντα ἔτεα ἐβίωσαν. ἀτὰρ καὶ ἐς τὰ πλάγια διαστρέμματα γίνεται· συναίτια δὲ καὶ τὰ σχήματα ἐν οἷσιν ἂν κατακέωνται· καὶ ἔχει προγνώσιας.

Πολλοὶ δὲ καὶ αἷμα ἔπτυσαν καὶ ἔμπυοι ἐγένοντο. ἡ δὲ μελέτη, ἴησις, ἐπίδεσις ὡς νόμος· διαίτης τὰ πρῶτα ἀτρεκέως, ἔπειτα ἀπαλύνειν· ἡσυχίη, σιγή· σχήματα, κοιλίη, ἀφροδίσια. ἀτὰρ οἷς ἄναιμα, ἐπωδυνώτερα τῶν καταγνυμένων καὶ φιλυποστροφώτερα χρόνοισιν· οἷσι δὲ καταλείπεται μυξῶδες, ὑπομιμνήσκει ἐν πόνοισιν. ἴησις· καῦσις, τοῖσι μὲν ἀπ' ὀστέου, μέχρις[2] ὀστέου, μὴ αὐτὸ δέ· ἦν δὲ μεταξύ, μὴ πέρην, μηδὲ ἐπιπολῆς· σφακελισμός. καὶ τὰ ἔμμοτα πειρᾶσθαι· εἰρήσεται ἅπαντα τὰ ἐπεσιόντα. ὁρατά, λόγοις δ' οὐ μή· βρώματα, πόματα, θάλπος, ψῦχος, σχῆμα· ὅτι καὶ φάρμακα, τὰ μὲν ξηρά, τὰ δὲ ὑγρά, τὰ δὲ πυρρά, τὰ δὲ μέλανα, τὰ δὲ λευκά, τὰ δὲ στρυφνά, ἐπὶ ἕλκη, οὕτω καὶ δίαιται.

XXXVIII. Νόμος ἐμβολῆς καὶ διορθώσιος· ὄνος, μοχλός, σφηνίσκος, ἵππος· ὄνος μὲν ἀνάγειν, μοχλὸς δὲ παράγειν. τὰ δὲ ἐμβλητέα ἢ διορ-

[1] ἐπισημαίνεταί τι (as in *J.* XLI). [2] μέχρι τοῦ.

ceptible to rectification; and those above the diaphragm are the more difficult to straighten. In the case of children, there is cessation of growth, except in the legs, arms, and head. Curvature in adults delivers from the disease at the moment; but in time the same symptoms appear as in younger patients, but in less malignant form. There are some who bear the affection well, those in whom there is a tendency to fulness of flesh and fat; but few of these reach sixty years. Lateral distortions also are produced, and the positions in which patients lie are accessory causes; they also serve for prognosis.

Many patients spit blood, and get an abscess.[1] Care and treatment; bandaging as usual. Diet: at first strict, then feed him up; repose and silence, position, the bowels, sexual matters. But where there is no show of blood, the parts are more painful than in fractured cases, and there is more tendency to relapse later. Where the tissue is left in a mucous state, there is a return of pains. Treatment: cautery, where bone is involved, down to the bone, but not of the bone itself; if between the ribs, not right through, yet not superficial. Necrosis: try also the treatment with tents; all that concerns this will be described. Things are to be seen—don't trust to words; food, drink, warmth, cold, attitude. As to drugs also, some are dry, some moist, some ruddy, some black, some white, some astringent, used for wounds; so too (various) diets.

XXXVIII. Usage for reduction and adjustment: windlass, lever, wedge, press; windlass for stretching, lever for bringing into place. Parts to be

[1] This passage seems out of place here, and Littré boldly joins it on to XXXVI; but we now have to do with odd notes.

θωτέα διαναγκάσαι δεῖ ἐκτείνοντα, ἐν ᾧ ἂν ἕκαστα σχήματι μέλλῃ ὑπεραιωρηθήσεσθαι· τὸ δ' ἐκβάν,[1] ὑπὲρ τούτου ὅθεν ἐξέβη. τοῦτο δέ, ἢ χερσὶν ἢ κρεμασμῷ ἢ ὄνοισιν ἢ περί τι. χερσὶ μὲν οὖν ὀρθῶς κατὰ μέρεα· καρπὸν δὲ καὶ ἀγκῶνα ἀπόχρη διαναγκάζειν, καρπὸν μὲν εἰς ἰθὺ ἀγκῶνος, ἀγκῶνα δὲ ἐγγώνιον πρὸς βραχίονα ἔχοντα, οἷον παρὰ τῷ βραχίονι τὸ ὑπὸ τὴν χεῖρα ὑποτεινόμενον. ἐν οἷσι δὲ δακτύλου, ποδός, χειρός, καρποῦ, ὑβώματος τὸ ἔξω,[2] διαναγκάσαι δεῖ καὶ καταναγκάσαι, τὰ μὲν ἄλλα ὑπὸ χειρῶν αἱ διαναγκάσιες ἱκαναί, καταναγκάσαι δὲ τὰ ὑπερέχοντα ἐς ἕδρην πτέρυῃ ἢ θέναρι ἐπί τινος· ὥστε κατὰ μὲν τὸ ἐξέχον ὑποκεῖσθαι ὄγκον σύμμετρον μαλθακόν· κατὰ δὲ τὸ ἕτερον [μήστωρα] δ' ἂν[3] χρὴ ὠθεῖν ὀπίσω καὶ κάτω, ἦν δὲ ἔσω ἦν δὲ ἔξω ἐκπεπτώκῃ· τὰ δὲ ἐκ πλαγίων, τὰ μὲν ἀπωθεῖν, τὰ δὲ ἀντωθεῖν ὀπίσω ἀμφότερα κατὰ τὸ ἕτερον. τὰ δὲ ὑβώματα, τὰ μὲν ἔσω, οὔτε πταρμῷ οὔτε βηχί, οὔτε φύσης ἐνέσει, οὔτε σικύῃ· δεῖ δέ τι, ἡ κατάστασις· ἡ δὲ ἀπάτη, ὅτι οἷόν τέ[4] ποτε κατεαγέντων τῶν σπονδύλων καὶ τὰ λορδώματα διὰ τὴν ὀδύνην δοκεῖ ἔσω ὠλισθηκέναι· ταῦτα δὲ ταχυφυᾶ καὶ ῥάδια. τὰ δὲ ἔξω, κατάτασις, τὰ μὲν ἄνω ἐπὶ πόδας, τὰ δὲ κάτω τἀναντία· κατανάγκασις δὲ σὺν κατατάσει, ἢ ἕδρῃ ἢ ποδὶ ἢ σανίδι. τὰ δ'

[1] ἐμβάν Ap. [2] ἐς τὸ ἔξω Ap.
[3] μήστωρ (= "skilled assistant") δ' ἂν vulg. ; μὴ στορέσαντα Lit. ; μήστορα ἅμα Kw.
[4] οἷονται Kw., Littré.

[1] *I.e.* hand-power is strong enough.

reduced or adjusted must be separated by extension, till each comes into an attitude of sufficient elevation, the dislocated part above that from which it was dislocated; this is done with the hands, or suspension, or a windlass, or round something. Proper use of the hands varies with the part; in the case of the wrist and ankle, it suffices[1] to separate the parts, the wrist being in line with the elbow, but the elbow at right angles to the upper arm, as when the forearm is in a sling. In the case of finger or toe, foot, hand, wrist, humpback, double extension and forcing down the projection are required; in the other cases, separation by hand-power is enough, but one must force projecting parts into position with the heel or palm over something, taking care that a suitable soft pad is placed under the projection. On the other side, a skilled assistant should simultaneously press backwards and downwards, if the dislocation is either inwards or outwards; in lateral cases, press one side away and the other side back to meet it, bringing both together. As to curvatures, internal ones are not (reducible) by sneezing, coughing, injection of air, or a cupping instrument; a mode of restoration is wanting.[2] The deception people fall into when vertebrae are fractured, and incurvings due to pain simulate dislocation inwards; these heal quickly, and are not serious. Outward curvatures: extension,[3] towards the feet if the lesion is high up, if low down, the reverse; forcing into place, simultaneously with extension, by sitting on it, or by using the foot or a plank.

[2] Or "If anything, extension," reading καταταsις, as Littré (Adams).

[3] κατάσεισις, "succussion." Littré.

ἔνθα ἢ ἔνθα, εἴ τις κατάτασις, καὶ ἔτι τὰ σχήματα ἐν τῇ διαίτῃ.

Τὰ ἄρμενα πάντα εἶναι πλατέα, προσηνέα, ἰσχυρά, εἰ δέῃ· μὴ[1] δεῖ ῥάκεσι προκατειλίχθαι. ἐσκευάσθαι πρὶν ἢ ἐν τῇσιν ἀνάγκῃσιν πάντα συμμεμετρημένως τὰ μήκεα καὶ ὕψεα καὶ εὖρεα. διάτασις, οἷον μηροῦ, τὸ παρὰ σφυρὸν δεδέσθαι καὶ ἄνω τοῦ γούνατος, ταῦτα μὲν ἐς τὸ αὐτὸ τείνοντα· παρὰ δὲ ἰξύϊ[2] καὶ περὶ μασχάλας, καὶ κατὰ περίναιον καὶ μηρόν, τὰ[3] μεταξὺ τῆς ἀρχῆς, τὸ μὲν ἐπὶ στῆθος, τὸ δὲ ἐπὶ νῶτον τείνοντα, ταῦτα δ' ἐς τὸ αὐτὸ ἅπαντα[4] τείνοντα, προσδεθέντα ἢ πρὸς ὑπεροειδέα ἢ πρὸς ὄνον. ἐπὶ μὲν οὖν κλίνης ποιέοντι, τοῦτο μὲν τῶν ποδῶν πρὸς οὐδὸν χρὴ ἐρεῖσαι, πρὸς δὲ τὸ ἕτερον, ξύλον ἰσχυρὸν πλάγιον παραβεβλῆσθαι, τὰ δὲ ὕπερθεν ὑπεροειδέα πρὸς ταῦτα ἀντιστηρίζοντα διατείνειν, ἢ πλήμνας κατορύξαντα, ἢ κλίμακα διαθέντα, ἀμφοτέρωθεν ὠθεῖν. τὸ δὲ κοινόν, σανὶς ἑξάπηχυς, εὖρος δίπηχυς, πάχος σπιθαμῆς, ἔχουσα ὄνους δύο ταπεινοὺς ἔνθεν καὶ ἔνθεν, ἔχουσα δὲ κατὰ μέσον στυλίσκους συμμέτρους, ἐξ[5] ὧν ὡς κλιμακτὴρ ἐπέσται ἐς τὴν ὑπόστασιν τῷ ξύλῳ, ὥσπερ τῷ κατ' ὦμον· καταγλύφους δὲ ὥσπερ ληνοὺς λείας ἔχειν, τετραδακτύλους εὖρος καὶ βάθος, καὶ διαλιπεῖν τοσοῦτον ὅσον αὐτῇ τῇ μοχλεύσει ἐς διόρθωσιν· ἐν μέσῳ δὲ τετράγωνον καταγλυφὴν ὥστε στυλίσκον ἐνεῖναι, ὃς παρὰ περίναιον ἐὼν περιῤῥέπειν τε κωλύσει ἐών

[1] εἰ δὲ μή, Littré's conjecture, Kw. Cf. *J.* LXXVIII.
[2] ἰξύν.
[3] μηρῶν τὸ.
[4] ἐς τὰ ἀπεναντία.
[5] ἐφ'.

Curvatures to this side or that; one may use some extension, also postures with regimen.

The tackle should all be broad, soft, and strong, otherwise[1] they must be previously wrapped in rags; all should be suitably prepared as to length, height, and breadth before use in the reductions. In double extension of the thigh, for example, make attachments at the ankle and above the knee, drawing these in the same direction; at the loin and round the armpits; also at the perineum and between the thighs,[2] drawing one end over the chest, the other over the back, but bringing these in the opposite direction;[3] they should be fixed either to a pestle-pole or to a windlass. If one operates on a patient in bed, its legs at one end should press against the threshold, and a strong plank should be laid across the other end; then, using these as fulcra, draw back the pestle-like poles from above; or fix wheel-naves in the ground; or lay a ladder along, and apply force at both ends. For all cases: a nine-foot plank, three feet broad, a span thick, having two windlasses set low down at each end, and also having at the middle suitable props, on which is placed a sort of crossbar to act as fulcrum for the board, like that used for the shoulder.[4] It should have fossae like smooth troughs, four fingers broad and deep, with sufficient intervals between for adjustment by actual leverage. In the middle (there should be) a quadrangular excavation for a prop to fit into, which, when it is at the perineum, will prevent the patient from slipping, and when it is

[1] Reading εἰ δὲ μή. "Sufficiently strong; it should not be necessary to wrap" (Pq.'s rendering of the text).

[2] Kw.'s reading. [3] Kw.'s reading.

[4] *I.e.* the *ambê*; cf. *J.* LXXIII.

τε ὑποχάλαρος ὑπομοχλεύσει. χρὴ δὲ τῆς σανίδος, ἢ ἐν τῷ τοίχῳ τὸ ἄκρον καταγεγλυμμένον τι ἐχούσης, τοῦ ξύλου ὦσαι τὸ ἄκρον, ἐπὶ δὲ θάτερα καταναγκάζειν, ὑποτιθέντα μαλθακά τινα σύμμετρα.

XXXIX. Οἷσιν ὀστέον ἀπὸ ὑπερῴης ἀπῆλθε, μέση ἴζει ἡ ῥὶς τούτοισιν. οἱ δὲ φλώμενοι κεφαλὰς ἄνευ ἕλκεος, ἢ πεσόντος ἢ κατάξαντος ἢ πιέσαντος, τούτων ἐνίοισι τὰ δριμέα ἔρχεται ἀπὸ κεφαλῆς κατὰ τὰς φάρυγγας, καὶ ἀπὸ τρώματος ἐν τῇ κεφαλῇ καὶ ἐς τὸ ἦπαρ καὶ ἐς τὸν μηρόν.

XL. Σημεῖα παραλλαγμάτων καὶ ἐκπτωμάτων· καὶ ᾗ καὶ ὅπως καὶ ὅσον διαφέρει ταῦτα πρὸς ἄλληλα· καὶ οἷσιν ἡ κοτύλη παρέαγε, καὶ οἷσι νευρίον ἀπεσπάσθη, καὶ οἷσι ἐπίφυσις ἀπέαγε, καὶ οἷσι καὶ ὡς, καὶ ἓν ἢ δύο, ὧν δύο ἐστίν· ἐπὶ τούτοισι κίνδυνοι, ἐλπίδες οἷσι κακαί, καὶ ὅτε κακώσιες θανάτου, ὑγιείης, ἀσφαλείης. καὶ ἃ ἐμβλητέα ἢ χειριστέα καὶ ὅτε, καὶ ἃ οὔ ἢ ὅτε οὔ· ἐπὶ τούτοισιν ἐλπίδες, κίνδυνοι· οἷα καὶ ὅτε χειριστέα, καὶ τὰ ἐκ γενεῆς ἔξαρθρα, τὰ αὐξανόμενα, τὰ ηὐξημένα, καὶ ὅ τι θᾶσσον, καὶ ὅ τι βραδύτερον, καὶ ὅ τι χωλόν, καὶ ὡς καὶ οὔ· καὶ διότι καὶ ὅ τι μινυθήσει, καὶ ᾗ καὶ ὡς καὶ οἷσιν ἧσσον καὶ ὅτι τὰ καταγέντα θᾶσσον καὶ βραδύτερον φυόμενα, ᾗ αἱ διαστροφαὶ καὶ ἐπιπωρώσιες γίνονται, καὶ ἀκὴ τούτων. οἷσιν ἕλκεα αὐτίκα

[1] This is condensed from *J.* XLVII and LXXV, on pressing down a hump by bringing a plank across it, one end being in a groove in a post or wall. The translation makes the epitomiser say this; but in the Greek he seems to confuse the plank with the *ambé*, which had a sort of excavation at its end. Littré omits ἢ and the first τὸ ἄκρον.

rather loose will serve as a lever. Use of the plank: one should push it in at one end; the end should occupy an excavation in a post or in a wall;[1] press down at the other end, putting some suitable soft substance underneath.

XXXIX. In cases where a bone comes away from the roof of the mouth, the nose falls in in the middle.[2] Patients with contused heads without a wound, due to a fall, fracture, or compression; some of them have a flow of acrid humour from the head down to the fauces, and from the lesion in the head to both liver and thigh.[3]

XL. Symptoms of subluxations and dislocations: their difference from one another in position, nature, and extent, where the socket is fractured, where a small ligament is torn away, where the epiphysis is broken off. In what cases and how either one or two bones (are broken), when there are two; dangers and expectations in these cases; in which cases they are bad, and when injuries are mortal, or when there is more hope of recovery. Also what cases are to be reduced or treated surgically, and when, and which not, and when not; the expectations and dangers in these cases. In what cases and at what time one should treat congenital dislocations or those occurring during and after adolescence. Which case is quicker and which slower to recover where a patient is (permanently) lame, and how, and when not; and why, and in what cases, there is atrophy; on which side, and how, and the cases in which it is less; and that fractured bones are quicker or slower to consolidate, where distortions and accumulation of callus occur, and the cure for these. Cases

[1] *Epid.* IV. 1. 9, VI. 1. 3. [2] *Epid.* II. 5. 4.

ἢ ὕστερον γίνονται· οἷσι καὶ ὀστέα καταγεῖσι μείω, οἷσιν οὔ· οἷσι καταγέντα ἐξέσχεν, καὶ ἢ ἐξίσχει μᾶλλον· οἷσιν ἐκβάντα ἢ ἄρθρα ἐξίσχια· ἀπατῶνται[1] καὶ δι' ἃ, ἐν οἷσιν ὁρῶσιν, ἐν οἷσιν διανοεῦνται, ἀμφὶ τὰ παθήματα, ἀμφὶ τὰ θεραπεύματα.

XLI. Νόμοισι τοῖσι νομίμοισι περὶ ἐπιδέσιος· παρασκευή, πάρεξις, κατάτασις, διόρθωσις, ἀνάτριψις, ἐπίδεσις, ἀνάληψις, θέσις, σχῆμα, χρόνοι, δίαιται. τὰ χαυνότατα τάχιστα φύεται, τὰ δὲ ἐναντία, ἐναντίως· διαστροφαί, ἢ κυρτοί· ἄσαρκοι, ἄνευροι. τὸ ἐμπεσὸν ὡς προσωτάτω[2] ἢ τὸ ἐκπεσὸν ἔσται τοῦ χωρίου οὗ ἐξέπεσεν.[3] νεύρων, τὰ μὲν ἐν κινήσει καὶ ἐν πλάδῳ, ἐπιδοτικά· τὰ δὲ μή, ἧσσον· ἄριστον ἢ ἂν ἐκπέσῃ, εἰ ἐμπέσοι τάχιστα·[4] πυρεταίνοντι μὴ ἐμβάλλειν, μηδὲ τεταρταῖα, πεμπταῖα, ἥκιστα ἀγκῶνα. καὶ τὰ ναρκώδεα πάντα, ὡς τάχιστα ἄριστα, ἢ τὴν φλεγμονὴν παρέντα. τὰ ἀποσπώμενα, ἢ νεῦρα ἢ χόνδρια ἢ ἐπιφύσιες, ἢ διϊστάμενα κατὰ συμφύσιας, ἀδύνατα ὁμοιωθῆναι· διαπωροῦται ταχέως τοῖσι πλείστοισιν· ἡ δὲ χρῆσις σώζεται. ἐκβάντων, τὰ ἔσχατα, ῥᾷον· τὰ ῥᾷστα ἐκπεσόντα ἥκιστα φλεγμαίνει· τὰ δὲ ἥκιστα θερμαίνοντα, καὶ μὴ ἐπιθεραπευθέντα, μάλιστα αὖθις ἐκπίπτει. κατατείνειν ἐν σχήματι τοιούτῳ, ἐν ᾧ

[1] ἃ ἀπατῶνται Kw. [2] ἑκαστάτω.
[3] Obscure; seems to be taken from *J.* IX.
[4] Cf. *J.* LXXIX.

[1] Apparently "intervals" between changes of dressing and the like.

where wounds occur at once or later; where the fractured bones are shortened, and where they are not. In what cases fractured bones project, and at what part they chiefly do this. The confusion between dislocations and prominent joints, causes of deception in what men see, and conjecture concerning maladies and treatments.

XLI. Recognised usages as regards bandaging: preparation, presentation, extension, adjustment, friction, bandaging, suspension, putting up, attitude, periods,[1] diets. The most spongy bones consolidate quickest, and vice versa; distortions on the side towards which they curve; atrophy of flesh and sinews. The reduced bone shall be (kept) as far as possible from the place where it was dislocated.[2] Of ligaments, those in mobile and moist parts are yielding; those which are not are less so. Wherever a dislocation may be, prompt reduction is best. Do not reduce when a patient has fever, or on the fourth or fifth days, least of all in an elbow case. All cases with loss of sensation, the quicker the better; or wait till inflammation has subsided. Parts torn away: ligaments, cartilages, epiphyses or separations at symphyses cannot be made the same as before; in most cases there is rapid ankylosis, but the use of the limb is preserved. Of dislocated joints, the most distal are the more easily (put out?);[3] those most easily put out suffer least inflammation; but where there is least heat and no after-treatment, there is greatest liability to another dislocation. Make extension in such a posture that

[2] "Force used in reduction to be applied at as great a distance as possible" (Adams).

[3] Or "treated"; but it seems best to follow the context.

μάλιστα ὑπεραιωρηθήσεται, σκεπτόμενον ἐς τὴν φύσιν καὶ τὸν τόπον ᾗ ἐξέβη. διόρθωσις· ὀπίσω ἐς ὀρθὸν καὶ ἐς πλάγιον παρωθεῖν· τὰ δὲ ταχέως ἀντισπάσαντα ἀντισπάσαι ταχέως ἢ δὴ ἐκ περιαγωγῆς· τὰ δὲ πλειστάκις ἐκπίπτοντα ῥᾷον ἐμπίπτει· αἴτιον νεῦσις ἢ νεύρων ἢ ὀστέων. νεύρων μὲν μῆκος ἢ ἐπίδοσις· ὀστέων δέ, κοτύλης ὁμαλότης, κεφαλῆς φαλακρότης· τὸ ἔθος τρίβον ποιεῖ· αἰτίη καὶ σχέσις καὶ ἕξις καὶ ἡλικίη. τὸ
30 *ὑπόμυξον ἀφλέγμαντον.*

XLII. *Οἷσιν ἕλκεα ἐγένετο, ἢ αὐτίκα ἢ ὀστέων ἐξισχόντων, ἢ ἔπειτα, ἢ κνησμῶν ἢ τριχυσμῶν, ταῦτα μὲν ἦν αἰσθῇ, εὐθέως λύσας, πισσηρὴν ἐπὶ τὸ ἕλκος ἐπιθείς, ἐπιδεῖν ὡς ἐπὶ τὸ ἕλκος πρῶτον τὴν ἀρχὴν βαλλόμενος, καὶ τἆλλα ὡς οὐ ταύτῃ τοῦ σίνεος ἐόντος· οὕτω γὰρ αὐτό τε ἰσχνότατον καὶ ἐκπυήσει τάχιστα καὶ περιῤῥήξεται, καὶ καθαρθέντα τάχιστα φύσεται. νάρθηκας δὲ μήτε κατ' αὐτὸ τοῦτο προσάγειν μήτε*
10 *πιέζειν· καὶ ὧν ὀστέα μὴ μεγάλα ἄπεισιν, ὧν δὲ μεγάλα, οὕτω ποιεῖν·*[1] *πολλὴ γὰρ ἐμπύησις καὶ ταῦτ' οὐκ ἔτι οὕτως, ἀλλ' ἀνέψυκται τῶν ὑποστασίων εἵνεκα. τὰ δὲ τοιαῦτα ὁπόσα ἐξέσχε, καὶ εἴ τε ἐμβληθῇ εἴ τε μή, ἐπίδεσις μὲν οὐκ ἐπιτήδειον, διάτασις δέ. σφαῖραι ποιηθεῖσαι οἷαι πέδαις, ἡ μὲν παρὰ σφυρόν, ἡ δὲ*

[1] Littré joins *οὕτω ποιεῖν* to *ἄπεισιν* and adds *οὐ* after *μεγάλα*, de suo: *ἄπεισιν ὡσαύτως· ὧν δὲ μεγάλα δῆλον*, Kw. M.

[1] Second *ἢ* perhaps added for sake of symmetry; there are only two classes of wounds, "immediate" and "later."

[2] Adopting Kw.'s reading, which has some support from the MSS.

the (dislocated bone) will be best lifted above (the socket), having regard to its conformation and the place where it is dislocated. Adjustment: push backwards, either straight or obliquely; where there has been a rapid twist, make a rapid twist (backwards), or at any rate by circumduction. Often repeated dislocations are more easily reduced; they are due to the disposition of the ligaments or bones—in the former, to length or yielding character; in the latter, to flatness of the socket and rounded shape of the head. Use makes a friction-joint; it depends on the state of the patient, his constitution and age. Rather mucous tissue does not get inflamed.

XLII. In cases where wounds occur either at once, with projection of the bones,[1] or afterwards, from irritation or roughnesses, when you recognise these latter, at once remove the dressing, and apply pitch cerate to the wound. Bandage, putting the beginning of the roll first on the wound, and the rest as though there were no lesion there, for so there will be least swelling at the part; suppuration and separation will be most prompt, and the cleansed parts heal up most rapidly. As to splints, do not apply them to this part, and do not make pressure. This treatment applies to cases where small pieces of bone come away; when large it is clear[2] (what to do), for there is much pus formation, and this treatment is no longer suitable, but the wound is left open because of the accumulations. But in all such cases as have bones projecting, whether they are reduced or not, bandaging is not suitable; what is required is stretching. Rounds are made like fetters, one at the ankle, the other

παρὰ γόνυ, ἐς κνήμην πλατεῖαι, προσηνέες, ἰσχυραί, κρίκους ἔχουσαι· ῥάβδοι τε σύμμετροι κρανίης καὶ μῆκος καὶ πάχος, ὥστε διατείνειν· ἱμάντια δὲ ἐξ ἄκρων ἀμφοτέρωθεν ἔχοντα ἐς τοὺς κρίκους ἐνδεδέσθαι, ὡς τὰ ἄκρα ἐς τὰς σφαίρας ἐνστηριζόμενα διαναγκάζῃ. ἴησις δέ, πισσηρὴ θερμή·[1] σχήματα καὶ ποδὸς θέσις καὶ ἰσχίου· δίαιτα ἀτρεκής. ἐμβάλλειν τὰ ὀστέα τὰ ὑπερίσχοντα αὐθήμερα ἢ δευτεραῖα· τεταρταῖα δὲ ἢ πεμπταῖα, μή, ἀλλ' ἐπὴν ἰσχνὰ ᾖ. ἡ δὲ ἐμβολὴ τοῖσι μοχλικοῖσιν· ἢ τὸ ἐμβαλλόμενον τοῦ ὀστέου, ἢν μὴ ἔχῃ ἀποστήριξιν, ἀποπρῖσαι τῶν κωλυόντων· ἀτὰρ καὶ ὡς τὰ ψιλωθέντα ἀποπεσεῖται, καὶ βραχύτερα τὰ μέλεα.

XLIII. Τὰ δὲ ἄρθρα, τὰ μὲν πλέον, τὰ δὲ μεῖον ὀλισθάνει· καὶ τὰ μὲν μεῖον ἐμβάλλειν ῥᾴδιον· τὰ δὲ μέζους ποιεῖ τὰς κακώσιας καὶ ὀστέων καὶ νεύρων καὶ ἄρθρων καὶ σαρκῶν καὶ σχημάτων. μηρὸς δὲ καὶ βραχίων ὁμοιότατα ἐκπίπτουσιν.

[1] πισσηρῇ θερμῇ.

at the knee, flattened on the leg side, soft and strong, provided with rings; rods of cornel-wood, suitable in length and thickness, to keep the limb stretched; leather thongs adapted at each end to the extremities (of the rods) are fastened to the rings, so that the ends of the rods, being fixed to the rounds, make extension both ways. Treatment: warm pitch cerate, attitude, position of foot and hip, strict diet. Reduce projecting bones on the first or second day, not on the fourth or fifth, but when swelling has gone down. The reduction with small levers: if the fragment to be reduced does not afford a fulcrum, saw off what is in the way. For the rest, shortening of the limbs is proportional to the denuded bone which comes away.

XLIII. Joints are dislocated, some to a greater, some to a less extent; and the less are easy to reduce, but the greater produce more serious lesions of bones, ligaments, joints, flesh, and attitudes. The thigh and upper arm are very similar in their manner of dislocation.[1]

[1] *I.e.* completely, or not at all. See *J.* LXI.