

See TAB. I. Fig. 5.

A. Represents the Tube which I held in my Right-hand, and excited with my Left, having on a Glove, which I find more convenient for me in rubbing it. I should observe, that my Method then was to rub it smartly for about half a score times up and down; and then giving it one brisk Stroke, beginning at the End from me, upon discharging my Hand quick from the Tube, the Corruscations of Light appear'd as mark'd α and β , both in Size and Form: Some Allowance may be thought reasonable to be made for one's Judgment in such a Case, the Motion being so very sudden, and the *Phenomenon* so soon disappearing. But I intend to repeat the Experiment whenever the Temperature of the Air shall be favourable, which I don't find it to be this Morning. I forgot to mention, that, during this Trial, I found the *Effluvia* troublesome to my Eyes to a great Degree, occasioning a very sensible smarting Pain, which did not go off for some time; tho' I never designedly brought the Tube near my Face. This was the first time of using this Tube.

XV. *An Observation of a Fracture of the Os Humeri by the Power of the Muscles only; by the late Claudius Amyand, Esq; Sergeant Surgeon to His Majesty.*

Read March 7.
1744 5.

THE outward Causes of Fractures not being sufficient to break or tear asunder the broken Pieces of a fractur'd Kneepan,
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in the Manner we see them in the Fracture of that Bone, the Cause of it hath justly been ascribed to the Power and Action of the Muscles upon it in a morbid State of that Bone, which disposing it to a Fracture when that Power is strongly applied, and affecting both Knee-pans in a like manner, soon brings about a Fracture also of the opposite Bone, then appearing as throughly sound as the fractured Part before was thought to have been. Many Instances might be given of the Fracture of the *Patella* in Persons throughly sound, where the Part itself had received no Hurt whatever : Which seems to imply, that the Cause of it was to be ascribed to the Muscles only; and the rather, that many Instances may be given of the Fracture in the Neck of the *Os Femoris*, in the Middle of the *Humerus*, *Tibia*, and *Perone*, by the Power of the Muscles only, or such Power of them as sufficiently shew'd they have as great a Share in several Fractures ascribed to outward Causes, as they are frequently known to have in the Fracture of the *Tendo Achillis*. However, as the Fractures occasion'd by the Action of the Muscles are cured by the same Remedies as are effectually applied to the Cure of others from outward Causes, they deserve no further Notice. I shall give some Instances of such in which the Bones themselves are morbid.

Upon the 15th Day of *July* 1738. I was sent for to a middle-aged Gentlewoman in my Neighbourhood, of a seemingly strong Constitution, rather fat than lean, who had broke her Right Arm in the Middle, while with her two Hands she was endeavouring to bring together the Ends of a Piece of Tape. The Standers-by heard the Bone snap, and were

were the more astonished at the Cause, as the Patient was sitting distant from any thing that could strike her Arm, or contribute to the Breaking of it. The Grating of the Ends of the Bone against each other, when the Arm was moved, the Loss of its Action, and all the common Attendants of a Fracture, were sufficient convincing Proofs of it. It was reduced with Ease, and dressed as usual; but, I own, I doubted of the Cure, till Mr. *Shipton*, who was consulted thereon, assured me, that he was Witness to several Fractures of this kind, where the Patient had done well. We agreed, that the Bone must have been distempered, and likely with a Cariosity; it appearing otherwise hardly credible, that the Bone could have been broke from so slight a Cause as this.

I have known two Patients die after a Fracture of the *Os Femoris* from the like; the first snapping in the middle as he was getting into Bed, in whom all the Centre of the Bones was carious; and the latter getting out of it, wherein only a small Part was so, and above two Thirds of the Circumference in every respect appear'd sound.

For two Years last past my Patient, had been attended by Mr. *Shipton*, on account of several scorbutic Complaints, which I thought proceeded from some Venereal Taint; but the Patient vowed, and hath all along assured us, she never had known Man.

Two Years before this Accident happened, I had attended this Patient jointly with the late Mr. *Fzquel*, on account of a *Spina ventosa* in the Centre of the *Os Bregmatis* on the right Side; which being laid bare, the *Caries* was found to have pene-

trated the two Tables thereof, and all that time she had a gummatous Swelling upon the upper Head of the *Radius* on the right Arm, checking the Motion of this Bone in Pronation and Supination, both which she then mentioned to have appeared, upon the Retreat or Disappearance of broad yellow Spots (not scarfy, nor in any wise resembling those in the *Lues venerea*) her whole Body had been bespecked with for some Years last past; she having all her Life been addicted to the Scurvy, and never been in the Way of getting a bad Distemper; neither were the Pains she complained of so vexatious to her during the Night as the Day.

Upon Mr. *Fiquel's* Death, for two Years last past, she had, by Mr. *Shipton's* Advice, taken the most powerful Antiscorbutics; notwithstanding which, the forementioned Humour on the upper Head of the *Radius* was much increased, and a new one of the same kind, for some Months last past, had appear'd on the Head of the Shoulder-Bone, and another on the Middle of the Bone where the Fracture now was. She likewise reported, that she hardly was cured of the *Caries* I had attended her for on the *Os Bregmatis*, but another Tumour had appeared on the Skirts of the *Os Frontis*; which breaking of itself, the Bone there had been found carious, whence she had had a Running ever since; and that of late had appeared two puffy Swellings over the left Brow, of the like Nature with those that had broke before, and therefore fear'd the Bone there would also prove bad; and that there was also a hard Swelling, attended with Pain, springing up upon the Head of the *Radius* on the left Arm.

As all the Remedies hitherto used had proved ineffectual, Mr. *Shipton* and I concluded, that a Mercurial Salivation was the most likely to conquer a Humour daily laying hold of new Bones; but we thought it improper to put the Patient into it, whilst we stood in need of a *Callus* for the Knitting of the broken Bone, The Cure of it has been completed in about six Weeks, and the Patient has ever since had the full Use of it.

At this time we had an œdematous *Phlegmon* over the left Brow, with a Fluid undulating there in two Places; and, by way of Addition to the former Complaints, a Node also was springing up with Pain on the Head of the *Radius* upon the left Arm, attended with an œdematous Swelling. In this Condition she was put into a Salivation by Unction.

This Salivation, copious as it was, was kept up a whole Month: In the first Fortnight of it, the Matter, gathered in the œdematous *Phlegmons* over the Brow, intirely disappeared, and then the *Oedema* and Tumour in the Bone upon the Fore-Arms where the Nodes were; and these being nearly dissolved in the last Fortnight, we were in Hopes the Cure had been brought about without opening the Tumours over the Brow, where Matter had been felt, and the Bone was thought carious: But our Joy was not lasting, many of the Complaints re-appearing in a short time after, notwithstanding we took the utmost Care to confirm the Cure by Salivation, by a subsequent Course of Antiscorbutics, the Decoction of the Woods, &c. For as, upon the Retreat or Disappearance of the yellow Spots in the Skin, first-mentioned, the Distemper in the Skull had begun,

and the Nutriment of the Bones in general had thereupon been vitiated, as appeared by the gummatous Tumours, and *Nodus's* on the Bones, the *Spinæ ventosæ* in the Skull, and the Extravasations of Matter, denoted by the œdematous *Phlegmons* upon the Brow and *Radius*; so it appeared no less evident, that the Retreat of these, and the Reflux of the Matter into the Blood, had contaminated it again, being the forementioned Symptoms, and worst, re-appeared within less than three Months after: They had disappeared very fast, as the Vessels were emptied during the Salivation, but they re-appear'd again faster upon the Filling.

During the Salivation, or soon after, the Cariofities in the Skull, that had been laid bare, having been exfoliated, were cured; the *Nodus's* upon the Shoulder-Bone, and *Radius* on the Arm that had been broke, had vanished away; and, what was thought no less remarkable, the Matter extravasated upon the right Side of the *Os Frontis* over the Brow, where the œdematous *Phlegmon* had appeared and disappeared at times, were intirely dispersed; and these, saving the Tumour on the *Radius* of the left Arm, never appeared again.

The Renewal of the Distemper shew'd itself upon the Bones that had been laid bare, by a new Cariofity spreading very fast in the Neighbourhood. At this time an inflammatory *Oedema*, that had appeared upon the *Os Frontis* over the right Brow (very distant from that Collection that had been made on the left before the Salivation, which had been dispersed, and now continued well) suppurating, was opened, and the Matter found to spring from the
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frontal *Sinus's* on this Side thro' the Bone that was carious. And as the Tumour that had lately appeared upon the *Radius* of the left Arm, and stood out the Salivation, was now increasing with Pain, with an œdematous *Phlegmou* upon the Arm where the Tumour was; it was agreed to put her forthwith into a second Salivation no less copious than the first, but of a longer Continuance; to denude, first, all the frontal and parietal Bones on the right Side, that were carious, but to leave untouched those on the left Side; which, before the first Salivation, had been suspected of being a *Spina ventosa*, but now appeared found.

The Patient enter'd into this Salivation about the latter End of *May 1739*, after she had been duly prepared to it. This was continued ten Weeks, because of the frequent Interruption we had met with by the Returns of a *Diarrhœa*, as oft as she was anointed, and the profuse Sweats during the *Dog-Days*. In this, as in the former Salivation, all the Accidents gave Way during the Course. The Progress of the Cariosity in the Bones of the Skull was stopped, and the Exfoliation being made, the Wound was cured afterwards. She was put into a Milk Course, and sent into the Country for the Recovery of her Flesh; and after that into a subsequent one of a Decoction of the Woods, &c. but the Advantage she had reaped by these did not continue long.

In the Autumn, she was frequently traversed by irregular Shiverings and Rigors, upon the Re-appearance of the phlegmonous *Oedema* about the *Node* still subsisting on the left Arm; which now again grew larger

larger with Pain in it, still increasing in proportion as the Vessels emptied in the Salivation were replenished. The œdematous Swelling about the Tumour was also more phlegmonous, and Matter was forming there on the Bone, which, it was apprehended, was a *Spina ventosa*: I therefore insisted upon the Laying of that open : But, whilst she was preparing for her Removal to Town, this Tumour intirely disappeared upon the Appearance of a *Diarrhœa*, that sunk her too fast to admit either of her Removal, or any Operation. This followed her to her Death. During the two last Days of her Life, she was in a constant *Delirium*, and universal Convulsions.

The Patient dying thus in the Country the 25th of *September* last, I was not acquainted with these latter Accidents till after her Burial; and therefore missed the Opportunity of dissecting the Body, which perhaps might have given some additional Light to this Case : But, from so much as has been reported of it, I think it may be inferred,

1. That if a scorbutic Humour occasioned the Complaints in this Case, as there is Reason to believe it did, from the Veracity and Character of the Patient; and those Symptoms being wanted that usually appear in the *Lues Venerea*; yet it must be confessed the Affection in the Bones yielding to a Mercurial Salivation, as these did, and the Return of Complaints upon the Reflux of the Matter extravasated, contaminating and tainting the Blood with a new Ferment, or the same as before the Flux, may ground a strong Suspicion, that those in our Patient proceeded from some Venereal Taint.

2. That a Siccity or Brittleness in the Bones, inclining them to a Fracture, may happen, independent from a *Caries* in the Bone: For, had the *Os Humeri* of our Patient been carious, at the time the Fracture happened from so slight a Cause as attended the Endeavour of bringing and joining together the opposite Ends of a String held in the two Hands, it was morally impossible the complete Cure of such a Fracture could be brought about within six Weeks. Whence it appears, that the occasional Siccity of a Bone may be no Bar to the Flowing of that Quantity of Sap or callous Matter necessary to operate the Cure after a Fracture.

3. That the Muscles must have a great Share, as well in the Fracture of all Bones, as in the Dislocations of them; as in this Case the *Os Humeri* was broke by the Power and Action of the Muscles only; and therefore that the keeping of them quiet, by placing the broken Limb in the most natural and easy Posture, must be highly instrumental to the Cure.

4. That the Absortion, or Reflux into the Blood of a purulent *Sanies*, inflating the Part where it is lodged under the Appearance of an œdematous Phlegmon, or phlegmonous *Oedema*, is as dangerous as the Absorption by the Blood-vessels of a purulent Matter extravasated. So that the Reflux in either Case will again taint the Blood with the Corruption that had critically been flung out of the Course of the Circulation; and that, when this happens, there will be Cause to fear a Renewal of the Complaints, and, possibly, worse Symptoms; as has happened in the present Case.

5. That yet there appears a wide Difference betwixt a *Phlegmon* œdematous and an œdematous *Phlegmon*; inasmuch as, in the first, the *Oedema* goes off as the *Phlegmon* comes to a Crisis; whereas, in the latter, that seldom comes to a Crisis, but changes, and appears and disappears continually. When the Matter of a *Phlegmon* prevails, the Tumour may be resolved, without any Inconveniency to the Patient, if it is not critically determined upon the Crisis of a Fever; and when it is, the Depuration being complete, he fares the better for it: Whereas, in the œdematous *Phlegmon*, wherein the *Serum* prevails, the Tumour beginning with an *Oedema*, neither the Tumour, nor the Inflammation of it, are permanent; but appearing and disappearing, as the sanious Matter is thrown out of the Blood, or refluxes back into it. The sanious Matter of it is apt to contaminate the whole Mass, as oft as the Tumour disappears; and therefore it is evident, that, in this latter Case, that is in the *Oedema* phlegmonous, we are to give a Vent to the Matter lodged in the Parts as soon as may be, and even before the Matter is concocted, or fully collected, as in critical Abscesses; viz. so soon as some irregular Shiverings, and such other Symptoms, have denoted the Extravasation of the Matter in the *Membrana cellularis*, wherein the Humour first makes its Appearance. For that when in an *Oedema* phlegmonous, or œdematous *Phlegmon*, the Matter changes, at times, with more, and at others with less Inflammation; the Tumour increasing and diminishing alternately, as the Matter becomes more or less sanious and purulent, and refluxes into the Blood at times: We may then fear some Lodgement of it will be made upon
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some of the *Viscera*, if that again is not critically thrown out: And if it remains in the Mass, that, in the Course of the Circulation, it will occasion such Symptoms as here have happened to our Patient, during the Course of the Distemper, even to her last, as oft as that has happened; and that in so plain a manner, as to make it evident, that the Renewal of the Symptoms was consequential upon the Reflux of a purulent *Sanies* back again into the Blood from the Part wherein it had been lodged: And thus it appeared, that as this Reflux of Matter was principally made during the Salivation, when the Vessels emptied could best attract it; so it was expedient the Discharge of it had been made before that was enter'd upon.

5. The Return of the Complaints from this Cause was very obvious at last, but not so at first: And should not this make us tender and circumspect, when we pass a Judgment upon the Conduct of others? That the Matter should so shift its Lodgments after every Salivation, is no less remarkable than that it should rather fix on new Parts, than those which had been affected before; and that the Cause of it, virulent as it was from the first, and attacking the Juices flowing in the Bones in so particular a Manner, should have been no Check to the complete Cure of the fore-mentioned Fracture in the usual Time. It were to be wish'd Men of Experience were more ready in shewing the Errors, Failings, and Slips in their Practice than their Successes: That might be of great Service to the Public, and those Warnings prove of singular Benefit to those who have not had the like Opportunities; it being more eligible to be

informed by the Failings and Misfortunes of other than one's own.

XVI. *An Account of an extraordinary Case of the Bones of a Fœtus coming away by the Anus; communicated by John Still Winthrop, Esq;.*

Read March 14.
1744-5.

THESE are several Instances of the Bones of *Fœtus's*, which have died in their Mothers Bellies, making their Way out by preternatural Manners; some by the Navel, some by the Groin, and some by the *Anus*. Of this last sort I am now going to give another Instance, which happened in *New London in New England*, in the Year 1737. A Negro Wench was thought to have conceived with Child; and about three Months after, she had some Appearances of a Miscarriage, but no *Fœtus* was observed to come away. This therefore made the good Women now alter their Opinion; thinking that she was not with Child, but only had not been regular from having taken Cold: Whereupon Remedies, proper in such a Case, were given her; but she found no Relief from exceeding great Pains she complained of in the Bottom of her Belly, and in the Small of her Back, more particularly when she went to Stool. Her Flesh wasting extremely, a skilful Woman was sent for, who found Milk in her Breasts, and other certain Tokens of her being with Child. She continued wasting in a miserable Condition, growing less in her Belly, and her Breasts falling,