XII. Critical Observations concerning the Oenanthe aquatica, fucco viroso crocante of Lobel; by Mr. W. Watson, Apothecary, F.R.S.; occasion'd by an Extract of a Letter from Mr. George Howell, Surgeon, at Haverfordwest, to the Author, giving an Account of the poisonous Effects of this Plant to some French Prisoners at Pembroke.

#### Extract of Mr. Howell's Letter.

A S you defire in your Letter, I " have made the best Inquiry I Read June 12. (6

" was capable of, concerning the melancholy Acci-

" dent at Pembroke.

" Eleven French Prisoners had the Liberty of " walking in and about the Town of Pembroke:

"Three of them, being in the Fields a little before

" Noon, found and dug up a large Quantity of a

" Plant with its Roots (which they took to be wild

" Celeri) to eat with their Bread and Butter for

"Dinner. After washing it, while yet in the Fields,

" they all three cat, or rather tasted, of the Roots.

" As they were entering the Town, without " any previous Notice of Sickness at the Stomach

" or Disorder in the Head, one of them was seized

with Convulsions. The other two ran home.

" and fent a Surgeon to him. The Surgeon endea-

" vour'd first to bleed, and then vomit him; but

"those Endeavours were fruitless, and he died pre-

" fently.

" Ignorant

" Ignorant yet of the Cause of their Comrades "Death, and of their own Danger, they gave of " these Roots to the other eight Prisoners, who all eat some of them with their Dinner. I cannot " learn exactly how much they eat, they being fent " away a little time before your Letter arrived. " A few Minutes after, the remaining two, who

" gather'd the Plants, were seized in the same man-" ner as the first; of which one died: The other

was bled, and a Vomit with great Difficulty forced

" down, on account of his Jaws being, as it were,

" locked together. This operated, and he recover'd; " but was some time much affected with a Dizzi-

or ness in his Head, though not sick, or in the least

" diforder'd in his Stomach. The other eight, being

bled and vomited immediately, were foon well.

"There were in these Men none of those coma-" tose Symptoms you mention'd (a) to have happen'd

" to the Dutch Soldiers, who were poison'd by eat-

" ting the Cicuta major.

" As I was not present myself, I send you the best "Information I was able to procure. After I had

" done examining, I order'd fome of the Herb and

"Root to be brought me. As you suggested in your

" Letter, I found it to be the Oenanthe aquatica " cicutæ facie of Lobel, which grows in great Plenty

" all over this Country, is called by the Inhabit-

" ants five-finger'd Root, and is much used by them

" in Cataplasms for the Fellon, or worst Kind of

" Whitflow. The Frenchmen eat only the Root.

" and

<sup>(</sup>a) Philof. Tranf. No. 473, p. 19.

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" and none of the Leaves or Stalk. - I mult beg

" your Pardon for fending you this imperfect Account:

" Had this Accident happen'd at Haverford, you

" fhould have had one more exact."

So far Mr. Howell's Letter.

THE poisonous Effects of this Plant, in the Instance beforemention'd, exactly square with those mention'd of the same Plant, in No. 238. of the Philosophical Transactions, where eight young Lads, near Clonmel in Ireland (where this Plant is called Tahow) mistook its Roots for those of Sium aquaticum, or Water-Parsnep, and ear plentifully of them. About 4 or 5 Hours after, going home, the eldest, almost of Man's Stature, without the least previous Disorder or Complaint, fell down backwards, and died convulsed. Four more died in the same manner before Morning; not one of them having spoken a Word from the Moment the venomous Particles had attacked the Genus nervofum. Of the other three, one ran stark-mad, but came to himself next Morning. The Hair and Nails of another fell One of them only escaped without any Harm, who ran home above two Miles, and drank warm Milk, which caused a Diaphoresis. A Dutchman likewise was poison'd with the Leaves of this Plant, boiled in his Pottage; which he took for Smallage, and to which its Leaves have great Refemblance.

Dr. Allen, in his Synopsis Medicina, mentions an Instance of four Children, who eat of these Roots. They indeed were in great Agonics, before they fell into Convulsions. In their Fits they vomited, which was encouraged by large Draughts of Oil and warm

Water ;

Water; and by other proper Care they all did well. He takes notice likewise of a Pig's dying in Convulsions, from eating some of these Roots, which it had grubbed up.

Stalpart van der Wiel, in his Observations, takes notice of the deadly Effects to two Perfons, who had caten these Roots, missaking them for Macedonian Parsley. These Men (like those quoted from Dr. Allen), foon after eating these Roots, were troubled with violent Heats in the Throat and Stomach, attended with a Vertigo, Sickness at the Stomach, and Purging. One of them bled at the Nose; the other was violently convulfed. Both of them died; one in two Hours, the other in three. This Author has given us three Figures of the Oenanthe: The two Tables of the Roots and the Leaves are tolerably well executed; but that expressing the whole Plant is very deficient. It were much to be wished, that all botanical Authors had Industry and Ingenuity enough to delineate their own Tables, as Columna and Dillenius have done; which will always heighten the Value of their otherwife excellent Works.

It is very remarkable, that neither the French Prifoners, who were killed at Pembroke, nor those before cited in the Philosophical Transactions, selt any Heat or Disorder in their Stomach, before the Attack of the convustive Paroxysms: Whereas those mention'd by Dr. Allen, and Stalpart van der Wiel, were in great Agonies, from the violent Heat in their Stomach and Throat, before they were attacked by Convulsions.

The same Variety of Symptoms we meet with in Wepfer, with regard to those People who were poifon'd

fon'd by the Cicuta aquatica; where some of them. who had eaten the Roots of this Plant at the same time, stood and assisted their Friends, till they died of Convultions, without feeling themselves any wife disorder'd; and afterwards, in their turns, died in the same Manner. Others were violently affected by it. as foon almost as they had eaten it. Confer Wepfer's History with the (a) German Ephemerides. Linnæus mentions, in the (b) Flora Lapponica, the great Slaughter, and miserable Manner, in which the horned Cattle died, from eating this Plant at Tornwa. This Author also, in his Flora Suecica, acquaints us (notwithstanding Rivinus and Mappus have asserted, that the horned Cattle not only eat this Plant without Detriment, but are very fond of it) that three Oxen were killed by eating the Roots thereof. He was fully convinced that they were the Roots of the Cicuta aquatica; because, soon after this Accident, the Country People brought him some of them, desiring to know to what Plant they belonged. He thereupon planted them in the academical Garden, and was fully satisfied what they were.

Wepfer has confounded his Cicuta aquatica, in the History thereof §, with the poisonous Oenanthe of Lobel; where he says, that Lobel has described the Cicuta aquatica under the Name of Oenanthe Cicuta facie, succo viroso crocante; and mentions, that it is not very frequent, but in the Northern Parts of England by the Sides of Rivers, and in watry Places: He adds.

<sup>\*</sup> Ephemerid. Natur. Curiosor. Dec. 2. Ann. 6. Obs. 116. † See Flor. Lappon. p. 72. § Cicutæ aquat. historia et noxæ, p. 15.

adds, that Lobel has not been exact in his Description, To which I answer, that Lobel's Description of the Oenanthe is very exact, for the Time he liv'd; and it is very evident, that Wepfer never saw this Oenanthe; which Plant, I believe, is not found in Germany. Wepfer likewise, in the Ephemerides Naturæ Curioforum \*, is under the same Mistake; and tells you, that Stalpart van der Wiel differs from him; and calls the Plant, mention'd in his Observations, Oenanthe, as Lobel does: And tho' Stalpart has given Figures of the Plant accurate enough for a common Observer to distinguish the Plants by, and tho' nine Years lapsed between the Publication of his Book de Cicuta and his Observations in the Ephemerides, he was still in the same Error; and believed the Oenantke of Lobel, and his Cicuta aquatica, as well as that of Gesner, to be the same poisonous Plant. The accurate Hoffman + also, when treating

\* Ephemerid. Nat. curios. Dec. 11. Ann. v1. Obs. 116.

<sup>†</sup> Fred. Hoffman. Medicin. rational. systematic. Tom. II. p. 174. Edit in 4to. Ex vegetabilium regno inter præsentissima venena referri debeat cicuta vera, napellus sive aconitum cæruleum, solanum furiosum, hyoscyamus, ac datura." If here the Epithet vera to Cicuta is understood only to point out the poisonous Sort of Hemlock, there are no less than three Species of this Class, which, from their being known certainly to be poisonous, may lay Claim thereto; viz. Cicuta major of Caspar Baubin, Cicuta aquatica of Wepfer, and Oenanthe cicutæ facie of Lobel. But, it is very probable, the two last were unknown to the Ancients. The Description of Dioscorides, lib. iv. cap. 79, which is the only one to be met with among the Greek Writers, and that but obscure, relates, in my Opinion to the sirst of these. Κάνειον καυλὸν ἀνίποι γονατώδη ώς μάραθεςν μέγαν. Φύλλα δὲ νάρθηκι ἐμφερῖ, εενώτερα δὲ κ βαθούσμα ἐπ' ἀκρων δὲ ἀποςύσεις, κὶ σκιάδια, ἀνδος ὑπόλλανον σπέρμα ἐμφερὲς ἀνίσω, λακότερον ἐίζα κοίλη κὶ ἐ βαθοία. Pliny's Description, lib. xxv. cap. ult. is taken from this of Dioscorides.

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of vegetable Poisons, makes no Mention of this Difference.

Neither the Roots of the Oenanthe of Lobel, not chose of the Cicuta of Wepfer, have any Flavour in them disagreeable enough to deter those, who taste them, from eating. They both occasion violent Convulsions, and Death, if not timely prevented. Intention of Cure feems in both to be the same; viz. first, by emptying the Stomach and Intestines as soon as possible, and then by causing the Patient to swallow large Quantities of oleaginous Fluids. But it is to be observed, that the causing the Patient to swallow any Quantity is attended with great Difficulty, after he is attacked by the Poison; because of the Jaws being, as it were, locked together by the Violence of the Spasm. After the Stomach is freed from this pernicious Vegetable, the Symptoms have generally diminished by Degrees, and the Patient recovered.

Threlkeld, in his Synopsis Plantarum, mentions, that he has seen great Plenty of this Oenanthe in Cumberland, where the Country-People call it Dead Tongue, and use it, when boiled like a Pultice, to the galled Backs of their Horses.

Neither the German Botanists\*, nor Haller in his Enumeratio Stirpium Helvetiae, mention this Plant as growing amongst them. I believe, therefore, it is seldom met with but in Holland, England, and in some Parts of France; for Morrison mentions it grow-

ing

<sup>\*</sup> Unless the Olsenichium of Valerius Circlus, and Thysselium of Dodonæus, hereafter mention'd, are other Names of the Plant in Question.

ing in Bretagne near the Mouth of the River Loire. This Plant was communicated to Matthiolus by a Professor of Physic at Padua (See Matth. p.628.). Linnæus, in the Flora Suecica, fays, that he received it from a Correspondent, who gather'd it in Scania.

Lobel, and after him John Bauhin and others, take notice of this Plant's growing in the Northern Parts of England. It grows also in the Western and Southern Parts, by the Sides of Rivers, large Waters, and sometimes by Ponds. It grows near Bath. Dr. Allen mentions it growing within three Miles of Bridgewater. Its being produced in Wales, is the Occasion of this Paper. I have seen it very frequently by the Sides of the River Thames, both above and below London. I have found it likewise by the Side of a large Pond near the Road, in the Town of Dulwich, not far North of the College; likewise by the Sides of a large Water near the Mills, half a Mile South east of Dartford in Kent.

Lobel is the first, who has given a small Figure and a tolerable Description of this Oenanthe, in his Adversaria Plantarum (1). He has likewise represented it in the 730th of his Icones. This seems likewise to be the Plant described by Valerius Cordus (2), under the Denomination of Olfenichium; and, by Dodonaus, under that of Apium Sylvestre, sive Thysfelium (3); where the Description, Place of Growth, and Form of the Roots, agree exactly with the Plant

under

<sup>(1)</sup> Adversaria Plant. nov. 326.

<sup>(2)</sup> Valer. Cord. p. 149.

<sup>(3)</sup> Dodon. Pempt. 687.

under Consideration; tho' his Figure is execrably bad. This bad Figure is copied, and the Description translated, by Gerard (4) in his Herbal, without making any mention of Dodonaus. This Figure is likewise copied in Parkinson's Theatre of Plants. John Bauhin, Matthiolus, Gerard, Parkinson, and Morrison, have given us Figures of this Oenanthe; but these Representations give us scarcely any other Idea of the Plant, than that it is an umbelliferous one, with Roots divided like those of Asphodel. Of these, however, Morrison's (5) is the best; and his Description, in his Book de Umbelliferis, is very exact and copious. Mr. Ray's Description is taken from Lobel. I have at the Bottom of the & Page recited the various Synonyma, under which this Plant is mentioned amongst Authors.

As it appears, from what I have laid down, that the Oenanthe of Lobel, and Cicuta aquatica of Wepfer, have not been sufficiently distinguished by medical Writers hitherto, I hope I shall stand excused for making

#### § OENANTHES, de qua hic agitur, Synonyma.

Oenanthe tertia *Matthioli*. p. 629. Oenanthe, fucco viroso, Cicutæ facie *Lobelii*. J. B. III. p. 193. Oenanthe, Chærophylli foliis C. B. P. 162. Filipendula, Cicutæ facie. Ger. Emac. 1057.

Oenanthe, Cicutæ facie Lobelii. Park. 894.

Oenanthe maxima, succo viroso, Cicutæ facie. Morris. Hist. Sect. 9. Tab. 9.

<sup>(4)</sup> Gerard. Emac. 1020.

<sup>(5)</sup> Morrison Umbel.

Oenanthe, foliis omnibus multifidis obtusis, fere æqualibus. Hort Cliff. 99. Royen. 107.

making a few Observations upon this last. This. though a Plant frequently met with upon the Continent, and very well described by botanical Writers, we seldom find near London; but it grows in many Parts of England by the Sides of large standing Pools. and near the Banks of Fens. I am informed by Robert More, Esq. an excellent Botanist, and a very worthy Member of this Society, that it grows plentifully in many Parts of Shropsbire. I have lately received it from Dr. Wilmer, who gather'd it by the Sides of the River Colne, not far from Uxbridge. It is mentioned by Mr. Ray to grow near Brereton Mere in Cheshire, and in several other Places. You find it mention'd by Gesner (1); and Wepfer, in his History thereof, has given us four Tables of different Parts sufficiently accurate. It is figured and described by John Bauhin (2). Lobel's Icon. 208, relates to this Plant. Dodonæus's Figure, which is not a bad one for the Time, is copied both by Gerard and Parkinson. Morrison has given us two Figures thereof, one in his general History, the other in his Book de Umbelliferis, though under different Names. But the most elegant and descriptive Figures are those of the Hortus Eystettensis and Rivinus. As the Synonyma of this Plant are very many, and very different. I have inferted them at the Bottom of the next Page §.

Tho'

<sup>(1)</sup> Gesner Hort. 254.

<sup>(2)</sup> F. Baubin. III. p. 175.]

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Tho the medical Writers have not sufficiently distinguished these Plants, the Botanists have. These indeed, in their turns, have been as negligent, when writing concerning their Uses \*. So that, notwithstanding Lobel long ago (1) informed the World, that the Oenanthe Cicutæ facie, in its Effects, was very like Hemlock; and that those, who had eaten it in Sallads, were almost killed by it; this Plant occasioning Vertigo's, and other violent Symptoms; yet Morrison, in his Treatise of umbelliserous Plants, tho' very exact in the Description of the Species of which we are now treating, recommends indiscriminately the whole Genus, as being temperately warm and dry; that they are useful in cleansing the urinary Passages,

\* Matthiolus, speaking of the Oenanthe, says, p. 628. Putamus tamen a cæteris filipendulis non multum differre.

(1) Lobel's Adversaria were published in the Year 1572.

#### § CICUTÆ aquaticæ Synonyma.

Cicuta aquatica. Gesner. Hort. 254. Wepfer. Linnai Flor. Lap.

Cicuta maxima quorundam. Hort. Evstet.

Cicuta. Linnæi Hort. Cliff. 100.

Cicutaria. Rivin. Tab. 76.

Sium alterum. Dodon. Pempt. 579.

Sium alterum Olusatri facie. Lobel. Ic. 208. Ger. Em. 256. Raii Hist. 450.

Sium Erucæ folio. C. B. P. 154.

Sium majus angustifolium. Parkins. 1241.

Sium foliis rugosis trifidis, seu multifidis dentatis. Morris. Umbell.

63. Tab. 5.

Sium, pinnis laciniatis, pinnulis trifidis, nervo non folioso. Holler. Helv. 436.

Passages, and in opening Obstructions: He quotes the Authority of Dioscorides for giving the powder'd Roots in Wine to cure the Dyfury, and to help assimatic Complaints. What the Oenanthe of Dioscorides was (2), nobody has determined. He describes it, as having Leaves like Parsneps, white Flowers, a thick Stalk about a Span high, Seeds like those of Arrach, a large Root divided into feveral round Heads, and that it grows in rocky Places. A short Account of the Oenanthe, together with its Uses in Medicine, is taken from Dioscorides by Pliny (3) the Naturalist. What the Plant was that Dioscorides here recommends, is uncertain: None of the Species we are acquainted with come near this Description; all those, that we know, much exceed his Measure; none of them have Leaves like Parineps, and all grow in watry Places. Ruellius (4), Fuchsius (5), Tragus (6), Dodonæus (7), and Matthiolus (8), have given us the Filipendula or Dropwort, for the Ocnanthe of Dioscorides: But this cannot be that Plant, because its Seeds are not like those of Arrach; neither has it a large Root divided into many Heads. Parkinson (9), no great Favourer of Lobel, says, that " Lobel only brandeth his Oenanthe Cicutæ facie to " be virulent and venomous, from the Relations of " the

<sup>(2) &#</sup>x27;Οινάνθη τὰ μὲν φύλλα ἔχει ὡςπες ςαφυλῖνος, ἄνθη δὲ λευκά. Κάι καυλόν παχὺν σπιθαμιαῖον· καςπόν δὲ ὡςπες ἀτεαφάξιος· ρίζαν μεγάλην κεφαλὰς ἔχεσαν πλείονας ςςογρύλας· φύελα ἐν πέζεσις· Diofcorid. lib. iii. cap. 135. (3) Plinii Nat. Hift. lib. xxi. cap. 24. (4) Pag. 265. (5) Fuchfii Hift. 563. (6) Trag. p. 883. (7) Dodon. Pempt. 56. (8) Pag. 627. (9) Park. Theat. 895.

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" the North Country People, where he says it chiesty "grows." Mr. Ray, in his History, though he has transcribed Lobel's Description, in which its venom ous Qualities are taken notice of, leaves this Matter to further Examination, other Botanists being of a

different Opinion.

The Instances mention'd in these Papers are but too sufficient Testimonies of the malignant Properties of this Plant; but Mr. Miller, a worthy Member of this Society, informed me further, that, not many Years fince, a whole Family were poisoned therewith at Battersea. As this Plant is frequent so near us, and as its Appearance and Smell are so like Smallage and Celeri, we are greatly interested that the Knowlege of it be extended as much as possible. As I find no good Representation thereof among Authors, and as a good Figure conveys a stronger Idea to the Generality of Readers than the most accurate Description, I have procured that admirable Artist Mr. Ehret to draw not only this Plant, but also the Cicuta aquatica of Wepfer; that they may be the more easily known from all Plants, and distinguished from each other by their being both feen at one From these Drawings the ingenious Mr. Mynde has very accurately engraved the Figures in TAB. III. IV. and V. hereunto annexed.

P. S. I am informed by Mr. Ehret, that, in drawing the Oenanthe, which he has executed with his usual Elegance and Accuracy, he was obliged to have a Quantity of it placed before him upon a Table; when, the Room being small, the Effluvia thereof caused in him an universal Uncasiness, with a H h

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Vertigo; fo that he was constrained to have it removed, and never after place before him but a small Piece at a time.

There is something in the Formation of the Root of the Cicuta aquatica before-mention'd, deserving particular Notice. This Plant generally grows either near the Sides of large stagnant Waters, or in shallow Rivers, whose Streams are slow. wards the End of Autumn, or the Beginning of Winter, the Root for the succeeding Summer is formed out of the lower Part of the Stalk. of the Crown of this Root are then seen the Rudiments of the Leaves of next Year (see TAB. V. Fig. 1. a.); and from the Sides of this grow the Crowns of feveral smaller Roots. This Root, in its whole Length, is divided transversly into a Number of large unequal Cells (fee TAB. V. Fig. 2.). Corresponding with the Partitions, which divide these Cells, the Surface of the Root is marked circularly with little round Depressions. a Part of this Root is occupied by the Cells, that it becomes specifically lighter than Water; so that, in Winter, upon the Increase of Water in the Rivers and Pools, this Root, as well that Part intended for the succeeding Summer, as that which furnished the Plant the preceding, is buoyed up. The old Root then rots, and floats upon the Surface of the Water with the new one all the Winter (see TAB. V. Fig. 1, b.); and in Rivers these are frequently carried to very great Distances from the Places of their Growth. In the Spring the old Root is washed away; and the new one, upon its coming near the Soil, sends out from the Circles before-

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before-mention'd, particularly from those nearest the Bottom, a great Number of long slender white Fibres, by which this Root becomes again fixed to the Soil, propagates its Species, and remains thus, until, by the rotting of these Fibres, it is again. weighed up. The old Root decaying, and being washed from the new, is the Cause of that truncated Appearance we observe in the Root of the Figures of Dodonaus, Parkinson, and Morrison, who have exhibited this Plant in a flowering State. This Provision of Cells in the Root seems to be given to this Plant by Nature, that, as great Part of its Root is apt to perish in Winter, Vegetation might not be prevented, nor the Root destroyed, unless the whole Number of Cells are spoiled, which very rarely happens.

# Explanation of TABLE III. exhibiting the Ocnanthe Cicutæ facie.

- a, Its tuberose Roots surrounding the Stalk.
- b, b, b, b, A Leaf taken from near the Bottom of the Stalk.
- c, A Branch with the Umbels of Flowers in different.
  States.
- d, An anterior View of the Flower of its natural Size.
- e, A posterior View of the same.
- f, The anterior Appearance of the Flower through a Microscope.
- g, The posterior View of the same.
- h, A View of the Rudiments of the Fruit after the Decay of the Flower.
- i, The same magnified.

Hh 2:

Explan

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Explanation of TABLE IV. representing the Cicuta aquatica of Wepfer.

- a, A Branch of this Plant with its Umbels of Flowers in different States.
- b, The Appearance of the Bottom of the Stem, growing from the Crown of the old Root.
- c. An anterior View of the Flower of its natural Size.
- d, An anterior View of the same magnified.
- e, A posterior View of the Flower magnified.
- f, The Vasculum seminale, and Seed.
- g, The same magnified.

Explanation of TABLE V. representing the Root of the Cicura aquatica in Winter.

#### Fig. I.

- a. The Rudiments of the Leaves.
- b, The old rotten Root not yet separated from the new one of the preceding Summer.

#### Fig. II.

A longitudinal Section of the Root exhibiting the Cells.

XIII. A Letter to Mr. Benj. Robins, F. R. S. fhewing that the Electricity of Glass disturbs the Mariners Compass, and also nice Balances.

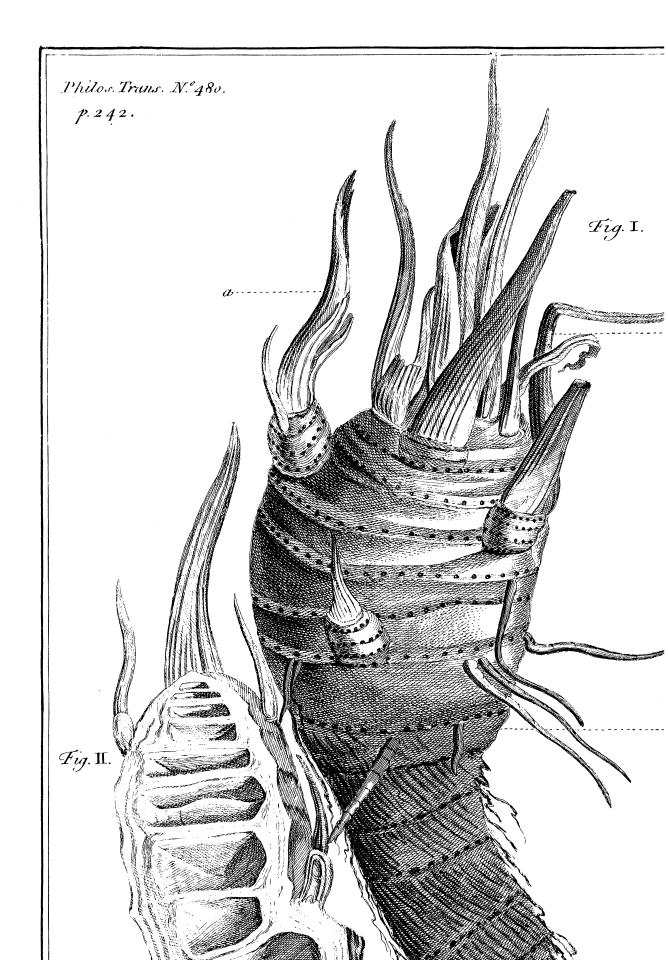
Dear Sir, June 10. 1746.

Read June 12. WHILE so many Gentlemen are la1746. bouring to find out the Uses of
Electricity, it has been my Fortune to discover one,
at least, of the Inconveniencies attending that Property





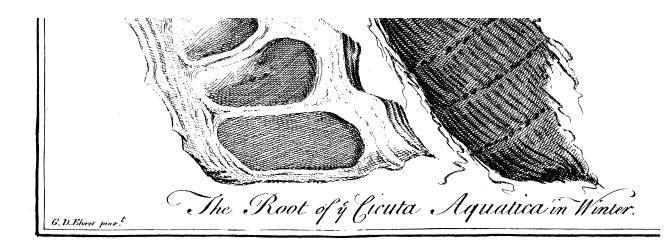
J. Mynde Soulp.





**7.** I.





ter.

J. Mynde Souls

