LX. *An Account of the Frog-fiſh of* Surinam, *addreſſed to the Royal Society, by Mr.* George Edwards, *F. R. S.*

Read March 27, 1760.

I Have now the honour to lay before this Royal Society an animal not to be found in the Britiſh Muſeum, nor in any other collection that I have ſeen in England, and which, perhaps, deſerves attention, in regard to what is ſaid of its ſtrange metamorphoſes, as much as any part of natural hiſtory whatever. It was brought from Surinam in South America, by the way of Barbadoes, to John Fothergill, M. D. of London, and is the animal, which Merian and Seba deſcribe as changing from a frog into a fiſh.

In the appendix to Merian's Nat. Hiſtory of the Inſects of Surinam, where ſhe treats of thetrans formation of fiſhes into frogs, and of frogs into fiſhes, after explaining, how the European frog is changed from a minute fiſh (or tadpole *) into a perfect frog, ſhe proceeds to deſcribe the gradual transformation of a ſpecies of frogs found in great numbers in the river of Surinam, into perfect fiſhes, and gives five figures to illuſtrate her deſcription; the ſubjects whereof, ſhe ſays, were then in the collection of Albert Seba at Amſterdam, from whom ſhe alſo had her

* I have groſsly copied Mrs. Merian's five figures from Plate LXXI, the better to explain her deſcriptions, which figures are herewith preſented. Linnæus calls this animal Paradoxa, Laſt Edit. of his Syſtema Naturæ, p. 212.

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figures and information, as appears ſince by the account publiſhed by Mr. Seba of his curious cabinet of natural hiſtory, in two pompous folio volumes, a copy of which, finely illuminated, is now in the Britiſh Muſeum.

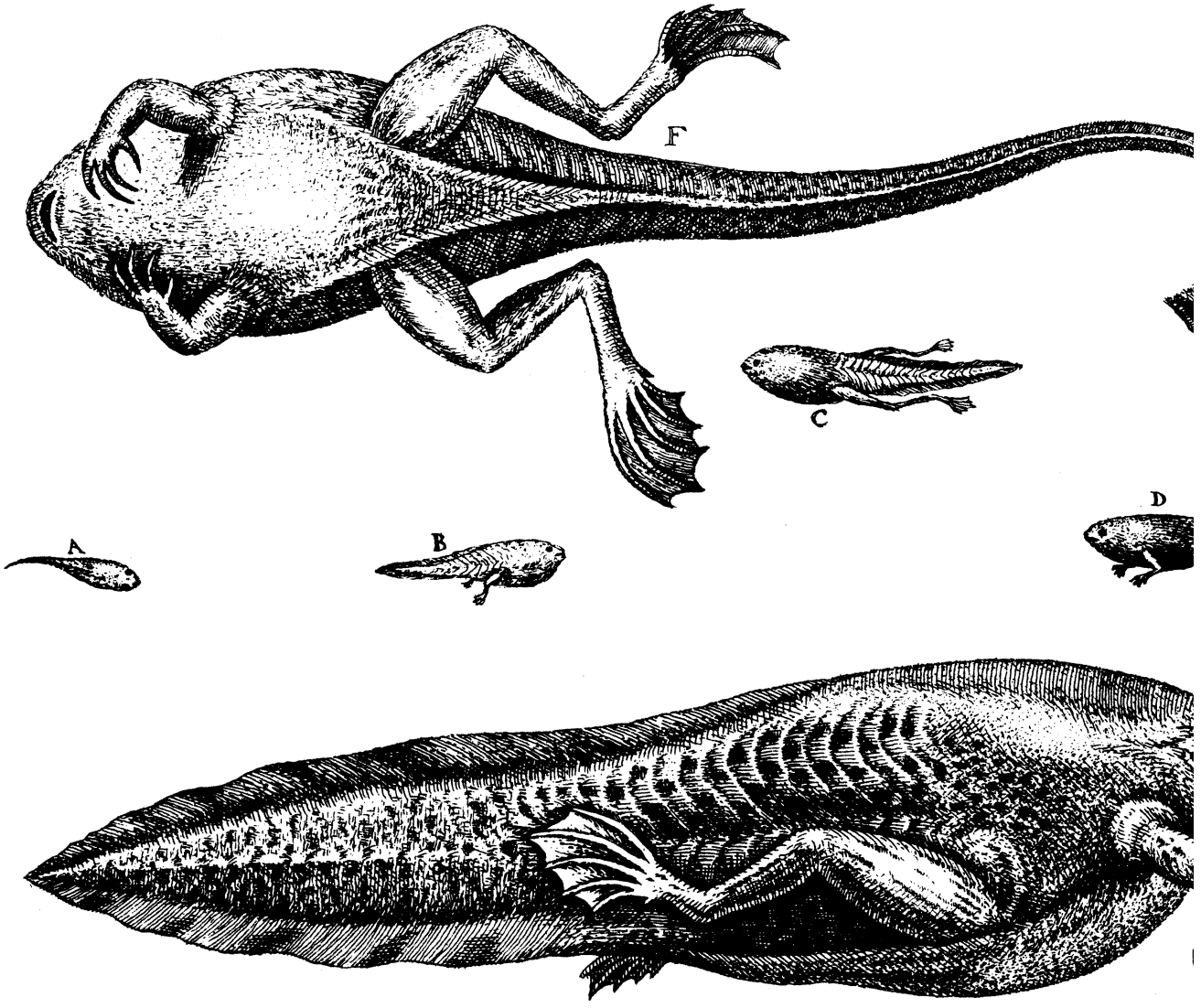
Mrs. Merian's Deſcription is as follows.

" The firſt figure ſhews the perfect frog, brown, " yellow, and green, in ſpots, but paler on the belly, " the hinder feet webbed like thoſe of a gooſe, the " fore feet without webs: the ſecond figure repre- " ſents the firſt change the frog undergoes, by the " growing out of a tail; after which it gradually ac- " quires the ſhape of a fiſh, the two fore feet decreaſ- " ing and periſhing by degrees, as is ſhewn by figure " 3. alſo the decreaſe of the hinder legs, as is " ſhewn by figure 4. and, laſtly, the frog is changed " to a perfect fiſh, as at figure 5.

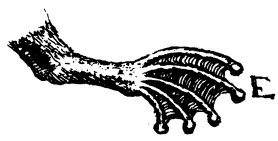
" The Indians and Europeans of Surinam call " theſe fiſhes Jakies; they are cartilaginous, of " a ſubſtance like our Muſtela †, and very deli- " cate food. A bone (or cartilage) runs down the " back, with ſmall bones all over the body, which " is divided into equal parts; they are adorned with " tender beautiful ſcales, are firſt of a darkiſh co- " lour, and afterwards grey."

The frogs of Aſia and Africa are deſcribed by this author, plate 72. to change gradually from fiſhes into frogs, as the European frogs do; but then ſhe tells

† A fiſh of the cartilaginous kind: See Willoughby de Piſcibus, Tab. B. 5. and Edwards's Gleanings, Tab. 288.



The Frogfish of Surinam Drawn from nature of the size of Life. George Edwards. Delin:



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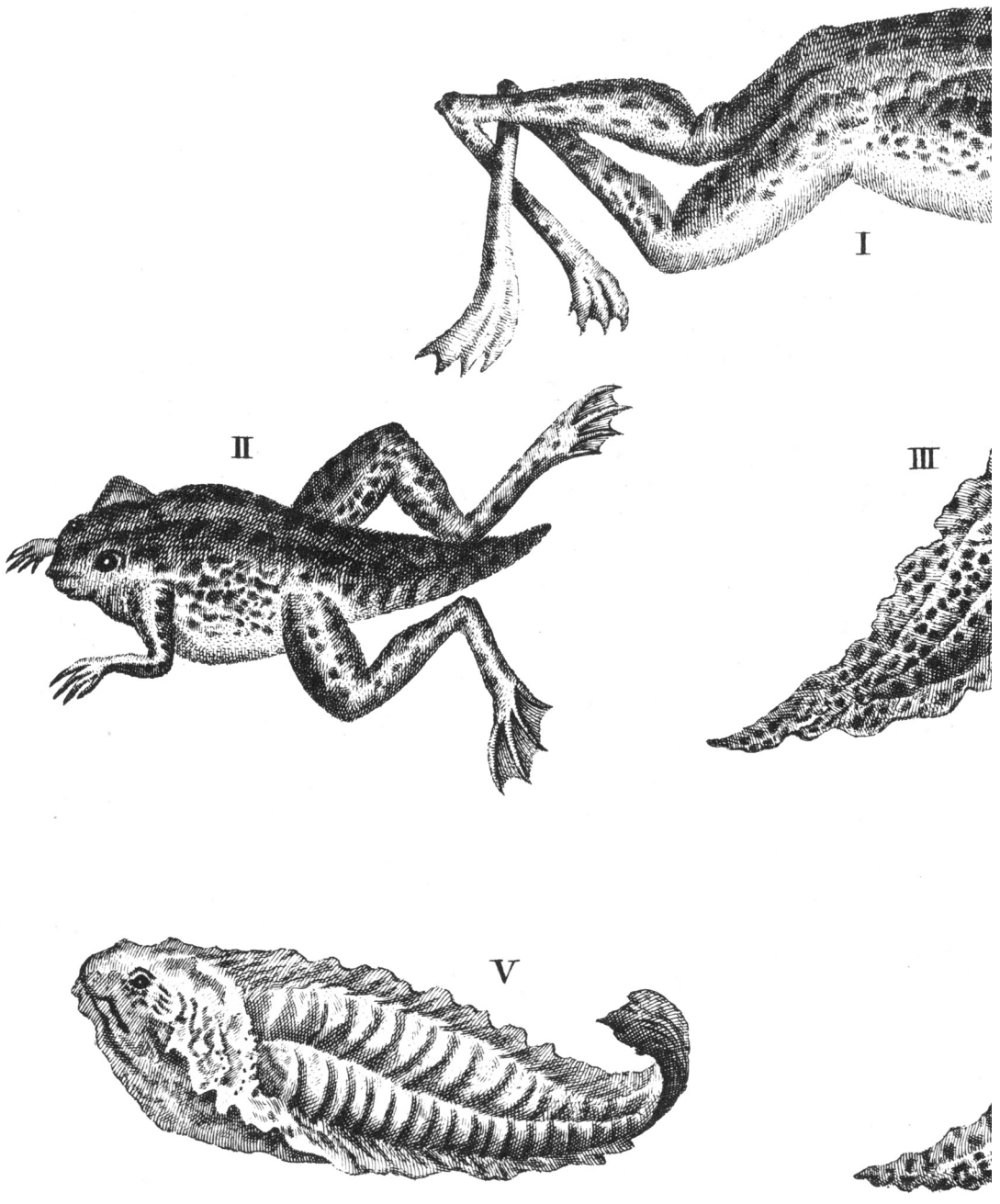
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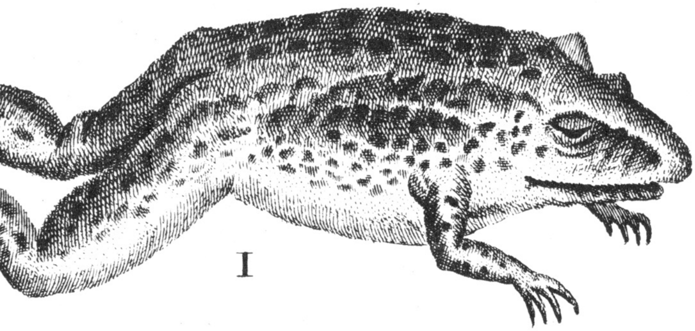

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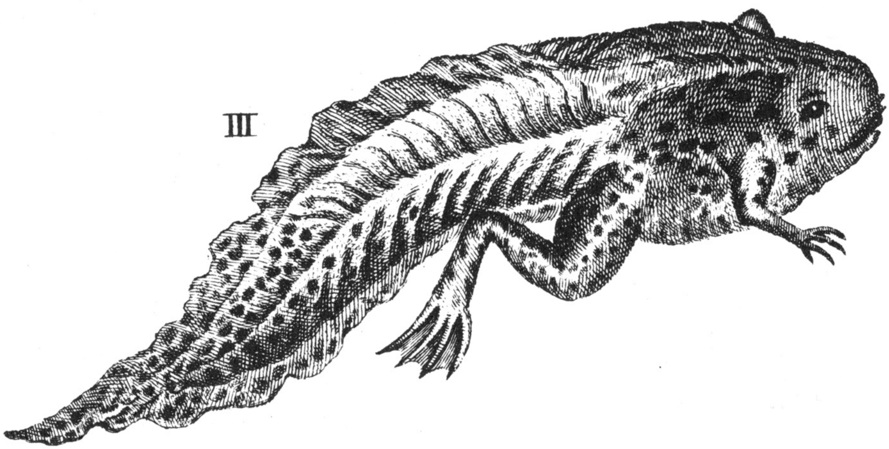
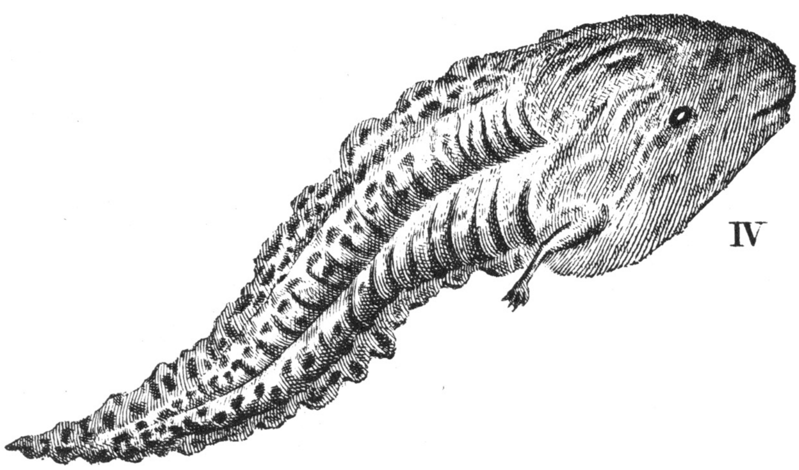




IV

J. Mynde sc.

us that, after many years growth, they change again into fiſhes, tho' the manner of their change is unknown.

The natural ſubject before us, two views of which I have given in a print annexed, ſee Tab. XV. Letters F G. They are drawn and engraved immediately from nature, of the ſize of life, which, on compariſon, I find to be more than double the ſize of what Merian has figured in her book, plate 71. which inclines me to think this before us to be ſpecifically different from Merian's: her figure expreſſes the fin, which paſſes round the tail, ſcalloped, whereas in this before us the edge of the fin is perfectly even, without any indentures: the hinder feet in her figures have only four toes each, whereas this before us hath five, webbed together, beſides a ſmall rudiment of a toe, as may be ſeen in the natural ſubject, as well as in my print. The fore feet, both in Merian's and my figures, expreſs four toes, unwebbed, tho' I find the four toes to ſtand, three of them in the form of fingers, and one oppoſite to them, which ſerves as a thumb, which is not expreſſed in Merian's figure. The general ſhape of it is expreſſed by the figures F. G, in my print. The ſkin is ſoft, without any thing of ſcaleneſs, and the fin round the tail is like thin wet leather, without any fibres to ſupport it, as is common to moſt fiſhes. The toes in all the feet end in points, but are without nails or claws. On piercing the tail, or hinder part, with a needle, I found no bony reſiſtance; but on piercing the thighs and head the bones ſtrongly reſiſted. Its colour in the ſpirits appeared dark brown, with duſky ſpots, the under ſide lighter, and without ſpots.

There

There came in the ſame glaſs of ſpirits with the above-deſcribed frog-fiſh (as I have choſe to call it), a parcel of ſmall tadpoles, in their different changes from the ſpawn to near the perfect frog: ſee them expreſſed on the plate of their natural ſize at letter A B C D. Doubtleſs theſe produce a ſpecies of frogs different from the European, and perhaps are the ſame that Merian and Seba deſcribe as changing into fiſhes. I think, however, that our aſſent to ſuch an opinion may reaſonably be ſuſpended, till we are confirmed in it by farther obſervations of the real fact; for it ſeems ſtrange, that a tadpole ſhould firſt be changed into a frog, and that the ſelf-ſame frog, by a reverſed proceſs of nature, ſhould change again into a very large tadpole, as figured at G in the plate, and finally change into a fiſh, as in Merian, tab. 71. fig. 5. It ſeems very ſtrange, that another tail ſhould grow from the frog that hath lately loſt one, and that he ſhould gradually loſe his legs, and become a perfect fiſh. Nature, in her ordinary courſe, is not accuſtomed to act in ſuch a manner backwards and forwards, to ſeem to perfect a work, and then to reverſe it by a proceſs directly oppoſite.

The little tadpoles on the plate A B C D, are ſpecifically different from the large one F G, as is manifeſt by the difference of their feet: ſee the hinder foot of one of the ſmall ones magnified at E, which ſhews, that the ends of their toes are round and flat on their underſides, both in the hinder and fore feet: forwards they have four toes in each foot, unwebbed; the hinder feet have five toes, each webbed together.

As to the ſpecimen before us, whether it is already in its perfect ſtate, a ſpecies of frog having a tail, or a kind

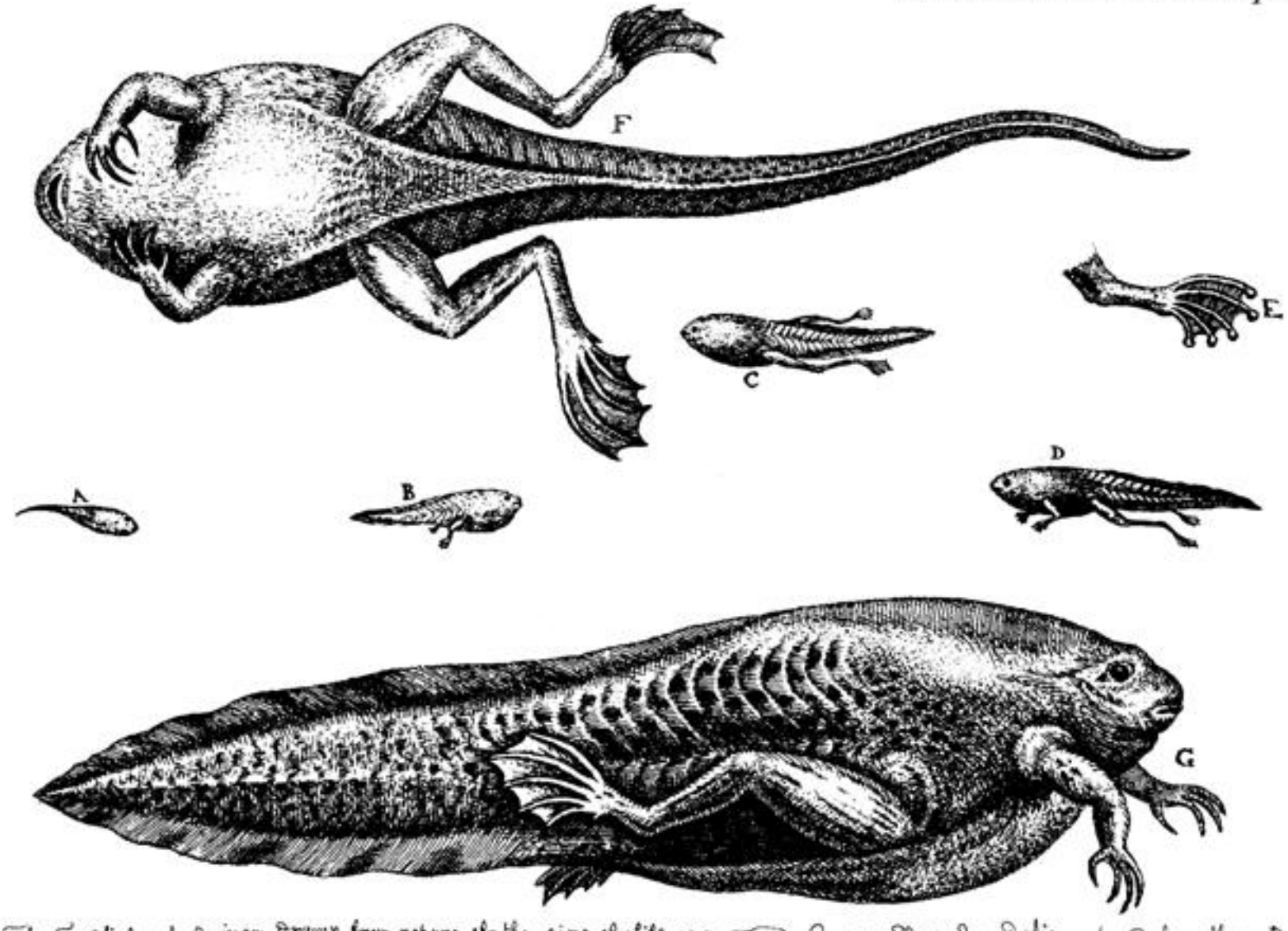
kind of water-lizard, I ſhall not pretend to determine: but, conſidering its ſize, if it ſhould be deemed a tadpole, as firſt produced from a ſpawn, and in its progreſs towards a frog, ſuch a frog, when full-grown, if it bears the ſame proportion to its tadpole that the frogs in Europe do, it muſt be of an enormous ſize; for our full-grown frogs exceed the tadpoles, and young fry of perfect frogs, at leaſt fifty times in magnitude.

London, March 27, 1760.

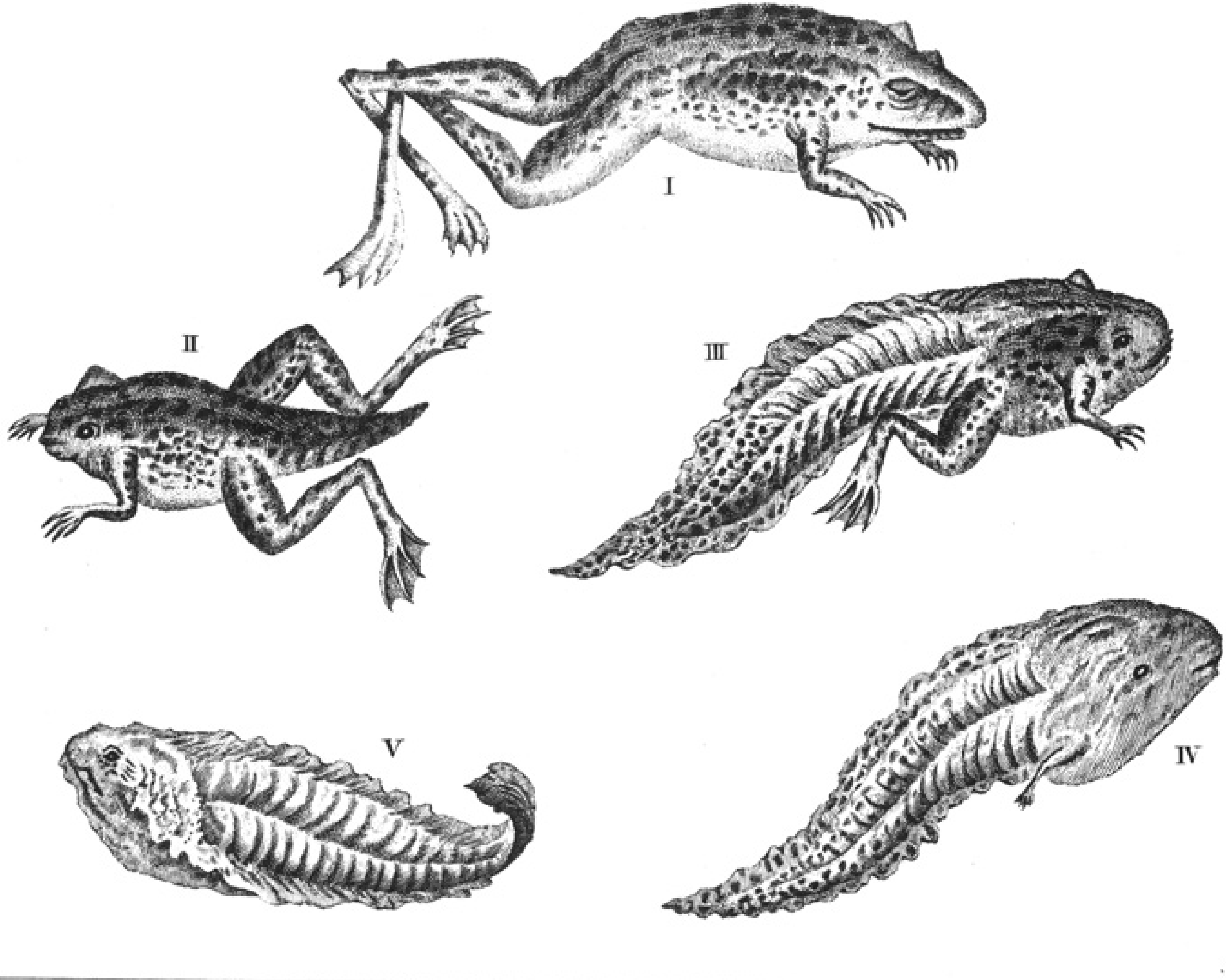
LXI. *An Account of a remarkable Operation on a broken Arm; by Mr.* Charles White, *Surgeon at* Mancheſter, *communicated by* George Lloyd, *Eſq; F. R. S.*

Read March 27, 1760.

ROBERT Elliot, of Eyam, in Derbyſhire, a very healthful boy of nine years old, had the misfortune, about midſummer in the year 1759, by a fall, to fracture the *Humerus*, near the middle of the bone. He was immediately taken to a bone-ſetter in that neighbourhood, who applied a bandage and ſplints to his arm, and treated him as properly, as, I ſuppoſe, he was capable of, for two or three months. His endeavours, however, were by no means productive of the deſired effect, the bones not being at all united. A ſurgeon of eminence in Bakewell was afterwards called in; but as he ſoon found he could be of no ſervice to him, and, as the caſe was very curious, he adviſed the lad's friends



The Frogfish of Surinam Drawn from nature of the size of Life. ~~~ a George Edwards. Delin: et Sculp: Mar: A. 1760.



J. Mynde sc.