

VII. *An Account of some Experiments on the Effects of the Poison of the Rattle-Snake. By Captain Hall. Communicated by Sir Hans Sloane, Bar. Med. Reg. &c.*

IN *South Carolina* on the 10th of *May, Anno 1720,* having got a fine healthful Rattle-Snake about four feet long, I perswaded three or four Gentlemen, and one *Mr. Kidwell* a Surgeon, to assist me in making some Experiments on the Effects of its Poison.

We got three Curr-Dogs, the biggest not larger than a common Harrier, and the least about the bigness of the largest siz'd Lap-Dog, all of them smooth haired.

The Snake being ty'd and pinn'd down to a Grass-plat, we took the largest of them, which was a white one, and having tied a Chord round his Neck, so that it should not strangle him, another Person held one end while I held the other; the length was not more than four Yards each way from the Dog.

Immediately on our bringing the Dog over the Snake, the Snake raised himself near two feet, and bit the Dog as he was jumping; the Dog yelpt, by which I perceived he was bitten; and upon it I pull'd him to me, as fast as I could, and perceived his Eyes fixt, his Tongue between his Teeth, which were closed, his Lips so drawn up as to leave his Teeth and Gums bare: In short, he was quite Dead in a quarter of a Minute; but one Person (beside my self) was of Opinion it was in half that time: The first was the Opinion of the By-standers, who were five or

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fix; but I believe, none of them so much used to measure time as the Gentleman and I were, from our constant making use of the half Minute, and quarter Minute Glass at Sea. We could not see where the Dog was bitten, nor any Blood: Upon which we ordered some hot Water to scald the Hair off; when we could find but one Puncture, which look'd of a bluish Green a little round it; it was just between his fore Leg, and his Breast; where (when the Legs are distended) the Hair is much thinner than in some other places.

Half an Hour after the first Bite we took a second Dog, which was somewhat less, of a Liver-Colour, and in like manner brought him over the Snake, which in a very little time bit his Ear, so that we all saw it; he yell'd very much, and soon shew'd the signs of being very sick, holding that Ear that was bit uppermost. He reel'd and stagger'd about for some time; then he fell down, and struggl'd as if Convulsed, and for two or three times got up, each time wagging his Tail, tho' slowly, and attempting to follow a Negro-Boy, who used to make much of him. We put him into a Closet, and order'd the Boy to look after him.

About an Hour after the second was bitten, we took the third Dog in like manner: The Snake bit him on the right side of the Belly, about two Inches behind the long Ribs; for we saw he had drawn Blood there. The Dog at first, I mean for about a Minute, seem'd not to be hurt; so we let him go, being one we could get again when we pleas'd. For that Day we put up the Snake, imagining his Poison was very near, if not quite expended.

In a little time after, which was just two Hours after the second Dog was bit, the Boy told us he was dead.

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About an Hour after I perswaded Mr. *Kidwell* to open him, and I was in no small haste to examine the Heart, where I perswaded my self, I should discover something extraordinary; but could not perceive any remarkable Difference between that and many others I had seen, where there was no Poison in the Case. Mr. *Kidwell* laid open the Skull, and was of Opinion, that the Brain was more red and swoln than any he had ever seen; and he told me a little while after, that the Blood turn'd very black.

For that Day we heard no more of the third Dog which was bitten; but the next morning the Woman who own'd him came to me, complaining of my Cruelty for killing her Dog. She did not know when he died, but said she saw him at seven that Evening, which was about 3 hours after he was bit; and that he was so sick he could scarce wagg his Tail. None of these Dogs were swoln before they died.

On the *Saturday* following, which was the 14th, we got two Dogs both as big as common Bull-Dogs. The first Dog, which he bit on the Inside of his left Thigh, died in half a minute exactly, in the Opinion of two Gentlemen, who kept their Watches in their hands all the while: There were two very small Punctures in his Thigh, which lookt livid, tho' no Blood was drawn. This Dog did not swell for four hours after he was dead. I saw him, and order'd him to be bury'd.

The second Dog was bit about an Hour after the first, on the out side of his Thigh, where we perceived the Blood at two places: He soon sicken'd, and died in four Minutes.

We thought his Poison was not spent; so we got a Cat (for we could get no more Dogs) which he bit about an hour after, though I can't say where. The Cat was very sick, and we put her up in a Closet: By some means the Cat was let out in less than an Hour and a half after she was bitten. The next Morning early she was found dead in the Garden, and much swoln; so that nobody cared to examine or search where she was bit.

About a quarter of an Hour after he had bitten the Cat, he bit a Hen twice: The Hen seem'd very sick and drooping, and could not, or did not fly up to her usual place of Roost among the rest that Night; but the next Day she seem'd very well, and continued so till Evening, when I order'd her to be Killed, and her Fearhairs scalded off: There were 2 Punctures in her Thigh, and a Scratch on her Breast over the Crow, all which lookt livid.

About a Week after, having got a large Bull-Frog, we brought that over him as usual: He bit it with much force; so that he seem'd to fasten for a small space. The Frog died in two minutes or thereabouts. In less than a quarter of an Hour he bit a Chicken, which was hatcht the *Feburary* before, that died in 3 minutes; I can't say where it was bit, and I was at a loss to try any further Experiments for a long time, for want of proper Subjects. Dogs and Cats were not to be had; for the good Women, whose Dogs had been killed, exclaimed so much, that I durst not meddle with one afterwards.

About the Middle of *June* I took him out according to Custom, and having got a common black Snake, not of the of Viper-kind, about two and a half or near three Feet long, in good Health,
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just taken; I put them both together, and irritated them both, that they bit each other, and I perceived the black Snake had drawn Blood of the Rattle-Snake before I took them asunder.

In less than 8 Minutes the black Snake was dead, and I could not perceive the Rattle-Snake at all the worse or sick.

On the last Day of *June*, being *Friday*, I took him out to try, whether if he bit himself, it would not prove mortal to him. I hang'd him so, that he was not above half his Length on the Ground; and with two Needles at the End of a Stick, one to prick, the other to scratch, irritated him so much that he soon bit himself, after having attempted to bite the Stick many times. I then let him down, and he was quite dead in 8 minutes or thereabouts, but am sure it did not exceed 12 Minutes.

A Gentleman perswaded me to cut the Snake in five Pieces which he gave to a Hog, the Head-part first, in Sight of many of us. The Hog eat up all the Snake, and 10 or 12 Days afterwards I saw the same Hog alive and in Health.

This was no more than I had seen before; but doubted there might be a Mistake, as that they had taken some other Snake for a Rattle-Snake: For being at the House of *Charles Hart* Esq; they shew'd me a Snake, which a Negro told me he had kill'd just before; it was in three pieces, the Head of it bruised into the Ground. While I was looking on, a Sow came and eat it up very greedily, tho' the Negro-man endeavour'd to hinder her, being afraid it would kill her; for she had Pigs following her.

I never heard she was sick for it, tho' I inquired; and about ten Days after I saw her in very good Health. I have heard fifty Relations of the same kind, and am told that those Hogs which feed in the Marshes will run after the common sort of Water-Snakes, which are not poisonous, and will feed on them greedily: And I assure you, in *Maryland* last *August* was two years I saw a Hog eat up the Head of a Rattle-Snake just cut off, and while it was gasping very dreadfully; and I was told, it was a common thing, and it would do them no harm.

On the 10th of *June* 1723, Mr. *Thomas Cooper*, a Gentleman who practises Physick at *Charles Town*, and who was late of *Wadham-College Oxon*, a very Ingenious Man, sent to me to let me know, he had got a fine Rattle-Snake which had been taken not above 4 Days, was about three feet and a half long, and that he design'd to try whether he could save some of the Dogs after the Snake should bite them. He provided a large quantity of *Venice-Treacle* or *Mithridate*, I can't positively say whether, which he divided into two Potions, each about two Ounces; to one of them he put a large quantity of *Diaphoretic Antimony*.

The first Dog which the Snake bit on the Inside of the Thigh, died so soon (*viz.*) in about half a minute, that we could not get the Potion, which was that *without* Antimony, down his Throat soon enough to expect it could have Effect.

Above an Hour after, the second Dog was bitten by him, and had two Punctures or Holes in the fleshy part of the Inside of his fore left Leg, which did bleed more than any I had seen before: We immediately got down his Throat that Preparation *with* Antimony. He soon grew very sick and strove to vomit,

vomit; but I think brought up very little, if any; he froth'd at the Mouth and bit at the Grass, which he champed, as if he were mad; and indeed we were all afraid of him. We therefore put him into a Room and there kept him till next Morning, where I saw him as I thought recover'd: We throw'd him some Meat, which he eat, so we let him out and he went home. About a Month after that, the Dog's Hair came off, and his Master killed him, being so ugly to look at; he told me, he lookt like a Leprous Person, (that was his very Expression;) I never heard this Dog swell'd.

The third Dog which he bit was a Shaggy Spaniel, about an hour and a quarter after the second. He was bitten on the foremost part of his right Shoulder, as we perceived by the Blood. The Dog seem'd to bite at the place himself, and was very sick for that whole Evening (*viz.*) about 2 or 3 hours; but without any means or application he recover'd, and I never heard he was sick afterwards.

VIII. *Quædam Notabilia in Cerebris trium Epilepsiâ mortuorum observata, quibus accedit Historia de substantiâ Cataractæ. Epistola Domini Waltheri Curieufi Rhæti, ad Dominum J. F. Woolhouse, F. R. S. &c.*

CUM hiccè, (ubi per unum alterumvè Mensëm dego) *Venetis*, cadaveribus sufficientibus aperiendis nobis sit occasio, apud virum clarissimum *Santorinum Pr. Anat.* erat Vir 35. *Annorum*, temperamenti & habitûs gracilis, abhinc duobus annis correptus dolore
grava