of the evidence muſt be in proportion to the extraordinary nature of the fact. To apply this to the preſent case : We have the teſtimony of many perſons that ſome ſerpents have a power of faſcination ; but the ge­nerality of men have never obſerved this ; it is therefore an extraordinary fact, and requires extraordinary evi­dence. But the evidence is not ſatisfactory ; therefore we do not receive it as a fact : on the other hand, it is unphilosophical to reject it *à priori.*

No ſubiect has excited more philoſophical controverſy than the poiſon of ſerpents, with regard to its na­ture and mode of operating. Antiquity has not been sparing in conjecture and fiction upon this ſubject, and its errors have been retained with the moſt reverential obſtinacy by the vulgar : among theſe we are to rec­kon the fictitious sting fixed in the tail of the ſerpent, as the painters ſometimes have groundleſsly enough represented it ; ſome have invented a ſimilar fiction of a black forked tongue, which the ſerpent vibrates on both sides, and have aſcribed its power of producing ſuch noxious effect to this ; while others, affecting an air of ſuperior diſcernment, have, upon equally good reaſons, aſcribed it to the teeth in general : theſe are all errors of a mag­nitude that the moſt desultory attention to the ſubject would have been ſufficient to have removed. There is a very ſmall bone cloſely fixed to the upper jaw, in the inſide of the lip of a poiſonous ſerpent, which has a power of moving backward or forward ; to this two or three fangs are annexed larger than the teeth, which the ſerpent, by its aſſiſtance, when enraged, darts for­ward, or withdraws and conceals at his pleaſure, in a ſimilar manner to the claws of a cat : theſe fangs, which the common people name the large teeth of the ſerpent, are excellently deſcribed by Tyſon in the anatomy of the rattleſnake, which he has given in the Philoſo­phical Tranſactions. “ In theſe (the fangs) we obſerved a conſiderable cavity near the baſe ; and near the point a very diſcernible fiſſure of ſome length like the slit of a pen : the part of the tooth from the fiſſure to the root was manifestly channelled, which we firſt diſcovered by lightly preſſing the gums ; we then ſaw the poiſon aſcend through the cavity of the fang and flow out of the fiſſure ; and as theſe fangs are ſo very acute, ſo firm and ſolid toward the point (the fiſſure being on the external and convex, not the internal side), nothing could be conceived more convenient either for inflicting a wound, or to inſure the infuſion of the poiſon.” Each of the fangs is ſurrounded with a vesicle furniſhed with glands ſecreting a certain fluid ; which, upon the vehicle being preſſed, ſeems to flow out of the point of the fang. The ſerpent when incenſed, raiſing his head, extends the ſmall bone armed with the fangs mentioned above ; and attacking his enemy with a force combined of the weight of his body and the action of the muſcles, he wounds him with the expanded fangs, and the veſicle being compressed the poiſon immediately flows into the wound : this is clear from the experience of those who, having broken off their fangs with a pair of forceps, handled the ſerpent thus diſarmed without any hurt. The North Americans, after carefully extracting theſe venomous fangs, ſuffer the rattleſnake to bite and gnaw them with his teeth till the blood flows freely, with total impunity.

Antiquity amuſed itſelf with a fable deſtitute of all appearance of truth, that anger was excited by black bile : they applied this fiction without heſitation to the preſent ſubject, and founded an hypotheſis upon it, to account for the effects of the bite of an incenſed serpent ; pretending to have discovered an ideal canal which conducted the bile from its veſicle to the mouth of the ſerpent, whence it flowed into the part bitten, and produced the moſt fatal ſymptoms. But toward the end of the last century, this ſubject was greatly illuſtrated under the auspices of Ferdinand II. Great Duke of Tuſcany : This prince, desirous of inquiring into that myſterious queſtion, the nature of ſerpents, in­vited Steno, Rhedi, and ſome other philoſophers of the firſt eminence, to his court ; and a multitude of the moſt poiſonous ſerpents being collected, Rhedi made ſeveral experiments upon them, which diſcovered to him a number of particulars before unknown ; of which the following ſeem to have the beſt claim to our attention. When he either cauſed a living viper to bite a dog, or wounded him with the teeth of one newly dead (the poiſonous veſicle remaining unbroken), the event was the same. If the bite was repeated, its effect became weaker, and at last was lost, the poiſon contained in the veſicle being totally exhausted. That the teeth of ſer­pents, when extended to bite, were moistened over with a certain liquor; and whenvthe veſicle at the baſe was pressed, a drop of poiſon flowed to the point of the fang. When the poiſon thus flowing from the veſicle was received in ſoft bread or a sponge, an animal bitten by the ſerpent received no more harm from the wound than from being pricked by a needle, till after a few days, when the venom was reſtored afreſh : but when an animal was wounded with the point of a needle dipped in the poiſon, it was tormented with the ſame pains as if it had been bitten by the viper itſelf. Preſerving ſome of this poiſon in a glaſs, and totally evaporating the moiſture in the ſun, when the reſiduum was diluted again with water, and the point of a needle dipped in the ſolution, Rhedi found to his great ſurpriſe that it had the ſame effect as when recent. But the boldneſs of Toz­zi, one who charmed vipers, flung all theſe men who were deeply verſed in natural philoſophy into the utmost astoniſhment. They happening to fall into diſcourſe (while the prince was preſent) upon the certain death which would attend any perſon’s ſwallowing this poiſon of the viper by mistake, inſtead of ſpirit of wine or water ; Tozzi, confiding in his art, drank a conſi­derable portion of it without heſitation : they were all aſtonished at his apparent raſhneſs, and predicted instant death to the man ;. however, he eſcaped as ſafely as if he had drunk only ſo much water. This event, which struck the prince and his illuſtrious associates in theſe philoſophical inquiries by its novelty, was well known to the ancients. Lucan, in the 9th book of the Pharſalia, ſpeaking of the ſerpent, says,

*Nοxia serpentum est admisto ſanguine pestis*

*Morsu virus habent et fatum dente minantur,*

*Pocula morte carent.* Phar. 1. 9. **v.** 614.

Mix’d with the blood that venom slays alone,

His bite is poiſon ; death is in his fang ;

Yet is the draught innoxious.

Nor muſt we omit obſerving, that barbarous nations are perfectly acquainted with the property of the poi­ſon of ſerpents by which it retains its deadly power af-