

Thomas Mouffet's *Theatrum Insectorum*, 1634

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Introduction

'From him (Mouffet) one might expect everything to be brilliant and perfected, as he had contributions from such great helpers, such great names as Wotton, Gesner, de l'Ecluse, Penny, Knivett, Bruer and others. In fact he composed his whole *Theatrum* with such confusion and lack of order that he appears as a very poor compiler of the material he obtained from others and is no credit at all to such great men. But not only was he almost ignorant of the subject, he also expresses it quite barbarously', wrote Martin Lister to John Ray in 1667.¹

In 1634 after many years delay Mouffet's *Insectorum sive Minimorum Animalium Theatrum*, usually known as the *Theatrum Insectorum* had been published in London by Theodore de Mayerne; the first English work devoted to entomology, it contains several chapters on spiders. The survival of the original manuscript (BM *Sloane Ms.* 4014) increases its interest and importance.

Canon Raven² has given an excellent account of the work as a whole and Lisney³ has detailed the bibliography of the first edition. I am concerned in this paper with the section on spiders and shall give first an account of its history and then look at the text in some detail.

History

Thomas Penny (c. 1532-88), who is the most important of Mouffet's sources, was born in Lancashire, studied at Cambridge and in 1559 took Holy Orders. He later gave up his career in the Church and devoted himself to medicine and natural history, commencing with botany and turning later to entomology. During extensive travels on the continent he met the great Swiss naturalist Conrad Gesner in 1565, shortly before the latter's death, obtaining from him a number of pictures of insects and manuscript notes.⁴ Returning to England, Penny pursued a distinguished career as a physician in London. Here he became close friends with Mouffet,

for both had studied at Cambridge and both were keenly interested in entomology.

Penny devoted much of the last fifteen years of his life to accumulating the mass of material that has been partially preserved for us in the *Theatrum*. In so doing he received contributions from a wide circle of friends, including great European scholars such as de l'Ecluse, Jean Bauhin and Camerarius; many of whom sent illustrations and observations. He was ideally suited for the task, having a brilliantly enquiring and analytical mind. 'There is perhaps no other of the early botanists who has his command of terse and exact phrasing, who employs technicalities so precisely, or who can give so clear and vivid a classification of the chief points in any species.'⁵ It was unfortunate for Science that he died in 1588 leaving his unpublished work on insects in the hands of Mouffet.

Thomas Mouffet (1553-1604) was another medical man with an interest in entomology. He was the son of a London haberdasher, educated at the Merchant Taylor's School and Cambridge, travelled on the continent and took his doctorate of medicine at Basle in 1578. Returning to England two years later, he worked as a physician first in Ipswich and then in London, building up a substantial practise in court circles. Elected to the Royal College of Physicians in 1588, Mouffet came under the patronage of the Countess of Pembroke and went on to become an M.P. in 1597 as member for Wilton.

Mouffet applied himself with much energy to the task of producing a readable account from Penny's confused papers, incorporating into his version the earlier work of the Englishman Wotton.⁶ By 3 March 1589 he had finished and dated the manuscript. According to his introduction he put the work in order, gave it literary style, cut out 'more than a thousand tautologies and trivialities' and added over a hundred and fifty illustrations. In so doing he obscured or destroyed a great deal of the work of Penny, the first great English entomologist.

The manuscript is an imposing folio volume written in a beautiful print-like script and consists of Mouffet's fair copy prepared for the printers. On one of the preliminary leaves is pasted what appears to be the original licence to print that he took out in 1590 to publish the work at the Hague. Pasted into the margins are about five hundred beautiful and

extremely accurate coloured paintings of insects. These contrast very strongly with the crude woodcuts that were produced from them, a few proof impressions of which are also present. Their origin is uncertain but it would appear that Mouffet extracted all the illustrations from Penny's papers and pasted them into the margins of his manuscript. Penny was an accomplished artist and is known to have received paintings from various sources.^{7,8}

Mouffet states in his preface that Penny 'had spent . . . much money for the plates engraving'; this would suggest that the latter had brought the work closer to completion than his editor claimed. The presence of the proofs together with an engraved title-page and the manuscript licence to print raises another problem. It has been suggested that there was an edition of the work at Frankfurt in 1598.⁹ No copy of it is known and its publication seems extremely doubtful. Topsell, however, in his *Histoire of Serpents* of 1608 prints a section on spiders by Doctor Bonham, which is basically a polished and somewhat contracted version of Mouffet's text in English. Bonham must therefore have seen either the manuscript or an edition previous to that of 1634.

After Mouffet's death the manuscript passed into the hands of Darnell his apothecary and eventually to Theodore de Mayerne who, after a delay of several more years had it printed by Thomas Cotes and published in London in 1634.

In 1658 John Rowland published another edition of Topsell's works and appended an English translation of the *Theatrum*. The translation is competently but rather crudely done and compares unfavourably with Bonham's contracted version found in the same volume.

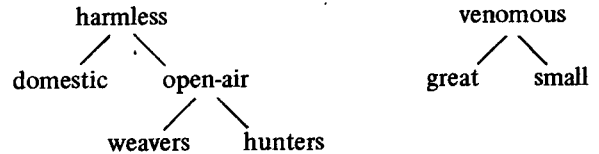
The Text

In examining the text I shall quote from and follow the chapter headings of the 1658 English version of the *Theatrum*.

Chap. XI 'Of the Names of Spiders, and their Differences.'

This starts with a long list of the names in various languages that have been used for spiders, including the word 'Attercop' in English. Isidore of Seville's¹¹ claim that they live on air is refuted by pointing out

that they catch and eat flies and is followed by a translation of four lines of Latin verse from Wotton. Mouffet ends with a confused division of spiders into groups that may be summarised as follows:



Chap. XII 'Of Spiders that are hurtful, or Phalangia.'

The six folio pages that make up this chapter, together with four very poor woodcuts are concerned with venomous spiders or Phalangia. Mouffet has extracted every possible reference to them in the greco-roman writers and tried, not very successfully, to put them together. He gives first a long account of the various kinds of Phalangium, most of his material coming from Aetius, Aelian, Aristotle or Nicander. Some of his descriptions probably originated with venomous insects and only one seems worthy of quotation; 'it is round, and black, and shining, and globelike', this would suggest a *Latrodectus* species. Thrown into the middle of this section is the story that there is a phalangium which 'being cut, they say that two worms are found, which bound to women before conception in a crow's skin, will keep them from conceiving: and this vertue of them will continue for a year, as Cecilius hath left it written in his Commentaries.'

We eventually reach the phalangium of Apulia, the spider actually known by the name 'Tarantula'. There is a very poor woodcut of a specimen given to Penny by an Italian merchant. We are told that they live in cracks in the ground, bite harvesters on the feet, brood their eggs and that the young kill their mother after hatching; all of which can be found in Aristotle.

Next we are given two extracts from Belon¹² who while in Asia Minor observed a small animal 'ressemblent à un Phalangium' running across the desert sand and up the horses' legs, tormenting them with bites. Belon is quite certain that this animal had eight legs, although its behaviour does not seem that of an arachnid. The second extract deals with the

Cretan phalangium and Belon's vivid and reasonably accurate description is given in a debased form.

In the last four pages of this chapter Mouffet deals with the medical aspects of the Phalangium's bite and with obvious satisfaction presents an almost unreadable mass of quotations. Vomiting, fainting and fever seem to be the most frequently noted symptoms and he is clearly in favour of the cure by music and dancing: 'Lastly, when by continuance of the disease and vehemency of it, they seem next unto death, yet when they hear musick they recollect their spirits and they dance with greater cheerfulness every day. These dancings being continued night and day, at length the spirits being agitated, and the venome driven forth by insensible transpiration they grow well.' However, he adds, the cure must be perfected by the use of medicaments taken externally and internally and then proceeds to list some three pages of concoctions. Included are suggestions that other spiders, ants, solitary wasps or even a young weasel should be taken in wine. He marks a few of the more exotic remedies as being especially commendable:

'... a snail bruised raw, and drunk with asses milk.'
 'Take wilde Cumin one acetabulum, bloud of a sea-tortoise four drams, rennet of a Hinde or Hare three drams, kids bloud four drams, make them with the best wine, and lay them up; the dose is the quantity of an olive, in half a Cyathus of wine.'
 'Out of Nicander. Rosin of the turpentine, pine or pitch tree, drank or swallowed, is exceeding good, which Gesner and Bellonius say they learned by experience, to be true.'

As a final example of Mouffet's medicine it is perhaps interesting to note that Penny suffered from asthma towards the end of his life and was taking woodlice crushed in wine as a cure. He remained ill, however, until Mouffet persuaded him to inhale fumes of sulphur; which cured him!

Chap. XIII 'Of the tame or house Spider.'

We now leave the world of sixteenth century medicine and go back to the medieval bestiaries and animal fables, for in this chapter Mouffet is concerned with spiders as a moral example for man; 'To praise the spider as I ought, I shall first set before you the riches of its body, then of its fortune, lastly of its minde.'

He starts with a eulogy to the beauty of the Spider

which is a powerful piece of prose, so long as one forgets its subject! 'The skin of it is so soft, smooth, polished and neat, that she precedes the softest skin'd Mayds, and the daintiest and most beautiful strumpets, and is so clear that you may almost see your face in her as in a glasse; she hath fingers that the most gallant virgins desire to have theirs like to them, long slender, round, of exact feeling, that their is no man, nor any creature that can compare with her.'

This is followed by two fables to demonstrate the Spider's good fortune. In the second one she sets out to travel with a Gowt.¹³ On the first night they seek lodgings and the Spider goes to the house of a rich merchant, where on being given accomodation for the night she begins to spin and is promptly thrown out on the street. The Gowt finds shelter in a poor man's cottage where the food is bad and the bed hard. The following night they change places. Mouffet draws a rather weak moral from this story by saying that the spider is fortunate in not having to 'Behold any more adulteries, gluttony, riot, prodigality, lasciviousness, plays, dancings, wantonness, dicings, cardings and lastly those varieties, and beastliness, that never enter into poor mens cottages.'

The account of the qualities of spiders continues, and scattered through it we get a few hard facts. The male is smaller and more active than the female, they suck the juices from flies and discard the corpse, they hunt and kill lizards and even serpents and when the web has lost its adhesive quality it is repaired or recoated with gum. He continues by praising the perfection of the orb web and suggests that Euclid could have learnt his geometry from it. A fragment of a lost poem by Edwardus Monimus is quoted; here perhaps is the origin of the term 'money spiders.'

Mouffet's aim in this chapter can be summarised best in his own words; 'Who would not admire so great force, so great weight, so sharp and hard bitings, and almost incredible strength in so small a body, and of no consideration, having neither bones, nerves, flesh and hardly any skin? this cannot proceed from its body, but its spirit; or rather God himself.'

Chap. XIV 'Of certain kindes of Spiders observed by Authours.'

This section consists of two pages of descriptions accompanied by eleven woodcuts of spiders and one

of a harvestman. It is probably almost entirely the work of Penny. First comes a description of *Araneus diadematus* Clerck. We are then told of three kinds of spider called 'Lupi' that live in the chinks in walls, amongst heaps of stones or in piles of rubbish. They weave small webs and wander in search of food. Mouffet continues with a short description of the 'Shepherd' or harvestman. Finally there is an account of the female wolf spider carrying its young: 'Pennius supposed that this was rough with warts, untill he touched it with a straw, and saw the young spiders to run down.'

Chap. XV 'Of the generation, copulation and use of Spiders.'

The first part of this chapter deals with reproduction and we are told that they generate either spontaneously or by copulation, that phalangia copulate at the beginning of the winter and other spiders in the spring. Some spiders lay only one large egg and carry it under their belly. The mother teaches her young to spin.

Having set the above down in reasonable fashion Mouffet now returns for the last two pages to cramming in every possible quotation from the greco-roman writers. The object this time is to demonstrate that spiders were created for man's use as well as his education, and there follow numerous medical preparations employing either the unfortunate spider or her web :

'Some catch a spider with their left hand, and bruise her in Oyl of Roses, and drop some of it into the ear of the same side the tooth akes, and Pliny saith it is a cure.'

'If any man take a spider coming down with his thread, and bruised in the hollow of his hand, do lay it to the navel it will cause a stool, but if he takes him climbing up, and applies him, it stops the belly.'

Mouffet continues by chiding his fellow physicians for seeking exotic *materia medica* from the Indies when one spider would do as much as all their newly discovered drugs put together.

He concludes by relating that several persons are recorded as having eaten spiders including 'a very beautiful strumpet in Alexandria, a noble mayd of Collen' and in England 'a great lady yet living who (as we said before) will not leave off eating them.' Finally there is an amusing story from Bruer, whose

nephew squandered the family fortune in taverns and brothels. The young man heard of a rich matron whom the physicians had given up for lost. He made his way to the bedside and gave her a spider to eat, taking half his payment in advance. He then left town hurriedly only to return a few months later on hearing, much to his surprise, that the woman had got better. He then, of course, claimed the remainder of his fee.

Conclusion

The section on spiders in the *Theatrum* probably shows the influence of Mouffet on his sources more strongly than any other part of the book, and it must be admitted that he was a very poor editor. But the work still has great value and interest; for if we have lost the work of Gesner and Penny we still have a very vivid insight into the way a sixteenth century man of Science saw spiders.

The natural world for Mouffet was finite and created by God as a static entity. His interest in animals is largely confined to his desire to demonstrate their didactic and utilitarian purpose. In spite of the strictures of Raven and Lister he was a well educated and intelligent man, as his patronage by the Countess of Pembroke shows. His book was produced at the beginning of one of the greatest periods in the intellectual history of England; it is very much a product of the age and as such deserves respect, for as Canon Raven has so wisely said: 'It is something of an irony that the scientific interpretation of nature should, after four centuries of effort, have replaced the hieroglyphs of medieval Catholicism by the robots of modern Behaviourism. For it may well be doubted whether the attempt to equate fable with fact or mechanism with meaninglessness is the more absurd.'

Acknowledgements

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Notes and References

1. LANKESTER, E. (*Editor*) 1848: Correspondence of John Ray, London, Ray Society; p.12. Lister's letter is printed in the original Latin.
2. RAVEN, C. E. 1947: *English Naturalists from Neckham to Ray*, Cambridge, C.U.P.
3. LISNEY, A. A. 1960: *A Bibliography of British Lepidoptera 1608-1799*, London, Chiswick Press.
4. Possibly in exchange for notes and drawings of plants, or perhaps after Gesner's death when Penny helped Caspar Wolf in the task of sorting out the master's collection.
5. RAVEN, *op. cit.*; p.155.
6. WOTTON, E. 1551: *De Differentiis Animalium*, Paris.
7. RAVEN, *op. cit.*; pp. 172-73. Raven does not appear to have seen the manuscript.
8. HARRISON, T. P. 1965: *John White and Edward Topsell*, Univ. Texas Press. Harrison states that at least three of the paintings in Mouffet's manuscript are by John White, artist under Thomas Harriot for the Raleigh expeditions to Virginia, and a correspondent of Penny's.
9. COOPER, *Athenae Cantabrigiensis*, II, pp.400-02 and the *DNB*, XXXVIII, p.103.
10. A close friend of Topsisell's who is also mentioned by John Parkinson as a primary source on the title-page of his *Theatrum Botanicum* of 1640. A barber-surgeon and rather an obscure figure he was obviously held in high esteem as a naturalist by his contemporaries.
11. His *Etymology* was one of the most widely circulated and quoted of the medieval encyclopedias.
12. One of the greatest French naturalists and travellers of the Renaissance. Mouffet's extracts come from Belon's *Les Observations de plusieurs singularites et choses memorables*, Paris, 1554.
13. A variation of *galt* meaning boar or hog.

JACQUES DENIS, 1902-1972

C'est un grand arachnologiste qui disparaît.

Jacques Denis est né à Paris le 1^{er} October 1902. Ses études l'ont porté à devenir ingénieur des Arts et Metiers et, pendant trent-cinq ans, c'est comme ingénieur des mines dans les houillères de Douchy, de Denain et d'Anzin qu'il a passé une bonne partie de son existence. Malheureusement, au cours de cette vie souterraine, sa santé s'est dégradée et il a contracté le mal qui petit à petit l'affaiblissait, au point que ces deux dernières années ont été très pénibles pour lui, il est décédé le 24 avril 1972 à Longeville (Vendée).

Mais c'est aussi au fond des houillères où il eut la surprise de constater la présence de certaines espèces d'Araignées, qui s'est manifestée son attraction pour l'étude de ces animaux. Naturaliste dans l'âme, c'est surtout en systématicien qu'il a étudié les Aranéides, chassant lui-même dans différentes régions de notre pays, notamment dans le Nord de la France, la Région méditerranéenne, les Pyrénées, la Bretagne, la Vendée; il s'est aussi occupé de nombreuses collections qu'on lui faisait parvenir de certains pays (Belgique, Baléares, Maroc, Algérie, Libye, Egypte, Sahara, Canaries, Madère, Açores, Liban,

Afghanistan).

J. Denis a ainsi publié plus de deux cent cinquante mémoires et articles comprenant une série de quarante deux notes sur les Erigonides dont il était devenu le grand spécialiste. Ajoutons que pendant une quarantaine d'années il a été le systématicien français connaissant le mieux les Araignées de notre pays et c'est souvent que l'on faisait appel à lui pour des déterminations.

Ce travail considérable qu'il a produit, de 1930 à 1970, il l'a fait avec une passion extraordinaire et un dévouement admirable. Je crois devoir souligner que, naturaliste amateur, travaillant isolément en dehors de tout laboratoire officiel (où, quoique l'on dise, l'aide matérielle est précieuse). Jacques Denis était obligé de subvenir par lui-même à toutes les dépenses que ses recherches lui imposaient: voyages pour les récoltes, microscope, binoculaire, tubes, bouchons, alcool, classeurs, papier, correspondance, participation à l'impression des travaux, paiement des tirés à part, cotisations aux Sociétés scientifiques dont il faisait partie et surtout achat de nombreux ouvrages, certains de grande valeur, ce qui lui avait permis de monter une bibliothèque de première importance dans sa spécialité. Tout cela, pris sur le