

ARTICLE VIII.

THE DEATHS OF ANTIOCHUS IV., HEROD THE GREAT, AND HEROD AGRIPPA I.

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BOTH in sacred and profane literature it is recorded that, during the last illness of various eminent persons, the fatal issue was accelerated, and the circumstances of death made extremely repulsive, by parasites infesting the body to such an extent as to give the impression to the beholders, that the unfortunate patient was being literally devoured up with worms. A familiar instance is the death of Herod Agrippa as narrated in the Acts of the Apostles,¹ and the closing scenes in the lives of Antiochus Epiphanes² and Herod the Great³ were even more distressing from the same cause. As all three kings were guilty of blasphemous impiety, it has been assumed by some commentators, that "he was eaten of worms" is simply a picturesque phrase, without any foundation of actual fact beneath it, which has been added to the narrative to intensify the description of the horror and pain of the death, considered to have fallen upon the offenders as the just punishment for their particular sin. There is nothing intrinsically improbable, however, in a single detail of these narratives; on the contrary, the clinical observations, as far as they go, are so accurate as to enable us practically to identify the

¹ Acts xii. 20-23.

² 1 Macc. vi. 4, 8; 2 Macc. ix.; Josephus, *Antiquities of the Jews*, xii. 9; but see Polybius, xxxi. 11.

³ Josephus, *Antiq.* xvii. 6; *Jewish Wars*, i. 33.

particular disease and its complications, from which each of these royal patients suffered, and it is quite certain that parasites of various kinds, either directly or indirectly, have been the cause of many deaths. The only doubt and difficulty lie in determining precisely the creature that is meant by "worm," a term which is as indefinite in Hebrew and Greek as it is in English. Three words are translated "worm" in the Old Testament:—

1. Hebr., *Sās*; Gk., *σῆς*.

This denotes the larvæ of moths, found in clothes, tapestries, and carpets: "For the moth shall eat them up like a garment, and the worm shall eat them like wool" (Isa. li. 8: see, also, Job iv. 19; xxvii. 18; Isa. i. 9).

2. Hebr., *Rimmah*; Gk., *σαπρία, σήψις*.

3. Hebr., *Tôlê'ah*; Gk., *σκώληξ*.

These two words appear to be synonymous, and denote:—

(1) A species of caterpillar probably, as in Jonah iv. 7: "God prepared a worm when the morning rose next day, and it smote the gourd."

(2) The larvæ of moths and weevils which devour vegetation; e.g., grapes¹ (Deut. xxviii. 39); manna (Ex. xvi. 24).

(3) The crimson dye-stuff consisting of the dried bodies of cochineal insects (Isa. i. 18).

(4) The creeping things that burrow in the earth: hence applied to man in a depreciatory sense (Job xxv. 6; Ps. xxii. 6; Isa. xli. 14).

¹The vine-weevil; the convolvulus of Pliny (Nat. Hist. xvii. 47) and Cato (De Re Rustica, chap. xciv.), who prescribe elaborate precautions against its ravages. Plautus (Cistell. iv. 2) calls it *involvulus*. Bochart (Hieroz. Part ii. lib. iv. chap. 27) identifies this worm with that called *ξ* or *ψ* by the Greeks. [Note in Speaker's Commentary.] But the enemies of the vine, consisting of insects and parasitic fungi, are very numerous. Of the former there are at least thirty-two species.

(5) Parasitic creatures which infest living beings, as in Job vii. 5; "My flesh is clothed in worms and clods of dust; my skin is broken and become loathsome." It is most reasonable to suppose that reference is here made to the small worms or maggots, the larvæ of various insects, often found on ulcers and sores, where there is a lack of proper care and cleanliness. The writer well remembers a patient coming to a hospital in Jersey City with a large ulcer of the leg, the dressing of which had not been changed for several days. On removing the soiled bandages, the leg was seen to be swarming with maggots to such a degree as to arouse the amazement and disgust of all who were present. In Eastern countries, where the dogs come and lick the neglected sores of every Lazarus, this condition must always have been very common. A high authority on this subject writes: "In the heat of summer and in hot climates, the larvæ easily get into badly managed, putrid, and open wounds. Nay, even the short time occupied in dressing the wound is sufficient to enable the fly to deposit her brood in it, if particular care be not taken."¹ Herodotus, in speaking of the mother of Arcesilaus being destroyed by worms,² uses the word *εὐλή* which certainly denotes the worms or maggots bred in decaying flesh, whatever else it may mean.

(6) The larvæ, or maggots, which appear in the dead bodies of animals and men,—those "laborers of death," as they have been strikingly called,—that perform the beneficent work of ridding the earth of all decaying and dead organic substances. "When a man is dead," says the son of Sirach, "he shall inherit creeping things, beasts and worms."³ To the same effect, and with the implication that the laborers

¹ Kuchenmeister, *Manual of Parasites*, ii. 98.

² *Hist.* iv. 205.

³ *Ecclesi.* x. 11.

find pleasure in their work, Job affirms that "the worm shall sweetly feed on him."¹ In another passage in the Old Testament² it is said of those who transgress against the Lord: "Their worm shall not die, neither shall their fire be quenched; and they shall be an abhorring unto all flesh." Here the slowly devouring worm becomes a symbol of eternal punishment, and is so used in the New Testament,³ where the Hebrew word is translated into the Greek, *skolex*. This in turn, translated into Latin, becomes *lumbricus*, which is also the translation of the Greek, *ελμινς*.

But the question as to what kind of creature is meant by "worm," cannot be satisfactorily settled in every instance by etymological or other scholastic considerations. The identification must be made by working backward from our knowledge of the parasites which we positively know infest the human body at the present time, and by assuming, as we safely may of nearly all our diseases and infirmities, that matters in this respect were very much the same thousands of years ago as they are to-day.

The most common of these parasites are the following:—

1. *Ascaris lumbricoides*, or round worm.—These worms resemble the common earthworm in appearance, their length varying from one to nine inches. They are found in the inhabitants of every land, and are so common in hot countries that scarcely a single individual is free from them. Sometimes they are present to an incredible degree, not simply by tens and hundreds, but by thousands.⁴ Their usual habitat is the small intestine, but they may wander to almost any part

¹ Job xxiv. 20; see also, xvii. 14; xxi. 26; Isa. xiv. 11.

² Isa. lxvi. 24.

³ Mark ix. 48.

⁴ Allbutt's *System of Medicine*, ii. 1033, and see account in *Memphis Medical Monthly*, March, 1904., of a baby in this country passing 1,992 in two weeks.

of the human body, and occasion very serious ailments. They have been known to set up fatal peritonitis by perforating the walls of the intestines, and multitudes have died from common complaints, who would certainly have recovered, if it had not been for these parasites.¹

2. *Tapeworms*.—Of these there are several species which take up their abode in man. They are long, flat, ribbon-like worms, several feet in length. The "scolex," comprising the head and neck, is very small. Springing from it are the innumerable segments of the body, each of which may be regarded as possessing independent life. On reaching maturity, these segments break off in ones or twos, or in strings, and leave the body of the host. They are easily recognized as white, oblong bodies, capable of active movements.

These parasites, especially the beef tapeworm, are extremely common in Egypt, a writer recently stating that a cadaver is seldom opened in that country without finding specimens of one or more of them. Many of those who entertain these ugly visitors suffer no inconvenience, but generally there are symptoms of impaired digestion and irritability of the nervous system. The segments of these worms may appear in abdominal wounds. To illustrate the broad view that must be taken of maladies described by the Oriental events of antiquity, an Arab writer relates of one of his patients, that "God tried him with a disagreeable disorder called Chabb al-kar, which consists in a worm fixing itself at an issue of the body, which gnawed the intes-

¹ In an article published in the Indian Medical Gazette, April, 1904, on intestinal parasites as factors in the mortality of prisoners confined in the gaols of Hindustan, the author tells how he has saved hundreds of lives, reducing the death-rate per mille from 76.65 to 12.49 solely by the use of anthelmintics directed especially against the *ascaris lumbricoides*; and he urges that "the sickness and mortality produced by this parasite ought to be impressed on the people at large."

tine and neighboring parts" to such a degree that the man died. The details cannot be given, but the case was undoubtedly cancer of the termination of the large intestine, probably complicated by tapeworms.¹

3. *Flukes*.—These are mostly flat, leaf-shaped, unsegmented worms. They occasion the destructive disease in sheep known as "the rot." Of the varieties which infest man, one is extremely common in Egypt, the larvæ abounding in the canals and river Nile, whence they are taken into the system with the drinking water. They produce a formidable train of symptoms, the principal being dysentery and hæmaturia.

4. *Oxyuris vermicularis*.—This is the common thread, pin, or seat worm, common in all countries. It is very small. When present in great numbers they cause a great deal of local irritation.

5. *Trichocephalus dispar*, or Whip-worm.—Very common everywhere, but especially so among the natives of warm countries. It is rare to find more than a few in one body, and they are not often a source of trouble.

6. *Ankylostoma duodenale*.—Also known as the "tunnel worm," on account of the disasters it caused among the men engaged in excavating the Mt. St. Gothard tunnel. It is very common in Egypt, producing the severe anaemia known as Egyptian chlorosis. Diarrhœa and dropsical effusions are among the other symptoms. As these worms are extremely difficult to dislodge, it is not likely they were ever observed prior to their discovery in 1838.

7. *Filaria medinensis*, or Guinea worm.—This is a very interesting parasite, as it is supposed to be identical with the "fiery serpents" mentioned in the Pentateuch. It is a fine

¹ Kuchenmeister, *Op. cit.*, i. 108.

thread-like worm, from one to six feet in length. Introduced in the embryonic state into the human system with the drinking water, it migrates into the tissues just beneath the skin, the legs and feet being favorite sites, and there matures. As it grows, an abscess forms, which eventually bursts and exposes the worm. The treatment is to draw it gradually out, inch by inch, taking care not to break it. This little operation may extend over many days.

There are very many other parasites which infest the interior of the human body, but for various reasons they are not likely to have attracted the attention of observers in ancient times.

The parasites hitherto mentioned effect a surreptitious entrance into the body, and assail man from within. There are other parasites, mostly belonging to the Insectivoræ, which assail him from without. Among these is the itch-mite, very common indeed in warm countries; but, as it is not easily seen with the naked eye, it may for our present purpose be disregarded.

The parasite which attracted the greatest attention in bygone times, and was thought to give rise to the horrible disease known as Phthiriasis, was the body louse.

In the States it is usually seen only among "the great unwashed,"—the dirty poor from foreign countries, beggars and tramps. In Europe, not so very long ago, it seems to have infested all classes and conditions of men, as it still does in the Orient. When these parasites are present on the body in large numbers, their bites, combined with the frantic and incessant scratching of the victim, cause boils, ulcers, and other lesions of the skin which are often quite severe, and in little children may result in an infection of the system ending in death.¹

¹ See *Lancet*, September 21, 1901, p. 819.

It was a general belief with the ancients, that phthiriasis as a disease had its seat in the heart, whence it developed in the system by the production of insects in the blood, which ultimately consumed the body of their host. Pliny states this was proved by observation when certain Egyptian kings ordered the bodies of the dead to be opened and examined, for the purpose of testing some remedy that would dislodge them from the heart.¹ The examiners were probably misled by the "vegetations," which in certain cardiac diseases form on the valves of the heart. The belief that lice may multiply in the human body itself to an incredible degree and then make their way through the skin, was quite general down almost to the nineteenth century, and has not yet entirely disappeared. Thus of Pherecydes, the tragic poet whose death is attributed by Aristotle to this disease, it is said that "he first of all sweated greatly, and then lice grew, and his flesh decomposed into lice, there followed dissolution, and so he gave up the ghost."² Curiously enough, in China at the present day, almost the same belief is held, and these troublesome and repulsive insects are supposed to be under the control of an inferior deity.³ During his earthly, human life, this deity was a famous general. When in command of a besieged city he became so engrossed in its defense day and night, that for several weeks he had not the time to change his clothes. Consequently he was covered with these insects, which the natives say are generated by perspiration in the pores of the skin. They gradually drank all his blood, and were thus as fatal to the doughty warrior as the enemy's sword could have been. For his devotion and valor, he was canonized as the god of lice, rather a dubious honor one would think in any land but China.

¹ Pliny, Nat. Hist. xix. 26. See, also, Arist., De Hist. Anim. v. 31.

² For an enumeration of the various persons who are said to have died from this malady, see Hebra's *Diseases of the Skin*, v. 276-281.

³ Du Boec, *The Dragon, Image, and Demon*.

For ages this disease was regarded as a special punishment inflicted by the Deity upon those whose moral offenses were very great, despotic and atheistic rulers being especially singled out;—e. g., Sulla the Dictator; the Emperor Valerius Maximus; the uncle of Julian the Apostate; the Emperor Arnulf; Honorius, King of the Vandals; and Scio, King of the Danes, of whom it is said that he was eaten away to the bare bones. What is more to the point, certain writers are of the opinion that the “worms” which attacked Antiochus Epiphanes, Herod the Great, and his grandson Herod Agrippa, were these particular insects. Pope Clement VII., two simoniacal bishops, and Philip II. of Spain were also infested with them. But men of all classes and disposition are said to have fallen victims to this parasite, even the revered name of Plato being included in the list.

It is now established beyond question that narrations of these vermin having emanated from the body are in part mere myths, and in part have originated in a confusion with maggots, which, as we have already seen, are not infrequently found in wounds and ulcers, especially in warm climates.

Each of the cases which are the subject of this article may now be individually considered.

Of the disease of Antiochus Epiphanes, “a king who was another Sardanapalus in his luxuriousness, and withal a bigot animated by the fiercest religious intolerance,” we gather the particulars from Second Maccabees (chap. ix.) and Josephus’s “Antiquities of the Jews” (bk. xii. chap. 9). During a military expedition to Persia, he heard news of his old enemies the Jews, that made him “swell with anger.” He vowed that he would go to Jerusalem, and make the city a common burying-place. Then his fatal illness commenced. “The Lord Almighty, the God of Israel, smote him with an incurable

and invisible plague; for as soon as he had spoken these words, a pain of the bowels that was remediless came upon him, and sore torments of the inner parts." His rage in nowise abating, he proceeded on his journey with the greater speed, and as a consequence of this violent haste, he was thrown from his horse-litter, "so that, having a sore fall, all the members of his body were much pained." The disease was aggravated by this bodily injury, and as it grew worse, "the worms rose up out of the body of this wicked man, and while he lived in sorrow and pain, his flesh fell away, and the filthiness of his smell was noisome to all his army." After a long illness with steadily increasing suffering, "the murderer and blasphemer having suffered most grievously, as he entreated other men, so died he a miserable death in a strange country in the mountains."

This king's disease was evidently an acute attack of dysentery, which passed into the chronic ulcerative form, a condition which presents "a spectacle of distress of as pitiable a kind as can be found in the history of human suffering." Its commencement in a military camp in time of war; the colicky abdominal pains that could not be relieved; the tormina and tenesmus described as the sore torments of the inner parts; the falling away of the flesh, which may mean emaciation, but more probably the sloughing of the tissues of the intestines, though the disease would certainly be accompanied by emaciation; the noisome smell, described by modern writers as the most offensive and penetrating of all organic effluvia; the continued sorrow and pain until death put an end to his sufferings;—all the symptoms point strongly to this diagnosis. "There may be diseases of a more fatal character than dysentery," says a medical writer in his report on the condition of a military establishment, "but there are few which entail so great an amount of suffering; for when once

it has passed into the chronic form, it slowly, but not the less surely, continues, by a most loathsome process, to exhaust the vital energies, until death relieves the patient of an existence rendered almost intolerable by pain, debility, and the offensive nature of the discharges."¹ It was of this disease that Jehoram king of Judah died; and that every one thought his death was a happy release is evident from the words of the chronicler: "he departed without being desired" (2 Chron. xxi.).

As to the worms, possibly the sloughs and shreds of tissue cast off in the excretions may have been mistaken for them; and there is a very rare disease, with dysenteric symptoms, in which living maggots or flies live in the intestines and are expelled from time to time *en masse*, that may have been a complication.² But when we remember that in the chronic form of dysentery, patients lose all control over their natural functions, so that in the circumstances in which Antiochus was placed, among the soldiers in a military camp, or travelling from post to post, it was impossible to keep him and his garments clean, the easiest and most natural explanation is that he simply swarmed with vermin of every description, a conjecture which seems to be confirmed by the peculiar expression, "the worms rose up out of the body of this wicked man." He came to his end, and there was none to help him.³

The symptoms of Herod the Great's last illness as described by Josephus,⁴ are as follows: A low fever, "for a fire glowed in him slowly, which did not so much appear to the touch outwardly, as it augmented his pains inwardly"; difficulty of breathing, "so that he could not breathe but when he sat upright"; offensive breath; dropsy of the abdomen

¹ Bryson, Br. and For. Med. Chir. Rev., 1855, p. 45.

² Schlesinger, Journ. Amer. Med. Assoc., February 1, 1902.

³ Daniel xi. 45. ⁴ Antiq. xvii. 6; Jewish Wars, l. 33.

and feet; severe intestinal inflammation and ulceration, particularly of the colon or large intestine, with constant and violent abdominal pain; intolerable itching over all the surface of his body; perverted appetite; putrefactive ulceration of certain external parts of the body with the production of worms; convulsions "which increased his strength to an insufferable degree."

These symptoms indicate a form of chronic Bright's disease of the kidneys, probably complicated by cardiac trouble. Herod was an old man who had lived an unrestrained life, and quite likely was very gouty, a condition that is often introductory to Bright's disease. In chronic renal disease, gastric symptoms are common, which would account for the offensive breath and perverted appetite; hemorrhages and ulceration occur in many parts of the alimentary canal, and ulcerative colitis is quite a frequent complication, lesions which explain all the abdominal symptoms: the failure of the renal and cardiac functions produces the dropsy; asthmatic attacks with an agonizing want of breath are frequent; and to the saturation of the skin with uremic products are due the intolerable itching, and various eruptions which in some cases go on to form superficial abscesses discharging fetid pus. In time the brain becomes affected by the poisons retained in the system, and the patient becomes restless and of an irritable temper,—Josephus says Herod had a "barbarous temper"; or he is despondent, and may attempt to commit suicide, as Herod tried to do on one occasion; or there is transient delirium, or temporary mental failure with delusion. Indeed it is charitable to suppose that Herod's outrageous conduct as his life was closing, including the slaughter of the babes of Bethlehem, one of his last public acts, was at least partly due to his mind having become unbalanced by his disease.

His end was the same as in all such cases, convulsions and coma usually closing the scene.

As it is distinctly stated in this particular case that the "worms" were produced by putrefactive ulceration, there can be little doubt as to their being maggots. But all kinds of vermin would infest the body of a person so afflicted, unless the very greatest care were taken to keep him scrupulously clean, and this too, in spite of his irritable opposition. But who would dare to do such risky and unpleasant work for Herod, with his barbarous temper and autocratic power of passing sentences of death? Each time an attendant left the royal presence, he must have felt his neck as did the courtiers of a Persian despot, to be quite sure that his head was still joined to his body. Notwithstanding his high position and wealth, the king must have been largely left to his own devices, as every one both hated and feared him, and his physical condition, therefore, must have been deplorable.

Very closely resembling this is the case of King Philip II. of Spain. Of him we are told that after he had suffered for a long time from gout, dropsy, etc., he had a severe abscess of the right knee, and after this was opened, four others formed on the chest. . . . Finally he suffered from numerous ulcers on the hands and feet, dysentery, hydrops, tenesmus, and all these were associated with such quantities of lice crawling about, that confined to his bed as he was, he could not get rid of them until his death.¹ According to the description of the modern historian:² "During the spring of 1598, the king was almost unable to move from gout, but still continued his work at his papers. At the end of June he was carried to the Escorial in a litter, and some time afterwards malignant tumors broke out in various parts of his limbs.

¹ Hebra, *Op. cit.*, v. 279.

² Martin Hume, Philip II. of Spain.

The pain of his malady was so intense, that he could not endure even a cloth to touch the parts, and he lay slowly rotting to death for fifty-three dreadful days, without a change of garments, or the proper cleansing of his sores, a mass of vermin and repulsive wounds."

In the death of Herod Agrippa the conditions we meet with are quite different. He is a much younger man than either of the other royal patients and his disease runs a very rapid course. We may assume that he was careful of his person, as he was certainly very vain of his appearance, for during a festival he puts on "a garment made wholly of silver, and of a contexture truly wonderful," in which to appear before the people. When illuminated by the rays of the sun, it shone in such a surprising manner as to make a deep impression on his superstitious subjects, some of whom hailed him as a god, a flattery which the king did not rebuke. "Immediately," writes the sacred historian, "the angel of the Lord smote him, . . . and he was eaten up of worms and gave up the ghost."¹ The account of the fatal event in Josephus² is a little more detailed. According to him an unlucky omen appeared, which threw the king into the deepest sorrow. "A severe pain also arose in his belly, and began in a most violent manner. . . . Accordingly he was carried into the palace; and the rumor went abroad everywhere that he would certainly die in a little time. . . . And when he had been quite worn out by the pain in his belly for five days, he departed this life."

The immediate cause of death in this case was surely peritonitis. A variety of morbid conditions, such as the rupture of a distended gall bladder, inflammation of the pancreas or of other abdominal organs, or the perforation of a gastric or

¹ Acts xii. 20-23.

² Antiq. xix. 8.

intestinal ulcer, may set up this fatal inflammation; but in an adult male apparently in good health, in whom it appears shortly after or concurrent with severe abdominal pain, appendicitis is the most frequent cause, and so it may be assumed this was the primary disease of Herod Agrippa.

As already stated, there are very few residents in Eastern countries who are free from the *Ascaris lumbricoides* or round worm, and it was not likely that Herod was an exception. As long as the alimentary canal is in a normal condition, these worms seldom occasion in an adult any serious trouble; but when any part of it becomes diseased, as in appendicitis, their presence and activities may greatly increase the peril of the patient's condition.¹ It is quite within the bounds of probability, therefore, to hold they contributed greatly to bring to fatal termination the brief illness of Herod Agrippa. Those in attendance on the king may well have believed these creatures had much to do with his death, as "it is a curious fact that in acute disease, and as death approaches, round worms often exhibit a disposition to quit the patient's body."²

In conclusion, it may frankly be acknowledged this whole subject is neither attractive nor cheerful, nor does the writer know that it is particularly elevating; but it may not be labor altogether useless, to thresh out some of these minor points connected with biblical characters, repulsive though the details may be, particularly if, by so doing, statements thought to be vague and deemed unsubstantial, can be proved to rest on solid fact.

¹ Ager, "Perforation of Normal Intestines by *Ascaris lumbricoides*," Journ. Amer. Med. Assoc., Feb. 28, 1903. Hubbard, "Intestinal Parasites in Appendicitis," Boston Med. and Surg. Jour., Dec. 3, 1903.

² Allbutt, System of Medicine, ii. 1033.