

## E.L.C. DISTRIBUTION.

On formation (dry weather).

One man carried one 6" pipe 1 kilo per day.

6 men carry 6".

4 men carry 4".

3 men carry 3".

## E.L.C. SCREWING.

Diameter.	E.L.C.		Tongs.	Pipes per day.
	Ostas.	Naffars.		
6"	2	15	5	35—40*
4"	2	10	4	40—50*
3"	2	8	4	50—60*

\* According to condition and quality of pipes.

## HYGIENE AND DISEASE IN PALESTINE IN MODERN AND IN BIBLICAL TIMES.<sup>1</sup>

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### CHAPTER VIII.—*Diseases and Medicine in the New Testament.*

THE diseases in the New Testament need to be treated apart from those of the Old Testament, because the facts recorded about them are different. The information given is much more definite; medical terms used by well-known Greek writers occur, particularly in the works of St. Luke; it is disease of the individual rather than of the community which attracts notice; and, lastly, it is not so much

<sup>1</sup> As these articles will subsequently be reprinted in book form, and in order to make them as accurate and complete as possible, Dr. Masterman would welcome any suggestions or criticisms which readers may be willing to send him.

disease, regarded as a judgment of God or simply as the cause of a death which occurs, but it is sickness in relation to the working of the power of Jesus Christ. The healing of disease occurring in the Gospels has, for evident reasons, been the object of searching critical examination by theologians of all schools. No reasonable person who in any degree accepts the historicity of the Gospels—whether the Synoptics or all the four—can dispute that the public ministry of Jesus was attended throughout by works of healing which caused astonishment among His contemporaries. Not only so, but this healing was by no means confined to any special class of cases. Thus, in Matt. iv, 24 (R.V.), we read: “they brought unto Him all that were sick, holden with divers diseases and torments, possessed with demons, and epileptic and palsied, and He healed them,” or, put into modern popular medical phraseology, “they brought all the sick to him, people who were suffering from various diseases and painful affections—the insane, the epileptic and the paralysed—and He cured them.” We may compare with this the message sent to John (Luke vii, 22, 23): “Go and tell John the things which ye have seen and heard—the blind receive their sight, the lame walk, the lepers are cleansed, the deaf hear, and the dead are raised up.” Similar statements to these two occur in Matt. viii, 16, Mark i, 32–34; Luke iv, 40–41; vii, 22. A considerable number of cases of cure receive detailed mention, but there is no indication that the selection is made on account of any striking medical interest. The contrary is the case, for little emphasis is laid on this, the incident being usually given almost entirely to illustrate some special feature of Christ’s teaching; the emphasis is always on the spiritual. Thus, certain acts of healing illustrate His opposition to the Pharisaic attitude to the Sabbath (Mark i, 23; iii, 1–5; Luke xiii, 10–16; xiv, 2; John v, 1–15), His claim to power to forgive sins (Matt. ix, 2–8, etc.), or His attitude to the non-Jewish world (Mark vii, 26–30, etc., and Luke xvii, 16). Others illustrate deficiency of faith on the part of the disciples (Matt. xvii, 15–18), or special faith on the part of the sufferer, as with blind Bartimæus (Mark x, 46 ff.) and the woman with the issue of blood (Matt. ix, 20 ff., etc.), or striking faith manifested by the sick one’s friends (Matt. viii, 5–13; ix, 18; Mark ii, 5). A few of them appear to be introduced largely to explain Christ’s movements from place to place (Mark i, 45; v, 17). As mere wonders the miracles of healing are but little emphasized; they are incidental, and the impression

conveyed is that the cases mentioned are, as acts of healing, but types of all the others.

An important question is, judging the *history as it stands*, what was the nature of these diseases from the medical point of view? Were they, in any large proportion, of the same class as the neurotic diseases which in modern times furnish such successful results to various classes of quacks and faith healers? In the first place, such cases of neurotic diseases are largely on the increase to-day as a result of the conditions of life in our modern Western civilization; it is not fair, therefore, to argue from these to the environment of the Gospel narratives. In all ages such neurotic diseases must have been commoner in town life and among the more luxurious classes, and, beyond dispute, in the majority of cases they occur in young women and girls. The ministry of Christ, however, appears to have been chiefly in the villages and small towns, among the hard-working and the very poor, and of the reported cases the larger proportion are of the male sex. The writer has seen, during many years in Palestine, many thousand cases of disease among just the same class of people, chiefly Jews, living under very similar social and geographical conditions, and he has never seen "neurotic" or "hysterical" disease produce morbid symptoms comparable with those described in the Gospels. Indeed, most of the cases reported in these narratives are just those which are the despair of the modern medical man. As far as can be judged from the particulars given, the larger proportion of the cases would be considered too hopeless for admission to any of our hospitals, where it is necessary to select from a vast number of the sick those cases only which we have a good hope of curing or of permanently benefiting. Such cases as the imbecile, the paralysed, epileptics, the deaf and the blind, would have to be passed over. In many villages in Galilee the writer has been compelled to leave on one side dozens of such unfortunates to deal with the more hopeful cases of fevers, dysentery, ophthalmia, and surgical affections.

Turning now to the examination of the individual disease we find one well-marked case of *epilepsy* (Matt. xvii, 15-18; Mark ix, 15-26; Luke ix, 38-43). The Greek *σεληνιαζεται* (Matt. xvii, 16) is, literally, "moon-struck," hence the A.V. "lunatic," but the word is the contemporary medical term for epilepsy, and the symptoms are described in such detail that there can be no question as to their genuineness. The centurion's servant, "sick of the palsy,

grievously tormented" (Matt. viii, 6 ff.)—St. Luke adds "at the point of death" (Luke vii, 2-10)—appears to have had an *acute myelitis* or a paralysis due to pressure on the spinal cord or brain. A "functional" paralysis would probably have been painless. The man with such a "withered hand" (Mark iii, 1-5) as described would probably be some old and partially recovered *hemiplegia*, in which, after the recovery of the leg the hand is often left wasted, contracted and useless, or a similar condition brought about by *anterior polio-myelitis*, popularly called infantile paralysis. The paralytic, borne of four, who was let down through the roof (Matt. ix, 2-8; Mark ii, 3-12; Luke v, 18-26), was, considering his sex, very improbably a case of hysterical (functional) paralysis. Not one in a thousand of such cases in adult males is anything but organic paralysis.

Of the cases of mental affliction—a very hopeless class of cases in the Orient, and all needing prolonged treatment if any improvement is to occur—we have:—

(1) The man (Mark v, 1-19; Luke viii, 26-36)—or in Matt. viii, 28-32, *two* men,—who ascribed his illness to a legion of demons inside him, as many such people do to-day, and who dwelt in tombs on the east side of the Lake of Galilee. The condition described is not one which any alienist would consider hopeful.

(2) The dumb man possessed of a demon, whose recovery was so startling that "the multitudes marvelled, saying, it was never so seen in Israel" (Matt. ix, 33). Deaf mutes are by no means uncommon in Palestine to-day, and if this man was one of these—who, as far as the writer has seen, never improve in their surroundings in the Orient—the astonishment of the multitudes was natural. This case, however, allows of more than the possibility that the dumbness was due to emotional causes, and, if so, recovery under the influence of the personality of Jesus is intelligible. Luke xi, 14-15, may refer to this or to the next case.

(3) The man "possessed with a demon"—probably mentally deficient—who was blind and dumb (a condition recalling the well-known Miss Helen Keller), and who was "healed so that the dumb spake and saw" (Matt. xii, 22). Here the choice can only lie between wilful malingering on the part of the patient or a profoundly abnormal and, to science, incurable condition.

(4) The man "with the unclean spirit" healed on the Sabbath day (Mark i, 23). A case of moral depravity due to brain disease.

(5) Somewhat similar to the last was the "unclean spirit" which afflicted the little daughter of the Syro-Phoenician woman (Matt. xv, 22-28; Mark vii, 25-30)—a case apparently of mental depravity bordering on idiocy. In this case it may be noticed that Jesus did not even see the child. The whole group is one which any medical man would undoubtedly consider—judging from the scanty accounts—very unpromising cases for cure, needing at best prolonged and careful treatment.

The case of the twelve-year-old daughter of Jairus, the ruler of the Synagogue (Matt. ix, 18-25; Mark v, 35-42; Luke viii, 49-56), has not been included in this list because, though there is no mention of the nature of the disease, yet it must be admitted that the story, as we read it, would be consistent with the exceedingly rare condition known as *cataplexy*—a condition allied to hysteria—and when Jesus said "She is not dead, but sleepeth," He may have made a perfectly literal statement. The same explanation will not in the least account for the raising of the widow's son at Nain (Luke vii, 11-16), nor of Lazarus at Bethany (John xi, 38-44).

Of the cure of fevers only two specific instances are mentioned: (1) That of Simon's wife's mother (Matt. viii, 14; Mark i, 30), whom Luke the Physician describes as having a "great fever" (Luke iv, 38), *i.e.*, a continuous fever, such as malignant malaria, enteric or typhus. Such disease cannot be charmed away by hypnotism, nor can a patient under normal circumstances rise and minister to people immediately the pyrexia is over (Luke iv, 39). (2) In John iv, 47-54, is an account of how a certain nobleman whose son was sick with fever (verse 52) at Capernaum, received assurance of healing from Jesus at Cana, at the very hour when, as afterwards transpired, "the fever left him."

Although from various passages it may be gathered that Jesus "healed" many *lepers*, only two incidents of this nature are mentioned, and each for a special reason:—(1) The leper who was instantly cleansed (Matt. viii, 2-3; Mark i, 40-45; Luke v, 12-16—where it says he was "full of leprosy"), and whose unbounded gratitude obliged Jesus to betake Himself to the desert (Mark i, 45). (2) The ten lepers who were cleansed together, of whom one, and he a Samaritan, returned to give thanks (Luke xvii, 11-19). Now though leprosy—unlike the modern disease of that name—was certainly in Bible times a curable disease, and yet, from its external manifestations, a skin eruption, a cure

must have been a thing visible to all men, and a recovery had to be testified to by the priest, who alone could allow the patient once again to mingle with his fellow men. No known "mental" influence can cause a skin eruption of this nature to disappear in a few minutes. The woman with the "issue of blood," either *hemorrhoids*, or more probably *uterine hemorrhage*, who had suffered twelve years, and who under the orthodox medical treatment by the physicians of the day had become worse, is described as receiving instant relief on contact with Jesus (Matt. ix, 20-22; Mark v, 25-34). This is not the kind of case which would be likely to be cured by "faith"—in the "faith-healing" sense. In Luke xiv, 2, we have mention of the healing of a case of dropsy (*ὄδρωπικός*, a medical term), a very definite pathological condition, due usually to cardiac failure or to kidney disease.

With regard to the woman "bowed together" eighteen years (Luke xiii, 10-16) it may, considering the sex, be admitted that it might have been a hysterical case. The writer has, however, never seen such a case due to this cause, whereas such a condition of *kyphosis*, due either to caries of the vertebrae or to chronic rheumatic arthritis, is very common.

The man at the Pool of Bethesda (John v, 2 ff.) had been thirty-eight years "in his infirmity"; the nature of this is not specified, but he was evidently very helpless, lying on a pallet and needing someone to "put him in the Pool." It is difficult to believe that the man, unless a charlatan, which the conditions of the narrative scarcely allow, was not afflicted with some organic disease. The narratives of cure of the blind it is impossible to explain on the "neurotic" theory. Such cases as *hysterical amblyopia* are occasionally met with in which, without any organic change, the sight is for a longer or shorter period quite absent, so that a knife can be thrust directly towards the eye without the patient blinking. But such cases are exceedingly rare in Europe, and are practically unknown among the less highly strung peoples of Palestine. During upwards of a score of years of medical work in Palestine, during which many hundreds of cases of blindness have passed under the writer's observation, he has never seen a single one of this nature. (For the common causes of blindness in Syria see Chapter III.) It is asking too much to expect anyone to believe that the half-a-dozen special eye cases recorded, not to mention several references to general healing of the blind, were cases of this unusual affection;

rare as it is, it is practically confined to the female sex, whereas all the cures mentioned in the Gospels were among men. In Matt. viii, 23-25, a blind man is cured at Bethsaida by the application of saliva (a well-known folk-lore remedy for eye-disease); in Matt. ix, 27-30 two blind men are cured by a touch; in Matt. xx, 30-34, two (Mark says "one," x, 48-50) blind men are healed at Jericho, among them the well-known beggar Bartimæus. In John ix, 1-10, we have the incident of the man "blind from his birth" healed by the application of clay to his eyes, followed by a washing in the Pool of Siloam.

With regard to the *method* used by Jesus in His works of healing, in the great majority of cases a touch from Jesus (*e.g.*, Mark viii, 3-15; ix, 29), or the touching of His person by the sick one (*e.g.*, Matt. ix, 20; xiv, 36; Mark iii, 10) is described as the source of healing power. Faith in Him on the part of the sufferer (*e.g.*, Matt. ix, 22) or of the sufferer's friends (*e.g.*, Matt. viii, 10; Mark viii, 22; Luke viii, 9) appears to have been to some extent a condition of healing. In the incident of the ruler of the synagogue at Capernaum (Matt. viii, 8; Luke vii, 7), mention is made of the "word" by which healing could be done; this is an idea common in oriental magic, and is closely allied to the Jewish idea of the "Name"—the unutterable Name of God mentioned so often in later Jewish writings (Luke iv, 36) appears to be a reference to the same idea. It is a tradition amongst oriental Jews that Jesus performed all His wonders by his knowledge of the sacred "Name." On three occasions subsidiary means were used. In Mark vii, 34, Jesus cures a deaf man with an impediment in his speech, in the midst of Decapolis. "He took him aside from the multitude and put His fingers into his ears, and he spit, and touched his tongue; and looking up to heaven, He sighed, and said unto him Ephphatha that is, Be opened" (verse 34). In Mark viii, 22-25, a blind man is brought to Jesus at Bethsaida, beyond Jordan; and here again Jesus used saliva, and the cure is remarkable in that it occurs in stages. First, the man sees "men as trees walking," and then, Jesus having laid His hands upon him, he sees plainly. These two acts are unique in the Synoptus, as both occurred in semi-pagan places, and in both Jesus endeavoured to guard against notoriety (Mark vii, 36; viii, 26). Very similar to the second case is the healing of the man born blind (John ix, 6, 7), when clay made of saliva is used, and the cure was also apparently progressive, as the washing in the

Pool of Siloam was needed to complete it. No doubt the gestures (cf. 2 Kings v, 11), the saliva, etc., were all intended to strengthen the faith of these special individuals who had not learnt sufficiently of the teaching of Jesus to put their trust in Him unaided.

In the Acts of the Apostles miracles of healing take a subordinate place as compared with the Gospels, but the nature of the diseases treated appears to be similar. It is noticeable that with some, where it is expressly mentioned (*e.g.*, Acts iii, 6; iv, 10), and probably with all (cf. Acts iii, 16) the healing is "in the Name" of Jesus of Nazareth. This is a familiar oriental expression. To-day, a Syrian of any religious persuasion undertakes every important work with a muttered *b'ism Allah*, "in the Name of God," or of Muhammed, or Jesus, or some patriarch or saint. It is the formula for invoking the power of the person mentioned. The miracle of Peter and John at the "Beautiful Gate of the Temple" (Acts iii, 1-10) on the man "lame from his mother's womb" is almost the only one in this book where it is possible to form an opinion as to the nature of the disease. No "neurotic" theory will account for such a man, after having been carried daily and laid at the gate, "walking and leaping" a few minutes later. The record is either worthless as history, or it testifies to a structural change occurring in the lame man's feet. Æneas (Acts ix, 33), a paralytic who had kept his bed eight years, was a hemiplegic or paraplegic, and was healed by Peter "in the Name" of Jesus. The father of Publius (Acts xxviii, 8), is described by the writer of the Acts as having "fever and bloody flux" (*πυρετοῖς καὶ δυσεντερίῳ*), *i.e.*, either simply acute dysentery, or attacks of intermittent (malarial) fever together with dysentery, a very common combination; the fact that St. Luke uses the plural, "fevers," is in favour of the latter view. The blindness of St. Paul (Acts ix, 8, etc.) was probably a temporary *amaurosis*, and need not have been accompanied by any actual structural changes; the blindness of the sorcerer Elymas (Acts xiii, 11) was probably of the same nature. There is no known physical change in the eye which would suit these instances. The "often infirmities" (1 Tim. v, 23) for which St. Paul recommended a little wine was probably some dyspeptic trouble for which a little alcohol frequently gives temporary relief. That St. Paul's "thorn in the flesh" was some physical disease there can be little doubt, but, regarding its nature, it is impossible here to give an exhaustive discussion. That it was some form of ophthalmia, such as the



*trachoma* so common among the Jews to-day, liable to exacerbations at times, has much to support it. Such a repulsively disfiguring affliction as this comes to be with many, leading not infrequently to-day to the wearing of coloured glasses, as much to hide as to protect the eyes, would necessarily be a great affliction in a public man. The question is fully worked out in Farrar's *Life and Work of St. Paul*, Vol. I, Ex. x. The theory of epilepsy has had even greater support, and is specially developed by Krenkel (*Beiträge*, pp. 47-125), and more recently that of malaria has been ably argued by Ramsay (*St. Paul the Traveller*, V, 2, and other works). The latter view is distinctly better than the former. Severe epilepsy, especially when untreated, usually shortens life, and almost always leads to marked mental deterioration, of which we have no evidence with the great Apostle.

With regard to the death of Herod Agrippa I (Acts xii, 1, 21 ff.) the account of Josephus (XIX, viii, 2) rather implies that he died of intestinal obstruction or *peritonitis*, the latter due, perhaps to *appendicitis*. The tradition that he was "eaten of worms" may have arisen from his vomiting great quantities of intestinal worms, as frequently happens in the Orient under such circumstances. The other cases supposed to be parallel with his are those of Antiochus Epiphanes (2 Macc. ix, 9) who, while suffering from some bowel disease, met with an accident leading to septic wounds which "bred worms," and that of Herod the Great, whose actual cause of death was clearly dropsy, due to cardiac disease (Jos. XVII, vi, 6), and the horror of whose end is deepened by the description that the diseased parts became infected with "worms." Both these cases refer to the by no means uncommon experience in the East, that neglected wounds become infected with maggots which are difficult to destroy.

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