Handbook of geographical and historical pathology. Vol. III. Ch. XXIII, Oriental boils and other sores / by August Hirsch ; translated from the second German edition by Charles Creighton.

HANDBOOK OF GEOGRAPHICAL AND HISTORICAL
PATHOLOGY. VOL III. Cl. XXIII

ORIENTAL BOILS AND OTHER SORES

August HIRSCH

1886

HANDBOOK

OF

GEOGRAPHICAL AND HISTORICA

PATHOLOGY.

BY

DR. AUGUST HIRSCH,

PROFESSOR OF MEDICINE IN THE UNIVERSITY OF BERLIN.

Vol. III.—Diseases of Organs and Parts.

TRANSLATED FROM THE SECOND GERMAN EDITION

BY

CHARLES CREIGHTON, M.D.

LONDON:
THE NEW SYDENHAM SOCIETY,
1886.

IRSCH, August Handbook of geographical and historical pathology. Vol. 3 ... Trans
from the 2nd German edition by Charles Creighton. London: New S
Society, 1886.

CHAPTER XXIII.

ORIENTAL BOILS AND OTHER SORES.

§ 223. First Accounts of Aleppo Boil.

One of the most interesting of the dermatoses, endemic at a number of tropical and subtropical places, is a special kind of boil called by the French "bouton," or "clou."[1] The first accounts of this remarkable disease belong to the latter part of the eighteenth century; they come from Aleppo, where Russell,[2] Hasselquist,[3] Holland[4] and Volney,[5] found it to be endemic and gave some slight account of it under the name of the Aleppo boil. Attention was first directed to it more generally by the writings of Alibert,[6] Disant and Requin, who gave an account of it from information supplied by the French Consul at Aleppo; but most of all by the work of Guilhou, who accompanied Pariset on his scientific journey to the Levant, and published the results of his systematic inquiries on the boil-disease in an interesting memoir. The opinion was long held that the malady was one peculiar to Syria and specially to Aleppo; but it was

---

[1] The popular names of these boils are derived sometimes from the locality, as in the case of the Aleppo, Delhi, Mooltan and Biscara boils; or from the period of their duration (about one year), as in the Arabic name khab-el-seneh, the Persian salek, the Turkish tschiban, and the Russian godownik; or from the assumed cause, as the "date disease" (bess-el-temeur in Arabic, and dous-el-kourmati in Turkish). In Delhi the disease is called Aurungzebe, after the prince who reigned there in the eighteenth century, and is said to have died of the boil.

[2] 'Natural History of Aleppo, &c.,' Lond., 1756, 262.

[3] 'Reise nach Palästina,' Rost, 1762, 593; and 'Abhandl. der Schwed. Akademie,' xii, 139.

[4] 'Histoire de la Soc. roy. de méd.,' 1780, ii, 314.

[5] Volney, 'Voyage en Syrie et en Egypte,' Par., 1787, ii, 130.

[6] An alphabetical list of all the authorities quoted is given at the end of the text.

afterwards proved that the disease was indigenous in other parts of Asia Minor, as well as in Central Asia, in India, at a few points in the southern peninsulas of Europe, and in the African states bordering the Mediterranean; although in those countries it was mostly limited to a single spot or to a small district. It was thus shown to have a considerable range within the tropical and subtropical zones of the Eastern Hemisphere, from 23° to 45° N. and from 15° W. to 20° E. It does not appear to be known at all in the Western Hemisphere.

§ 224. Countries where the Boil is now known.

Proceeding in that distribution-area from west to east, we come first[1] upon a considerable focus of the disease on the banks of the Muluia in *Morocco*,[2] in numerous oases of the *Algerian*[3] desert (Tlemcen, Ouaregla in Oran, Laghouat in Alger, Biscara, Tuggurt, and Liban in Constantine), and in the *Tunisian* Sahara.[4] From Tripolis we have as yet no trustworthy information about it; but in *Egypt* cases have been seen at Suez and Cairo.[5] On European soil, the island of *Crete* is one of its endemic centres;[6] also at Eupatoria in the *Crimea*, Libert has seen the malady among Tartars, as well as in a family of gipsies at Perikop. Coming to the countries of Nearer Asia, we hear of it in *Cyprus*,[7] and at a few places in *Asia Minor*,[8] such as Broussa at the foot of the

---

[1] Collin ('Contribution à la géogr. méd. du Haut-Sénégal,' Paris, 1883, p. 48) tells us that he was himself the subject of this disease in Senegambia. His account of the clinical history corresponds exactly with the type of the Biscara or Aleppo boil; but I cannot find a single word about the malady in any other of the exceedingly numerous medical writings from that region. His case is therefore highly remarkable; and one is warranted in entertaining the modest doubt whether he had not contracted the malady somewhere else.

[2] Cabasse, Bédiéh, Paynter.

[3] See the papers by Poggioli, Bédiéh, Quesnay, Verdalle, Guyon, Massip, Beylot, Armand, L. and A. Bertherand, Weis, Netter, Manon, Sourier, Manoha, Hamel, Didelot, Castaing, Paynter, Alix, Gailleton, Seriziat, Hillairet, Weber, Barth, Lavéran, Brocq, Constans.

[4] Duclaux (ii reference), Depéret.

[5] Pruner.

[6] Carter (quoted by Fox), Zachariadis.

[7] Pruner.

[8] Rigler, West.

from the 2nd German edition by Charles Creighton London
Society 1886

afterwards proved that the disease was endemic in other parts of Asia Minor, as well as in Central Asia, in India, at a few points on the southern peninsulas of Europe, and in the African states bordering the Mediterranean; although in those countries it was mostly limited to a single spot or to a small district. It was thus shown to have a considerable range within the tropical and subtropical zones of the Eastern Hemisphere, from 25° to 45° N. and from 15° W. to 90° E. It does not appear to be known at all in the Western Hemisphere.

§ 224. Countries where the Boil is now known.

Proceeding in that distribution-area from west to east, we come first upon a considerable focus of the disease on the banks of the Niabis in Morocco,[1] in numerous oases of the Algerian desert (Tlemcen, Ouargla in Oran, Laghouat in Alger, Biskra, Tuggurt, and Gibes in Constantine), and in the Tunisian Sahara.[2] From Tripolis we have as yet no trustworthy information about it; but in Egypt cases have been seen at Suez and Cairo.[3] On European soil, the island of Crete is one of its endemic centres;[4] also at Esquimaux in the Crimea, Eilert has seen the malady among Tartars, as well as in a family of gipsies at Perekop. Coming to the countries of Nearer Asia, we hear of it in Cyprus,[5] and at a few places in Asia Minor,[6] such as Denizlu at the foot of the

---

[1] Collin ('Contribution à la géogr. méd. du Maroc,' Paris, 1883, p. 40) tells us that he was himself the subject of this disease in Morocco. The account of the clinical history corresponds exactly with the type of the Biskra or Aleppo boil; but it cannot find a single word about the malady in any other of the travellers or other medical writings from that region. The case is therefore highly remarkable; and one is warranted in entertaining the doubt whether he has not confounded the malady somewhere else.

[2] Tableaux, Médical, Prophète.

[3] See the papers by Poggioli, Bellin, Quesnoy, Vandelle, Gayon, Morel, Heyman, Armand, Gouz, Rochenard, Wyth, Weber, Nelson, Sariate, Ramelo, Hamel, Ballon, Gerstein, Bathier, Wise, Valleries, Ganieri, Villanon, Weber, Bardl, Landron, Feron, Gaberne.

[4] Durante (in Bonnet's, Larrey).

[5] Gallot (quoted by Verg. Biska Lifa).

[6] Heigher, Ward.

[5] Lebrun.

[6] Cussen.

CHAPTER XXIII.

ORIENTAL BOILS AND OTHER SORES.

§ 223. First Accounts of Aleppo Boil.

One of the most interesting of the dermatoses, endemic at a number of tropical and subtropical places, is a special kind of boil called by the French "bouton," or "clou."[1] The first accounts of this remarkable disease belong to the latter part of the eighteenth century; they come from Aleppo, where Russell,[2] Hasselquist,[3] Hollard[4] and Volney,[5] found it to be endemic and gave some slight account of it under the name of the Aleppo boil. Attention was first directed to it more generally by the writings of Alibert, Deroux and Bertolo, who gave an account of it from information supplied by the French Consul at Aleppo; but most of all by the work of Guilhon, who accompanied Forest on his scientific journey to the Levant, and published the results of his systematic inquiries on the boil-disease in an interesting memoir. The opinion was long held that the malady was one peculiar to Syria and specially to Aleppo; but it was

---

[1] The popular names of these boils are derived sometimes from the locality, as in the case of the Aleppo, Delhi, Multan and Biskra boils; or from the period of their duration (about one year), as in the Arabic name Habb-el-seneh, the Turkish salik, the Persian sal-dâne, and the Russian godovik; or from the endemic cause, as the "date-disease" (bouton-dattier in Arabic, and thence ordinarily in Turkish). In Delhi the disease is called Aurungzebe, after the prince who reigned there in the eighteenth century, and is said to have died of the boil.

[2] 'Natural History of Aleppo, &c.' Lond. 1756, 266.

[3] 'Reise nach Palästina,' Rost. 1762, 592; and 'Abhandl. der Schwed. Akademie,' xii, 179.

[4] 'Histoire de la Soc. roy. de méd.,' 1780, ii, 314.

[5] Volney, 'Voyage en Syrie et en Egypte,' Par., 1787, ii, 129.

[6] An alphabetical list of all the authorities quoted is given at the end of the text.

Mysian Olympus. In the same part of the world, we find that one region of *Syria*, and the great plain corresponding to the ancient *Mesopotamia*,[1] form very important centres of it. In the former it occurs chiefly in the northern districts of the basin of the Orontes between Killis and Aleppo; whereas it would appear to be only occasional in the towns and villages to the west of Aleppo, such as Skanderoom, and those of the Lebanon, and altogether unknown among the bedouins and the population of the Kurdish Highlands. In Mesopotamia its area includes the whole plain between the Euphrates and the Tigris, from Diarbekir downwards through Orfu, Mosul and Bagdad as far as Bassora. Joining on to that is a not less inconsiderable area of the disease in *Persia*,[2] where its headquarters are the central regions of Teheran, Kashan and Ispahan, while there is less of it in Hamadan; in the northern mountainous districts, as well as on the shores of the Caspian, it is quite unknown. Across the Persian frontier we find a small focus of it in the district of Elisabethpol belonging to the government of *Tiflis*.[3]

From Central Asia I know of only one reference to the boil, namely, that it occurs in Tashkend and along the river Tchirtchik, where it bears the name of "sarten;"[4] but it is not improbable that it is indigenous in other parts of *Turkestan*, as well as in *Afghanistan* and *Beluchistan*, from which countries we hear hardly anything about disease at all. That conjecture is all the more warranted, for Afghanistan at least, because one of the most important endemic areas of the boil is in Indian territory close to the Afghan frontier,[5] extending along the Indus from the Punjaub (Lahore, Mooltan) southwards through Sind, (it would even seem as far as Gujerât and the Gulf of Cambay), and eastwards through Rajpootana and the North-West Provinces as far as Delhi,

---

[1] See the papers by Estienne, Driant, Guilhou, Griffiths, Floyd, Rafalowitsch, Jölt, Zimpel, Gröschel, Guys, Eder, Willemin, Ponty, Evatt, Wortabet, Schlimmer, Thin.

[2] Polak, Tholozan.

[3] Reinhardt, Polak (1868), Liebau.

[4] Tscherepnin; Heiman.

[5] Gibson, Balfour, Frazer, Chevers, Fleming, Smith, Aitken, Alcock, Candy, Dickinson, Harley, Fayrer, Fox, Lewis and Cunningham, Murray.

Meerut, Lucknow, and Gwalior. Bengal proper, Madras, Central India, and the Bombay Presidency (excepting the places named) appear to be quite free from the malady. Nor am I acquainted with any writings from which we might infer its existence in the East Indies,[1] in Lower India, in China or in Polynesia.

§ 225. SKETCH OF THE SYMPTOMS AND MORBID ANATOMY.

There are many discrepancies in the accounts given by observers of the type and clinical history of the boil; but there is a good deal of uniformity in the main lines of their picture of it, which may be sketched somewhat as follows:

Clinical and anatomical characters.—Without any symptoms premonitory of a constitutional disease, the boil begins as a reddish spot on the skin, with a very slight degree of nodular thickening at first, and gradually attains the size of a pea or a bean; a zone of redness surrounds it, and there is much itching. After the boil has lasted some time, it may be several months, there begins to ooze from its surface a clear serous fluid, which dries to a crust; the latter is often of considerable thickness, adheres firmly to the skin, and is soon replaced if it should have been forcibly detached. The substance of the nodule gradually falls into purulent disintegration; so that there develops underneath the crust a round ulcer from 2 to 5 centimetres (¾ to 2 in.) in diameter. The edges of the ulcer are irregular and as if eaten out; the process often goes deep down among the cutaneous tissues; the floor is uneven or lumpy, with greyish wart-like excrescences springing from it, which often dissolve to grow afresh, and yield an intensely offensive pus, mostly of thin consistence; the pus spreads over the surface of the sore and hardens to a dense, firm, dark-coloured crust. Around the ulcer the skin is red; sometimes erysipelas develops, or lymphangitis, with inflammatory swelling of lymphatic glands. When the suppurating process has gone on for several weeks or months, the floor of the ulcer at length begins to show good granulations capped by whitish crusts; these gradually fill up the defect of substance, and in due time cicatrisation is complete. The cicatrix, following the shape and depth of the ulcer, is of irregular circular form, either level with the skin or depressed, often pigmented or discoloured a uniform brown; it puckers towards a central point, like the scar left after a bad burn, so that, when the boil is on the face, disfigurements of the nose, cheek, and lower eyelid may result. Not unfrequently several boils develop,

---

[1] The disease known in the Moluccas under the name of Amboina boil or pock does not belong to the same class, but to yaws. See Vol. II, 101.

which coalesce in the end, if they had been close together, leaving elongated or irregularly shaped sores and eventually corresponding disfigurements.

The affection is met with in all parts of the body; but most often in the face, particularly on the cheek, or at the angle of the mouth or of the orbit, or on the wing of the nose; it is rarer on the upper eyelid or on the forehead, and never seen on the hairy parts of the head; on the upper or lower extremities it does occur, but mostly in strangers, its seats being the dorsal surface of the hand or foot or the neighbourhood of a joint; it is extremely rare on the trunk or the sexual parts (Guilhou, Poggioli, Pruner). In the majority of cases there is only one boil, but it is not rare for two, four, or eight to develop; and in a few cases from twenty to fifty have been counted in one subject, some of them being on the face and the rest on other parts of the body. There is never any constitutional disturbance noticed in the course of the disease, such as could be traced to a connexion with it. But for the disfigurement of the face through contraction of the scar,[1] in cases where that region had been the seat of the boil, the disease leaves no ill-effects in the body. It has just as little influence in modifying a pre-existing malady as it has on the type of an intercurrent one. It is only in the case of scrofulous, scorbutic, or syphilitic persons that the ulcer assumes a malignant character, as we learn from Pruner, Polak and some other observers.

The duration of the disease varies from six or eight months to a year or more (hence the popular name of "twelve-month boil," in Persia, Mesopotamia and Syria); the longer duration is mostly when successive new boils occur in the neighbourhood of disintegrating nodules. The belief, at one time held somewhat generally, that a person never had the disease more than once, is not founded on fact, although it is true that a recurrence of the boil is exceptional; Willemin has seen a second attack in a few individuals who had resided at more than one centre of the disease.

The *anatomical nature* of the boil has not been examined into at all closely until recent years; but all observers who have paid any attention to the subject are agreed that the type is that of the so-called granulation-tumour or granuloma. The only difference of opinion is that, while some inquirers, such as Lewis and Cunningham, take the malady to be a sort of lupus,[2] others see in it a specific granulation-tumour, which most of them would trace to the presence of some peculiar parasite. We shall return to that point.

§ 226. Factors in the Causation; Alleged Influence of Drinking-Water.

So long as we have no perfectly trustworthy information from temperate latitudes concerning the occurrence of a form of boil-disease completely identical with that which is here described, it will be impossible to avoid the impression that the geographical area of the disease is in some way dependent on *climatic influence.* That supposition finds a good deal of support in the fact that the outbreak of the boil stands in a tolerably decided, if not an invariable, relationship to influences of *season.* Nearly all the accounts that reach us from the most various points of its distribution-area, allege that it begins for the most part in late summer or in autumn, being the months of September, October or November in subtropical countries[1] and the first part of the cold season in the tropics.[2] We shall afterwards see what interpretation is to be put upon that influence of season in the pathogenesis.

Circumstances of locality, such as the *nature of the ground,* have no kind of significance for the occurrence of the boil. It has been found equally on dry soil and wet, rocky and sandy, and in high and low situations. No doubt one or two French and English writers, such as Bertherand and Dickinson, have laid a good deal of stress on malarial soil in this connexion; their views, however, are not based upon facts, but spring from the fanaticism about malaria which is still rampant in many quarters.

It is just as difficult to show that the endemic seats of the boil are in the slightest degree dependent upon *unhygienic influences* of whatever kind. In its native foci it occurs to the same extent among poor and rich, among the proletariat

---

[1] It happens rarely that a piece of the wing of the nose or of the eyelid is destroyed by the process; conjunctivitis, however, is a frequent result of the irritation. In Ispahan, where nearly all the inhabitants have had the malady, a proverb is in use which refers to the disfigurement of countenance: "Look at only one side of an Ispahan woman's face."

[2] "The pathological changes," they say (l. c., p. 53), "which we found to have occurred in the corium and in the rete mucosum correspond very accurately with what Virchow has described as characteristic of lupus in his classical work on 'Diseased Tumours' (ii, 485). Had Professor Virchow's description been published as one referring to specimens of the Oriental sore as seen at Delhi, we would unhesitatingly have added our testimony to its surprising correctness."

[1] For Algiers: Bédiéh, Didelot, Paynter, Weber, Laveran; for Aleppo: Wortabet.

[2] Frazer, for Delhi.

which contains [illegible] elongated or irregularly shaped scabs and eventually corresponding cicatrisation.

The situation of the boil is met with in all parts of the body; but most often in the face, particularly on the cheek, or in the angle of the mouth or of the eyelids, or on the wing of the nose; it is seen on the upper eyelid or on the forehead, and never seen on the hairy parts of the body; on the upper or lower extremities it does occur, but mostly in situations the scale being the dorsal surface of the hand or foot or the neighbourhood of a joint; it is extremely rare on the trunk or the sexual parts (Geber, Poggioli, Vrancich). In the majority of cases there is only one boil, but it is not rare for two, four, or eight to develop; and in a few cases from twenty to fifty have been counted in one subject, some of them being on the face and the rest on other parts of the body. There is not any constitutional disturbance noticed in the course of the disease, such as could be traced to a connexion with it. But for the disfigurement of the face through contraction of the scar,[1] in cases where that region had been the seat of the boil, the disease leaves no ill effects in the body. It has just as little influence in modifying a pre-existing malady as it has on the type of an intercurrent one. It is only in the case of scrofulous, cachectic, or syphilitic persons that the place assumes a malignant character, as we learn from Fermin, Pollak and some other observers.

The duration of the disease varies from six or eight months to a year or more (hence the popular name of "twelve-month boil" in Yemen, Mesopotamia and Syria); the longer duration is mostly when successive new boils occur in the neighbourhood of the pre-existing nodule. The belief, at one time held somewhat generally, that a person never had the disease more than once, is not founded on fact, although it is true that a recurrence of the boil is exceptional; [illegible] has seen a second attack in a few individuals who had resided at more than one centre of the disease.

The anatomical nature of the boil has not been examined into at all closely until recent years; but all observers who have paid any attention to the subject are agreed that the type is that of the so-called granulation tumour or granuloma. The only difference of opinion is that, while some inquirers, such as Lewis and Cunningham, take the malady to be a sort of lupus, others see in it a specific granuloma.[2]

masses, which point [illegible] to the presence of some peculiar parasite. We shall return to this point.

§ 225. Factors of the Climate; Alleged Influence of Drinking-Water.

So long as we have no perfectly trustworthy information from temperate latitudes concerning the occurrence of a form of boil-disease completely identical with that which is here described, it will be impossible to avoid the impression that the geographical area of the disease is in some way dependent on climatic influences. That suggestion finds a good deal of support in the fact that the outbreak of the boil stands in a relatively decided, if not an invariable, relationship to the seasons of the year. Nearly all the accounts that reach us from the most various points of its distribution-area, allege that it begins for the most part in late summer or in autumn, being the months of September, October or November in subtropical countries,[1] and the first part of the cold season in the tropics.[2] We shall afterwards see what interpretation is to be put upon that influence of season in the pathogenesis.

Circumstances of locality, such as the nature of the ground, have no kind of significance for the occurrence of the boil. It has been found equally on dry soil and wet, rocky and sandy, and in high and low situations. No doubt, one or two French and English writers, such as Bertherand and Dickinson, have laid a good deal of stress on malarial soil in this connexion; their views, however, are not based upon facts, but spring from the infatuation about malaria which is still rampant in many quarters.

It is just as difficult to show that the endemic seats of the boil are in the slightest degree dependent upon [illegible] of whatever kind. It is [illegible]

---

[1] It happens rarely that a piece of the wing of the nose or of the eyelid is destroyed by the ulcerative process; [illegible]

[2] "The pathological changes," they say (l. c., p. [illegible]), "which we found [illegible]" [illegible] Vandyke Carter has described as characteristic of lupus in his "Oriental Sore," [illegible]

[1] [illegible] Aleppo, Bagdad, Egypt, [illegible]

[2] [illegible]

as well as in the highest circles of society, among all vocations, and in the army as much among the officers as the men. In like manner the belief, widely spread among the Moorish and Arab population of Algiers, that it is due to the unstinted use of dates (whence the local name of "date-disease"), is nothing but superstition. The one thing among exterior influences of that sort which has always arrested the attention of observers and is debated with peculiar keenness at the present day, is the domestic *water supply*, a possible cause of the disease that cannot be set aside without further consideration.

The very earliest writers upon the disease in Syria, namely, Hasselquist, Russell and Volney, had stated that it was a prevalent belief among the inhabitants of Aleppo that water from the brook Coik had the power to cause the malady. This belief was adopted by Guilhou and Jölt, as well as by Willemin, who relied chiefly on the fact that the area of the disease round Aleppo extended just as far as the water of that stream was used for culinary purposes, whereas the boil did not occur in any of the neighbouring villages which were served by water from another source. Wortabet also took up that opinion, failing any other causation that could be proved. In Algiers, too, the popular belief has placed the cause of the disease in the drinking-water, and a number of French medical writers, such as Poggioli, Massip, Weiss, Netter, Manoha and Arnould, have pronounced in favour of the theory. But it is in India that it has found its best support, at the hands of Frazer, Alcock, Candy and others, and more especially of Lewis and Cunningham, who have given particular attention to the question and made it the subject of a thorough-going inquiry. In Delhi, as we learn from them, the boil has been endemic from time immemorial; but down to 1857 the British troops escaped it, having been quartered in cantonments a few miles from the city. In that year, being the year of the Mutiny, the city was taken by the British and a garrison established in it; the boil soon made its appearance among them, and became so prevalent in the following years down to 1864 as to excite serious attention. The supposition that bad water might have caused it led the military authorities to provide a better supply for the use of the British troops; since that time the disease has declined among them, although the same abatement has not been noticed among the sepoys.

As to the substance in the water, which imparts to it its injurious or morbific properties, the opinions vary in the different centres of observation. In the brook Coik at Aleppo, it is the large amount of gypsum, according to Jölt. In the Punjaub, according to Frazer and Candy, it is the abundance of nitrates, while Alcock would blame the presence of sulphuretted hydrogen due to putrefying matters; Lewis and Cunningham, who express themselves very cautiously, adduce the high degree of hardness of the suspected water, that is to say, the considerable amount of lime and magnesia in it, although they take care to add that they do not consider the amount of these salts to be the real cause of the disease, but merely an index of the noxious property of the water. In Algiers, some of the French medical authorities lay a good deal of stress on the amount of chloride of sodium in the water, while others of them attach importance to the quantity of earthy salts.

As regards the statements of Lewis and Cunningham concerning the abatement of the disease among the British troops in Delhi since their drinking-water was improved, it is not clear from the figures given by them that any such abatement has really taken place: the statistics have a source of fallacy in them, inasmuch as they include not only cases of the boil, but of abscesses as well; further, there are no considerable differences discoverable, for each year of the period, between the British and native troops in respect to abatement of the disease; and finally, the question remains whether fluctuations in the amount of the disease from year to year may not be explained on other grounds than the change in the water-supply. As illustrating the last point, Tholozan calls attention to the fact that in Teheran they have had periods of considerable increase and substantial remission of the disease, or important fluctuations in its endemic prevalence: thus, in 1858-60, the disease was but rare, while in 1861-63 it showed itself in very considerable diffusion. Tholozan himself is emphatic that no sort of causal connexion between the disease and the drinking-

water exists; and at all events we shall have to find some other explanation of these variations in the number of cases, than a change from one water-supply to another.

Against this drinking-water theory, as it may be called for shortness, many other weighty objections have been raised by those who have studied the disease. Laveran says that the water of Oued-Kantara, in the oasis of Biscara, is undoubtedly very rich in lime salts; but it is now used almost exclusively for irrigation, while the water used almost universally for drinking is that which is collected in cisterns and contains only 0·794 of solids in 1000 gr.; yet the boil continues to be a disease of Biscara just as before. Again, El Kantara and other oases of the Algerian desert, where good drinking-water is found, are endemic centres of the malady. Lastly, we have to keep in mind a fact pointed out by Weber, that persons have been attacked by the boil a few days after arriving in Biscara, who had drank nothing but aerated waters.

From other countries we have evidence that persons who had lived a long time in centres of the disease and had abstained altogether from using the suspected water, had not escaped the boil. Thus Rigler relates that he knew a family who had come in 1850 from Aleppo to Constantinople, all the children of which bore the scars of the boil, although they had got only rain-water or cistern-water to drink, according to the mother's assurance. Schlimmer also says he never drank water that had not been boiled, and yet he was attacked by the disease. Another thing against the theory is that neighbouring villages, standing on the same river and all getting their water-supply alike from it, are some of them subject to the disease and some of them quite free from it. Finally, if the water-theory were right, we should be totally unable to explain why the boil had certain seats of election in the body, nearly always the face, sometimes the extremities, and hardly ever the trunk; and why it is that innumerable places all over the world have a water-supply rich in mineral constituents of various kinds, but not a trace of the boil-disease.

A more likely view, although one that is not free from objections and is meanwhile unproved, has been put forward by Anglo-Indian authorities, first by Smith, so far as I know, and afterwards by Gaskoin,[1] Murray and others, to the effect that the disease is connected with the domestic water by reason of the latter containing some specific or parasitic noxious thing which enters the skin when the water is used for washing with, and in that way excites the disease. I shall recur to that doctrine in the sequel.

§ 227. Age of Childhood predisposed; other Preferences.

As regards the *predisposition of individuals* to acquire the boil, nowhere do we find any differences between the two *sexes*, or between various *ages*, *races* and *nationalities*. Among the native population in the centres of the malady, it occurs oftenest in childhood (rarely before the second or third year); but it is not altogether rare in persons of from forty to fifty years, who had thought themselves secure against it (Disant, Tholozan). Usually strangers are not affected by it until they have been from two to four months in the place; but in some instances they acquire it after two or three weeks or even after a few days, and in other instances not until several years have elapsed. A very remarkable fact, vouched for by trustworthy observers,[2] is that foreign residents who had spent some time in a locality subject to the boil and had left it in good health, have had the disease break out in them after their return home. There may have been errors of diagnosis, no doubt, in some of these cases; but it is impossible to deny the fact altogether.

Castaing says that, in his Algerian experience, the white race is attacked more often than the coloured, and that he had seen only two cases among 400 negroes; but I have not found any confirmation of that, either in the writings from Algiers or in those from other countries.

[1] 'Brit. Med. Journ.,' 1876, Feb., p. 192.

[2] Willemin, Burge, Alcock.

§ 228. THE PARASITIC DOCTRINE APPLIED HERE; COMMUNICABILITY.

Inquiring into the *causes of the boil*, we are met on the threshold by two facts, which have been adverted to several times already: (1) The disease is spread over wide tracts of country, but within these it is confined to particular spots by the most rigid lines, the surrounding neighbourhood being absolutely free from it. A striking instance was that of the English troops at Delhi, who acquired the disease after they took possession of the city, although they had been entirely exempt from it while they occupied the cantonments in its vicinity. (2) Within the various foci of the disease, it prevails very generally among the population, so much so that those who escape it are the minority. In Aleppo and other places, a child seldom reaches its seventh year without having had the boil.

From these facts we may safely conclude that the actual cause of the malady is a thoroughly local one, and that it must be very widely diffused within those limits; accordingly it cannot be assigned to the soil or to the climate or to unhygienic influences, which the affected places share in common with places not affected; and we are therefore driven to assume a quite *specific* cause, which may indeed depend for its development or its existence upon circumstances of season, weather or soil. From these considerations it will be seen that the distinctive natural history of the disease lends its support to the doctrine that had already been put forward conjecturally by Virchow, that *the boil is a parasitic malady*.

The first precise inquiries in that direction were made by Fleming and Smith; but the positive conclusions that they came to[1] were so obviously stamped with the mark of fallacy,

that no one gave any heed to them. Vandyke Carter's conclusions, also, from an examination of some specimens of the morbid growth sent to him by Weber from Biscara, had the look of being erroneous. In preparations made from early stages of the boil, before ulceration had begun, he found in the dilated lymphatic vessels a filamentous mould, including the mycelial threads and gonidia either *in situ* or lying free; he did not hesitate, therefore, to assign the fungus as the cause of the disease. Exception was taken by Fayrer to that interpretation of the facts, on the ground that the fungus discovered in the boils was not to be viewed as the cause of them, but as an accidental concomitant. A more direct objection was raised to Carter's discovery by Laveran, who stated that neither he himself, nor MM. Kelsch and Kiénar, had been able to find anything at all like the fungus described, after an extremely careful examination of a large number of preparations of the affected tissues; he was constrained, therefore, to assume that the preparations sent from Algiers to England had been exposed to the invasion of moulds. More recently MM. Depéret and Boinet, and almost at the same time MM. Duclaux and Heydenreich, instituted a search for a parasite in the boil-disease; in both instances they have succeeded in detecting a micrococcus, which they have cultivated and inoculated upon men and animals, with the result of inducing the disease. The former pair of experimenters conclude that the microbe resides both in the pus and in the crusts, and that the disease may be transmitted directly by these matters, just as it is communicable by the cultivation-fluid.

It would take me much beyond my limits to give here a detailed account of the experiments.[1] I must leave it for the present undecided whether they can be adduced as unexceptionable; but the results arrived at we cannot but regard as a valuable contribution towards solving the question whether the disease is *communicable by inoculation* of the morbid products. That question does not now arise for the first time. Some of the earlier experimenters, such as Polak, Gröschl, Vandyke Carter and Wortabet, who had

---

[1] In the morbid tissues Fleming found small corpuscles, with a highly refractive outer membrane, which he took for the eggs of a parasite—an interpretation that he abandoned subsequently, without advancing any other definite opinion of their nature. Smith found, in the pus from a boil, cells of various size and form, and of a variety of colours, which he thought himself warranted in explaining as the eggs or larvæ of a species of distoma, inasmuch as he had found a distoma-like parasite in the diseased tissue itself.

[1] They are to be found in the 'Arch. de méd. milit.,' 1884, Nos. 7—8, and in the 'Arch. de physiol. norm. et pathol.,' 1884, No. 6, p. 106.

tried the experiment of inoculation on themselves, did not succeed in producing the disease, and therefore pronounced against its communicability. Others, like Fleming, Weber and Murray, who had also experimented on men (Fleming on himself), attained a positive success. There can be no well-grounded doubt, therefore, of the communicability of the boil; and at the same time we obtain indirect evidence of the parasitic nature of the morbific cause. The question remains whether the scene of the parasite's life and reproduction is to be placed exclusively in the human body, the infection taking place from man to man, as in syphilis, and the disease being included among the contagions in the proper meaning of the word; or whether that kind of transmission is only exceptional, whether the parasite does not rather vegetate and reproduce itself outside the body of man, and as a rule reach the body from the outer world. In my opinion, the question should be answered in the second of these ways. In favour of that is the exceedingly narrow limitation of the foci of disease to particular spots, the immediate neighbourhood being absolutely exempt; also the absence of all proof that it has ever been carried from one of these centres to a place hitherto free from it; thirdly, the association of the outbreak with particular seasons; and lastly, the fluctuations in the number of cases as observed over considerable periods.

All these facts, it seems to me, furnish indubitable proof that the morbid factor is not bound up with human kind, but is associated with certain localities and depends for its potency upon certain influences of the passing time. Assuming that view to be correct, the conjecture already mentioned acquires some degree of probability, namely, that the parasite reaches the water from the soil, perhaps by an intermediary host, and reaches the human skin in the course of washing with the water.

This hypothesis finds support in the observations that have been made of the occurrence of *the disease in animals*. According to statements by Smith, Vandyke Carter, Murray and Wortabet, dogs are often affected by it in Syria and India. In Algiers it has been seen in the horse. The muzzle and parts adjoining are almost the only seats of it in the dog; and these are the parts that come oftenest and longest into contact with water.

I have still to consider in a few words the manner in which transmission from man to man is accomplished, when that exceptional event does take place. I shall meet also the objection that has been raised against the parasitic nature of the boil, on the ground of the long period of latency which some cases of it have exhibited. Regarding the first point, there is much to be said for the opinion put forward by Seriziat, and afterwards by Laveran, that the communication is effected, as in the case of malignant pustule, mostly by *winged insects*. In that sense we ought to read the statement of Tscherepkin, that in Tashkend the malady is referred to the bite or sting of certain insects, whence its name of "pashsha chûrdj" or fly-bite.

The objection raised by Harley, Alcock and others against the parasitic theory of the disease, is that an incubation-stage of several weeks or even months, such as may occur in persons who become affected with the boil some time after leaving an endemic seat of it, does not accord well with the idea of a parasitic disease. But I think I may point to the analogous experiences with the malarial poison, which is beyond all question of the nature of a parasite; and perhaps also to the poison of rabies, which has not yet been proved to be parasitic but probably is so. When the virus of the boil is directly introduced by inoculation, the incubation-stage lasts, it is true, only some ten or twelve days; but it is not known, and it could not very well be ascertained at any of the disease-centres, how long the stage of incubation might last when the poison is insinuated through the unbroken skin.

List of Writers on Oriental Boil.

Aitken, Army Med. Reports for 1868, x, 331. Alcock, Med. Times and Gaz., 1870, April, 384. Alibert, Revue méd., 1829, Juill., 62; Gaz. méd. de Paris, 1832, 560; Journ. des connaiss. méd., 1833, Septb. Alix, Mém. de méd. milit., 1870, Febr., 109. Armand, Méd. et hygiène des pays chauds. Par. (1854), 420.

Balfour, Edinb. Med. Journ., 1860, May, 1035. Bard, Annal. de Derma-

tologie et de syphiligraphie, 1879, x, 264. Bédiéh, Essai de topogr. méd. sur Biskara. Par., 1849. Bertherand, A., Gazette méd. de l'Algérie, 1857. Bertherand, L., Gazette des hôpit., 1854, Nr. 74 ff; Méd. et hyg. des Arabes. Par., 1855, 448. Beylot, Mém. de méd. milit., 1853, ii, sér. xi, 210. Brocq, Annal. de Dermatologie et de syphiligraphie, 1883, ii, sér. iv, 527. Burge, Transact. of the Epidemiol. Soc., 1867, ii, 259.

Cabasse, Relation de la captivité de Français chez les Arabes. Montp., 1848. Candy, Med. Times and Gaz., 1870, Aug., 153. Carter, Lancet, 1875, Aug., 315; in Fox, On certain Endemic Skin- and other Diseases of India. Lond., 1876; Brit. Med. Journ., 1876, Febr., 192; Transact. of the Med.-Chir. Soc., 1876, lix, 119; ib., 1877, lx, 265. Castaing, Mém. de méd. milit., 1862, iii, sér. viii, 343. Chevers, Indian Annals of Med. Sc., 1860, Nov., 212. Coustan, Arch. de méd. milit., 1884, Nr. 13.

Despéret et Boinet, Arch. de méd. milit., 1884, Nrs. 7, 8. Dickinson, Lancet, 1870, Dcbr., 812, 882. Didelot, Mém. de méd. milit., 1862, iii, sér. viii, 337. Disant, Gazette méd. de Paris, 1832, 556. Duclaux, Bullet. de l'Acad. de méd., 1884, Nr. 24, 743; also Gaz. hebd. de méd., 1884, 397. Duclaux et Heydenreich, Arch. de physiol. norm. et pathol., 1884, Nr. 6, 106.

Eder, Zeitschr. der Wiener Aerzte, 1853, i, 241. Estienne, Du bouton d'Alep, Montp., 1830. Evatt, Army Med. Reports for 1874, 178.

Fayrer, The Practitioner, 1875, Oct., 264. Fleming, Army Med. Reports for 1868, x, and 1869, xi, 511. Floyd, Lancet, 1843, ii, Nr. 4. Fox, Lancet, 1877, Apr., 487. Frazer, Indian Lancet, 1860, July; Army Med. Reports for the Year 1860, 452.

Gailleton, Lyon médical, 1870, Nr. 5. Gibson, Transact. of the Med. Soc. of Bombay, 1837, i, 68. Griffiths, Transact. of the Calcutta Med. Soc., 1836, viii, App. xxx. Gröschel, Wien. med. Wochenschr., 1853, Nr. 19, 20. Guilhou, Le bouton d'Alep. Par., 1835. Guyon, Arch. gén. de méd., 1842, Mars, 374; Voyage d'Algérie aux Ziban. Par., 1852, 199. Guys, Statistique du Paschalik d'Alep, etc. Marseille, 1853, 62.

Hamel (Mém. de méd. milit., iii, sér., tom. iv), Étude comparée de boutons d'Alep et de Biskara. Par., 1860. Harley, Med. Times and Gaz., 1870, Nov., 583. Heiman, Deutsche med. Wochenschr., 1883, S. 36. Hillairet, Gaz. méd. de l'Algérie, 1875, Nr. 9, 101.

Jölt, Gaz. méd. de Paris, 1849, Nr. 46, 900.

Laveran, Annal. de dermatologie et de syphiligraphie, 1880, ii, sér. i, 173. Leroy de Méricourt, Dictionn. encycl. des sc. méd., 1869, ii, 409. Lewis and Cunningham, The Oriental Sore as observed in India. Calcutta, 1877. Libert, De la pustule ou bouton d'Alep. Par., 1859. Liebau, Petersb. med. Zeitschr., 1866, xl, 281.

Manoha et Arnould, Gaz. méd. de l'Algérie, 1860, 41, 60. Manou, Gaz. méd. de l'Algérie, 1859, Nr. 1. Massip, Mém. de méd. milit., 1853, ii, sér. xi, 239. Murray, Brit. Med. Journ., 1883, April, 718.

Netter, De l'étiologie et de la nature . . de bouton de Biscara. Strasb., 1859.

Paynter, Army Med. Reports for the Year 1865, 438. Polak, Wien. med. Wochenschr., 1855, Nr. 17; Wochenbl. zur Ztschr. der Wiener Aerzte, 1857, 742; Zeitschr. der Wiener Aerzte, 1859, 174; Wiener allgem. med. Ztg., 1860, Nr. 48, 49; Wien. med. Presse, 1868, 378. Poggioli, Essai sur une maladie cutanée nouvelle observée à Biskara. Par., 1847. Ponty, Relat. méd. de la campagne de l'aviso à vapeur le Surcouf dans le golfe Persique, etc. Montp., 1867, 35. Pruner, Die Krankheiten des Orients. Erlang., 1847, 144.

Quesnoy, Mém. de méd. milit., 1850, ii, sér. vi, 233.

Rafalowitch, in Ausland, 1848, Nr. 253, 1012. Reinhardt, in Hecker's Wissensch. Annal. der ges. Hlkde., 1836, xxxiii, 434. Rigler, Wien. med. Wochenschr., 1854, 433, 449.

Schlimmer, Wien. med. Wochenschr., 1875, Nr. 52. Seriziat, Études sur l'oasis de Biskara. Paris, 1875. Smith, Army Med. Reports for 1868, x, 321. Sonrier, Gaz. méd. de l'Algérie, 1857, Nr. 5.

Thin, Brit. Med. Journ., 1876, Febr., 225. Tholozan, Bull. de l'Acad. de méd., 1866, xxxi, 333. Tscherepkin, Peters. med. Wochenschr., 1876, Nr. 2.

Verdalle, Quelques mots sur le clima de Ziban. Montp., 1851, 34.

Weber, Mém. de méd. milit., 1876, iii, sér. xxxii, 44. Weiss, Gaz. méd. de Strasb., 1855, Juin. West, New York Med. Record, 1869, March, 27. Willemin, Gaz. méd. de Paris, 1854, 200, seq. Wortabet, Med. Times and Gaz., 1874, Jan., 94.

Zachariadis, Congrès des méd. Grècs à Athènes, 1882. Constant., 1883, 106. Zimpel, Jen. Annal. für Physiol. und Med., 1850, i, Misc. viii.

Nepaul Tumour of the Ear.

§ 229. CHARACTERS AND CIRCUMSTANCES OF THE TUMOUR.

Under the name of pendulous tumour of the ear, Campbell[1] and Bramley[2] have described a peculiar formation of the skin which is endemic in the village of Nilkantha, situated in one of the valleys of Nepaul at the foot of the Sheopuri range.

Clinical history.—The beginning of the malady is a small, firm swelling of the skin of the ear, elastic to the touch, which reaches the size of a pigeon's egg in four to eight weeks; it adheres to the subcutaneous tissues by a broad base, and is but slightly moveable. The only trouble that it causes for some time is its unsightliness; but when it grows rapidly, the skin becomes bluish and as if traversed by a network of vessels, and a painful feeling of tension is produced. When

---

[1] 'Trans. Calcutta Med. Soc.,' 1833, vi, 428.

[2] Ib., 1835, vii, 71.