

May 19th. — Temperature: morning, 100°; evening, 100°. Pulse 100 and 84. Dressed. No pain, heat, or swelling. Discharge sanious and free from smell.

20th. — Temperature: morning, 99·8°; evening, 99·4°. Pulse 104 and 90. Dressed. Discharge serous; no smell. No pain or constitutional disturbance. Tongue clean. Feeds well. Primary union of line of incision has taken place.

22nd. — Temperature normal (four days since operation), and has continued about the normal line ever since, except on two occasions when there was slight diarrhoea, the temperature then rising to 100° for a few hours. The stitches were removed one week after the operation, and the drains removed gradually at each dressing till June 12th, when all drainage was removed. Dressed at intervals of seven days.

June 28th. — Wounds all healed. No discharge. Line of fracture with difficulty made out. Joint free from any inflammation. An attempt was made to remove the silver wires, but they broke off close to the bone. One has since been removed. Passive movement of the joint commenced. Splint left off. Allowed to get up.

July 2nd. — Antiseptic dressing left off. Can move the joint slightly. Patella movable over condyles of femur.

15th (eight weeks since operation). — General health good. Can walk alone, bending the joint, and with only a slight limp. Fragments in close apposition, there being no apparent interval between them or movement. Muscles of limb developing. Leg can be flexed on thigh to an angle of 45 degrees.

25th. — Patient discharged. Use of limb recovering rapidly.

Remarks. — Emboldened by the success which attended the operation of my colleague, Professor Lister, I determined to adopt the same course of treatment when a suitable case presented itself. Curiously enough, such a case fell under my care about the date of Mr. Lister's operation. It was that of a female who was brought into King's College Hospital with a fractured patella on one side. On examining the other limb it was ascertained that a fracture of the corresponding patella had occurred two or three years previously. This had been inefficiently treated, and the result was that the fragments were separated for two inches, and the limb was so faulty that she continually fell, and in her last fall the other patella snapped. My house-surgeon, Mr. Howlett, made an excellent job of this, and I then, having recently seen Mr. Lister's operation, felt it my duty to place before her the question of a similar proceeding. She would not accede to this at that time, and our experience of the method being so limited I did not think it right to press it.

In the instance just related I adopted the same course, telling the patient that in all probability we might secure him a strong and useful limb, at the same time not concealing from him the risk which would attend the operation. He quickly made up his mind, and, considering that he had his life before him, and that his limb would remain an encumbrance to him, I did not hesitate to afford him the benefits which my colleague had shown our art could bring to him. It is true the case was an unfavourable one to meddle with; the fragments were so widely separated that they could not be brought into contact. So much was this the case that one of my esteemed colleagues pointed this fact out to me as an argument against the operation. Moreover, the lower fragment was a very small base to work on.

However, I carefully considered these matters, and determined that these were not sufficient objections. Moreover, I was emboldened not only by the success of Professor Lister's case, but by the result of a case of ununited fracture of the humerus in a wretched ill-fed man of sixty, in which I had made a section of the fragments and united them by silver wires with complete success, and which gave me no room for hesitation in the matter. I determined both in justice to the patient and to Professor Lister to employ the antiseptic plan, and to follow most rigidly his own steps in the operation, so far as the case permitted of it; but, of course, as it has been seen, the two cases were so different that I was compelled to alter my course in various ways, but still in the main I adhered to the lessons which my colleague had taught me.

The operation was rendered extremely difficult and tedious by the great divergence of the fragments, and by my endeavouring to bring the parts together without dividing the quadriceps muscle. Thus I attempted to save this muscle, and in order to free the patella I divided the tissues attached to the sides of the fragments very extensively, and

of necessity cut through several arterial branches. I found, however, after a tedious dissection, that I could not attain the object desired, and I then reluctantly introduced a long narrow-bladed knife about four inches above the retracted patella, and freely divided all muscular fibres subcutaneously quite down to the bone. The effect was at once seen. The fragments of bone were now easily brought together, and their surfaces being found to be well-fitting they were brought together by two silver wire sutures.

I look upon my attempt to bring the edges of the bones together by so freely dividing the tissues laterally as an error; it was, however, like many surgical mistakes, committed in good faith. Much less mischief might occur, I believe, from dividing the substance of the muscle at once rather than freeing its attachments on either side of the bone, and should such another case present itself I should at once divide the muscle. The section of the surfaces of the bone is an important matter to attend to. I made a very free section, exposing good broad surfaces, so as to enable them to lie well together, and I found that they could be retained more readily together by the intervention of two silver sutures rather than of one.

As regards the share the antiseptic method had in the great success of this case, I must leave it to others to decide; but it appears to me that we are greatly indebted to this plan of treatment, which was admirably carried out all through by Mr. Milles, my house-surgeon, for the absence of any local or general disturbance. It is true, as I have more than once stated to my pupils, I have seen cases of excision of the knee where rapid union of most of the wound has taken place without any local or general disturbance under the old system. Nevertheless, the results which were witnessed in this case as well as Mr. Lister's are such as to lead me to the conviction that the antiseptic method should be employed in undertaking such a serious operation as has just been described; in fact, as I stated before, in regard for the safety of the patient, and in deference to Mr. Lister, I determined at once not to undertake it without carrying out in its entirety the antiseptic method. It will be a great boon to surgery if it be found that by the employment of this method such an operation as is here described is robbed of all the dangers attending it. So far as this individual operation itself goes, we cannot of course—so limited is our experience—say at present that it is robbed of all its dangers. I would be very glad to say so, for since the performance of this operation, I have been consulted by a young married lady who had the misfortune to break her patella, and she has been left much in the same position as was the young man. I told her of the operation, and said I would undertake it; but, in answer to her own and her husband's inquiries, I was compelled to say that there was some risk both to limb and life which she must submit to, and under these circumstances she has elected, for the present at least, to resort to an artificial support which has been constructed for her, and which prevents her falling.

Wimpole-street.

ON DIPHTHERIA, FROM A PREVENTIVE-MEDICINE POINT OF VIEW.¹

By W. N. THURSFIELD, M.D., S.Sc.C. CAMB.

I USE the word "preventive" in its old English sense, and by Preventive Medicine I mean "*Ars Præveniendi*," the art of going before and warding off or mitigating the severity of a disease; and I have decided to restrict my remarks to a consideration of diphtheria from a preventive-medicine point of view, because it is only from that point of view that I can lay claim to any exceptional experience, and because I can thus confine myself almost exclusively to the results of personal experience.

As a medical officer of health in several of those counties which are peculiarly liable to diphtheria, it has been my lot to be called upon to investigate a very large number of separate and distinct outbreaks; and during the last six years I have seldom been without an outbreak of this disease under observation: some limited and isolated in the

¹ Paper read before the Birmingham and Midland Association of Medical Officers of Health, July 4th, 1878.

house in which the disease has first appeared ; in other cases epidemics of considerable extent. These outbreaks have not been confined to any particular district, with population living under similar physical and vital conditions, but have been spread over some twelve hundred square miles of country, in localities widely differing in their geological and physical aspects, and in the occupations of their inhabitants. That these observations have been made for the most part in purely rural districts is not only to a large extent a necessity of the case, but also their chief advantage. The value of observations as to the etiology of any particular disease does not so much consist in the number of cases observed (all of which may have been disseminated by the same mode) as in the number of separate outbreaks investigated. Now, although diphtheria may be imported, and indeed prevail extensively in a large town, yet the number of entirely disconnected outbreaks will be small, and the mode of dissemination uniform, or at least analogous. All diseases must be investigated in those localities where they are endemic, and where they have the breeding-grounds from which they sally forth from time to time. Diphtheria is in this sense emphatically a disease of the country; and if the country is indebted to the town for periodical invasions of typhus and typhoid, the country returns the compliment, I believe, with diphtheria. Moreover, all questions concerning the cause and dissemination of disease are more advantageously studied, when possible, in rural districts, where more accurate information can be obtained as to the movements, connexions, and relations of the people, and sources of error as to infection eliminated in a way not possible under more crowded conditions of life.

As the term "diphtheria" is frequently somewhat loosely applied, it will be well to state, as precisely as possible, what is the disease I mean by the term. In a paper written by me on this subject a few years back I defined diphtheria as "a systemic contagious disease characterised by a tendency to membranous exudation chiefly affecting the pharynx; and having these peculiarities—that during its course albumen is frequently present in the urine, and recovery is peculiarly liable to be followed by various forms of local paralysis." Now, although all these characteristics are frequently presented by the same case, they are by no means invariably so; and I would now wish to add to that definition "or any sore-throat of an infectious nature," excluding, of course, those in which, as in syphilis and scarlatina, severe throat symptoms are merely local symptoms of an otherwise well-recognised contagious disease. I should be glad, indeed, to make one suggestion, which, if adopted, I feel sure will be attended with very great advantage. Whilst the public generally regard diphtheria as a disease much to be dreaded, and requiring special measures of isolation, they do not take this view of a disease unless it is called diphtheria; but some medical practitioners do not lay so much stress upon the infectious nature of the disease as upon the presence or absence of the membrane (*δυσφύρα*) in the throat, and only call those cases diphtheria where there is a well-developed false membrane. Unless practitioners were more agreed as to what disease should be called diphtheria, it would be well to do away with the term altogether, and replace it by the old English term "contagious cynanche," used for the same disease before the introduction from France of the word "diphtheria."

IS DIPHTHERIA A NEW DISEASE?

I think decidedly not, and that on both historical and theoretical grounds the disease has a right to be considered as old in the history of the world as any. On theoretical grounds—because I believe its natural nidus and forcing ground is to be found in a condition which would be certain to be a prominent sanitary defect in the earliest constructed habitations. On historical grounds—because the symptoms are well marked and defined, and plain references to it are to be found in the oldest Greek and Roman writers on medicine. To go no further back than the middle ages, no one, I think, can read the account given by the learned Hecker of some of the great epidemics of the middle ages without feeling convinced that he is reading a very good and accurate description of a severe epidemic of diphtheria.

The term diphtheria was introduced by the French physician Bretonneau in the year 1818, but the name does not appear in the mortality returns of the Registrar-General before the year 1855, and, indeed, did not come into general use amongst medical men until the year 1858. I do not think, however, there is the least reason to believe, as has

been frequently asserted, that the disease was new to this country, or even a modern revival or importation of an old disease. In our own country I have no doubt that before the disease was admitted under the name of diphtheria to the records of the Registrar-General it had prevailed pretty much as in the present day, but was known variously as cynanche maligna, angina membranacea, croup, suppressed scarlatina, &c. I have arrived at this conclusion partly on the strength of personal evidence obtained from veteran medical men, who have practised for years before the introduction of the term diphtheria, in localities in which that disease is now endemic, and partly also from the evidence afforded by an examination of the death registers in the same localities from the year 1837 down to the present time, and these from their commencement give unmistakable evidence of the existence of fatal sore-throats, from collateral evidence of an infectious nature. The evidence of the medical men referred to above is also conclusive that, whilst there may not have been in schools &c. the same facilities for the dissemination of the disease as at the present day, they believe outbreaks of contagious cynanche to have been at least as common, and one veteran of fifty years' practice in the same locality pointed me out a house in which he had spent two New Year's Days at wide intervals of years in attendance on cases of cynanche maligna. How far there may not have been some alteration, either in the type of the disease or in its virulence of infection, is another question, and we must not refuse to receive evidence because we cannot understand it. Nothing is more remarkable in the records of diphtheria than the very constant reference to it as a new disease. A member of my own family, who practised as a physician in the midland counties in the last century, has left a family tradition that, when called upon to treat the "new disease," infectious croup, the only remedy he found efficacious was calomel in large doses. Bretonneau, in his time, spoke of the disease as new to France. In the great epidemic in this country in the years 1858 and 1859 there seemed to be a general consensus of opinion that there was at least a new type of disease. I well remember at that time hearing at a medical school in London a clinical lecture on the disease as one new, in its then symptoms, to this country. To what extent this alteration existed, and whether dependent upon the disease or on the individual constitution, space will not allow me to consider, even if provided with the necessary information. It would seem at first sight that, so far at least as concerns the period subsequent to the commencement of the records of the General Register Office, the question as to whether the disease now known as diphtheria had of late years become more fatal in this country, was a case peculiarly fitted for decision by statistics. It was with this end in view that I examined some thousands of entries in a number of registration sub-districts. I found, however, that for two reasons, either of them sufficient, it was quite impossible to obtain information which could fairly be used statistically; first, because it was impracticable to draw any rule as to the death entries which one should regard as diphtheria, in the twenty years prior to the general introduction of that term, and secondly, there was the fact that in the early days of registration the number of deaths amongst children and others (particularly in some localities) registered as "cause not certified," were a fatal source of error, as they amounted to a far larger number than the total number of deaths from throat affections in the same period.

The search, however, was by no means fruitless, and brought out the remarkable fact which I make the central point of this paper. This fact is, that in certain isolated hamlets and houses, where, in recent years, I had been called upon to investigate cases of diphtheria, where it was impossible to trace any sources of infection, and which seemed typical cases of the kind (more frequently met with in connexion with diphtheria than any other disease), that one could only explain on the *de novo* hypothesis, in these very same spots there had been previous fatal outbreaks of sore-throat, presumably contagious, at intervals of five, ten, fifteen, twenty-five, thirty, and even more years. These facts cannot certainly be explained on the doctrine of chance, and the liability of any place to importations of disease during a certain number of years; and they were for the most part isolated spots, some particularly so, and with very little intercommunication with other places. The important question whether these outbreaks resulted from persistence of infection which had regained activity in the presence of suitable subjects and other favourable conditions, or, as I

am inclined to believe, to the development under certain stimuli of an infectious disease from a natural telluric miasma, will be considered subsequently. I have inclined to the above conclusion because in these localities I invariably find the same prominent sanitary defects—viz., persistent structural dampness of the house, its foundations, and surroundings. To this point I shall again refer.

ANNUAL MORTALITY FROM DIPHThERIA.

The following table (Table I) shows the total number of deaths registered as from diphtheria since the name first appeared in the records in the year 1855. On the point of

TABLE I.

Deaths from certain Causes and Rainfall; England and Wales, 23 years, 1855-77.

Year.	Rainfall in inches.	Deaths from Diphtheria.	Deaths from Fever.	Deaths from Scarlatina.	Deaths from Croup.
1855 ...	21.1 ...	385 ...	16,470 ...	16,929 ...	4419
1856 ...	22.2 ...	603 ...	16,182 ...	13,557 ...	5207
1857 ...	21.4 ...	1583 ...	19,016 ...	12,646 ...	5279
1858 ...	17.8 ...	6606 ...	17,883 ...	23,711 ...	6220
1859 ...	25.9 ...	10,184 ...	15,877 ...	19,310 ...	5636
1860 ...	32.0 ...	5212 ...	13,012 ...	9681 ...	4380
1861 ...	20.8 ...	4517 ...	15,440 ...	9077 ...	4397
1862 ...	26.2 ...	4903 ...	18,721 ...	14,834 ...	5667
1863 ...	20.0 ...	6507 ...	18,017 ...	30,475 ...	6957
1864 ...	16.7 ...	5464 ...	20,106 ...	29,700 ...	6777
1865 ...	29.0 ...	4145 ...	23,034 ...	17,700 ...	5921
1866 ...	30.7 ...	3000 ...	21,104 ...	11,685 ...	5168
1867 ...	28.4 ...	2763 ...	16,862 ...	12,300 ...	4387
1868 ...	25.2 ...	3013 ...	19,701 ...	21,912 ...	4491
1869 ...	24.0 ...	2606 ...	18,389 ...	27,641 ...	4478
1870 ...	18.5 ...	2699 ...	17,910 ...	32,543 ...	4302
1871 ...	22.3 ...	2525 ...	15,790 ...	18,567 ...	4116
1872 ...	30.0 ...	2152 ...	14,020 ...	11,922 ...	3640
1873 ...	23.4 ...	2531 ...	13,553 ...	13,144 ...	4282
1874 ...	20.0 ...	3560 ...	13,735 ...	24,922 ...	5010
1875 ...	28.2 ...	3415 ...	13,063 ...	20,469 ...	4542
1876 ...	24.2 ...	2822 ...	16,643 ...	10,372 ...	4204
1877 ...	26.9 ...	2522 ...	9481 ...	14,230 ...	—

the total number of deaths statistics of diphtheria are peculiarly unreliable, because the term diphtheria is used by many to express a phase of certain other diseases as well as the specific disease itself; and one too frequently hears, and indeed sometimes sees in print, such loose statements as “scarlatina becoming diphtheria,” by which I presume is

meant simply that the bad throat symptoms of scarlatina have been developed. Whilst, on the one hand, however, many cases of scarlatina are entered as diphtheria, and the number of deaths recorded thus increased; on the other hand, many cases of undoubted contagious sore-throat are entered under croup and various other names, and the above error irregularly compensated for. Only the other day, in an epidemic of undoubted diphtheria, two fatal cases in one house were registered as “inflamed glands.” I inquired of the medical attendant, who agreed with me as to the nature of the epidemic, his reason for not certifying these the same as other cases in adjoining houses treated by him; he replied (and according to the principle upheld by many with good reason) that he did not consider it justifiable to register any disease as diphtheria in which the false membrane was not plainly developed.

As to a calculation of the total number of cases estimated upon the basis of the probable number of non-fatal attacks to deaths, I do not think even an approximate estimate can be formed, because the course of the disease so entirely depends upon the conditions by which the patient is or has been influenced and surrounded, and a fatal termination to an attack or the reverse has seemed to me very generally entirely governed by these conditions.

Table I. shows the coincident annual mortality from diphtheria, croup, typhoid fever, and scarlatina. As regards our present subject, the most notable feature is the concurrence in the rise and fall of the mortality from diphtheria with that from croup. I am confident it would be a great advantage if both these terms could be done away with. For diphtheria, as before suggested, I would return to the old English term, “contagious cynanche.” Respecting croup, I am strongly of opinion that the majority of the cases returned are pathologically identical with diphtheria. Those cases of croup which are simply the result of local inflammation of the air-passages, produced by cold or otherwise, should be classed as inflammations of the parts affected.

THE CONNEXION OF DIPHThERIA WITH METEOROLOGICAL CONDITIONS.

In attempting to trace out a connexion between meteorological conditions and disease, one has specially to beware of the besetting sin attending sanitary investigation, the liability to mistake coincidence for consequence. So far as annual rainfall and mortality are concerned, Table I. seems to indicate that there is no connexion between them; but the following table (Table II.), in which the quarterly mortality from diphtheria is given as far back as is obtainable from records of the Registrar-General, shows that the first and

TABLE II.

Mortality from Diphtheria, arranged according to Season, Rainfall, and Temperature.

Year.	FIRST QUARTER.			SECOND QUARTER.			THIRD QUARTER.			FOURTH QUARTER.		
	Deaths from diph- theria.	Mean tem- perature.	Rainfall in inches.	Deaths from diph- theria.	Mean tem- perature.	Rainfall in inches.	Deaths from diph- theria.	Mean tem- perature.	Rainfall in inches.	Deaths from diph- theria.	Mean tem- perature.	Rainfall in inches.
1870	710	38.0	4.1	524	54.4	1.2	581	60.7	5.6	883	41.6	7.6
1871	711	40.2	4.3	583	51.5	6.7	474	61.3	8.3	635	41.8	3.2
1872	586	43.6	6.5	475	52.8	5.7	406	61.1	6.5	525	45.3	11.3
1873	579	39.4	5.7	460	51.8	4.7	502	60.3	7.6	719	44.2	5.5
1874	783	41.4	2.4	668	52.8	4.2	719	60.9	6.2	950	42.3	7.2
1875	896	39.5	4.4	745	53.4	5.4	620	60.7	10.3	817	43.1	8.1
1876	861	39.8	4.9	627	51.7	3.5	601	61.8	5.3	733	47.0	10.5
1877	759	42.3	8.3	547	51.9	5.3	473	58.5	6.4	743	45.0	6.9
Mean	735	40.5	5.0	578	52.5	4.5	547	60.6	7.0	750	43.7	7.5

fourth quarters of the year are most favourable to mortality, and presumably to outbreaks of the disease. It may be that cold and damp weather favours the growth and development of the specific element which propagates diphtheria, aided perhaps by the cold winds of those seasons, which may, I believe, under favourable circumstances, act as the developing agent for the diphtheritic element. I have before stated that I believe there is a specific connexion between

structural dampness of habitation and diphtheria; but by this I do not, however, mean the temporary dampness that would be produced by a heavy fall of rain, or in localities otherwise dry, by a damp season; and I have failed to find, after a special investigation, any excess of diphtheria at all in a district which during one part of every year is flooded by a river overflow, but quite dry during the other part of the year.

PERIOD OF LIFE MOST LIABLE TO SUFFER FROM DIPHTHERIA.

From the ages at death of nearly 70,000 fatal cases given in the Returns of the Registrar-General, I find that of every thousand fatal cases the age at death may be expected to be distributed as follows :—

Under 1 year	...	...	...	90
1—5 years	...	...	...	450
5—10	„	...	...	260
10—15	„	...	...	90
15—25	„	...	...	50
25—45	„	...	...	35
45 years and upwards	...	...	...	25

It will thus be seen that diphtheria is pre-eminently a disease of childhood, and this, taken in conjunction with the exceptional rapidity with which in some cases this disease prostrates the sufferer, has an important bearing upon one chief mode of dealing with ordinary infectious epidemics. I have repeatedly seen in reports on outbreaks of this disease that, in order to guard against similar outbreaks, a sanitary authority has been advised to provide an infection hospital. Now no one appreciates more than myself the value and necessity for all classes of such institutions, but every case should sail on its merits, and I do not think an infection hospital would ever be of much use in this disease because of the age of the sufferers. Mothers will naturally not part with their children, nor indeed is it reasonable to expect them to do so.

DIPHTHERIA IS THE TYPE OF PREVENTABLE DISEASE, partaking as it does of the characteristics of those two classes into which infectious disease, may be divided. It is in its origin and dissemination as intimately connected with structural defects, as enteric fever on the one hand, and on the other, like scarlatina, is very liable to spread by personal agencies. Moreover it has, I believe, an equal and somewhat similar claim with ague, to be considered a disease preventable by the removal of certain local conditions. When diphtheria gets an introduction to a house, if the children are living under good sanitary conditions, it generally falls lightly; but if the reverse is the case, and especially if they happen to be drinking excrementally-contaminated water, in its occasional appalling fatality (greater than that of any of our ordinary infectious diseases of the present day) the disease reminds us of those epidemics of the middle ages, from which we are happily now free. I have in my own personal experience been called upon to investigate cases where, in one visitation to each house only, diphtheria has proved fatal to fifty persons in fourteen houses. If isolation, disinfection, and cleanliness are neglected, diphtheria will spread, and prove terribly fatal under certain bad sanitary conditions; if, however, disinfection and isolation are properly carried out, in no disease may we count upon more favourable results.

The general history of an outbreak of diphtheria is as follows :—Either from direct importation, or in certain localities spontaneously a case appears in a house. If the children are living under good sanitary conditions it is simply called sore-throat, and the children are not even kept from school. These throats are speedily transmitted, and become epidemic over the district, attracting little notice till, meeting with a family living under very bad sanitary conditions, some fatal cases occur. In other cases the first cases are fatal because being under bad conditions, and there is then less likelihood of an epidemic, as the term diphtheria being used, precautions are taken.

My experience is, that the severity of the disease is directly influenced by the conditions under which the individual attacked is living, but that the tendency of the infection to spread is much increased, as in typhoid fever, by the disease passing through an individual who happens to be newly resident in a diphtheria locality, and, as in typhoid fever, such persons are particularly susceptible. Of the sanitary defects which specially govern the mortality, the most potent is undoubtedly excrementally contaminated water, and in nearly every case in which the disease has carried off whole families I have found this defect; I have also seen the converse, where an epidemic did not prove fatal in a single instance in a large number of houses using a common supply brought in pipes, but proved fatal to eight children drinking water from two contaminated wells. In its dissemination diphtheria is governed by much the same laws as typhoid fever, and, like it, may be spread in various ways by excremental agencies. I do not think that any amount

of filth will generate diphtheria, but that, except in certain special localities, diphtheria is always the result of importation.

(To be continued.)

A CASE OF EPILEPTIC MANIA.

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ON the afternoon of Sunday, July 29th, 1877, I was requested to see a Mr. T—, who had been taken suddenly ill about two hours previously. As I approached his house I heard loud voices proceeding from within, and the struggle that was going on had attracted a number of people to the door. On entering the house, which was in the greatest disorder, I found five or six men endeavouring to hold on a couch the patient, who struggled violently with them, and endeavoured with all his might to bite, strike, and kick them; and at the same time he vociferated at the top of his voice the grossest abuse and the most insulting epithets at every person within his sight. Immediately on seeing me, however, he became calm and collected, and apparently in his right mind. He desired to shake hands with me, and became profuse in the expression of his thanks for some little acts of kindness I had shown him some years ago. I asked him what all the disturbance was about, and what was the matter with him. He answered that he did not know, but he believed those about him were determined to drown him. His head was hot, and in order to cool it his friends were very liberal in their application of cold water to it, and this fact may have originated the drowning idea in his disordered imagination, and may have acted as a motive to escape from the supposed danger. His answers to my other questions were quite coherent and to the point. He complained of severe headache, and of a feeling which he called “queerness all over.” As might have been expected from his struggles and from the heat of the day, his pulse was rapid, and his body and even his clothes were wet with perspiration. His pupils were equal and acted normally; and he had no appearance of paralysis, nor had he any symptom of disease of the heart, lungs, or kidneys. The tongue was bitten in a prolonged fit he had before I saw him. I was told that when in the fit he was insensible, foamed at the mouth, and was frightfully convulsed; and that when he came out of the fit he immediately became just as I saw him—quite beside himself, and attempted to destroy everything and everybody that came in his way.

After making the necessary examination of the patient, and having also examined the arm of a man he had bitten, who was very apprehensive lest the injury should end in hydrophobia, I made a movement to go into the next room to speak to the patient's wife and relatives. Seeing this, he again became furious, and broke out into a torrent of abuse, which he continued whilst I remained in the house. I learned from the wife that a few hours previously he lost a brother, who lived a few doors from them, of an acute disease of a week's duration. As they were sitting down to dinner a girl ran in and told him his brother was dying, and that he was to go and see him as quickly as possible. The announcement was unexpected, and made so great an impression on him that he nearly fainted, and when he stood up from his chair he felt “almost paralysed.” He “crawled” to his brother's house, however, just in time to see him die, and then left it immediately; but on re-entering his own house he fell into a fit. Of what occurred from the seizure till the following morning Mr. T— has not the slightest recollection, except a faint remembrance of running after a man with a weapon he snatched up. I ascertained from the patient's relatives that no member of his family has ever been afflicted with insanity or epilepsy, that Mr. T— has hardly been a day seriously ill in his life, and that this attack was the only one of the kind which he ever had.

The patient, who is middle-sized and rather anæmic, is twenty-nine years of age, married, and the father of two healthy children. He is a sober, inoffensive man, who has served an apprenticeship to a handicraft at which he worked sedulously till about a year ago, when, in consequence of his steadiness and good natural abilities, he was advanced to a situation of responsibility that entailed a great deal of