

**Observations on hay-fever, hay-asthma or summer catarrh / by W. Abbotts Smith.**

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OBSERVATIONS  
ON  
HAY-FEVER,  
HAY-ASTHMA,  
OR  
SUMMER-CATARRH.

BY  
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OF THE COUNCIL, OF THE MEDICAL SOCIETY OF LONDON, ETC.

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Second Edition.

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## P R E F A C E.

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THE following remarks on the subject of hay-fever, also known as hay-asthma, or summer-catarrh, are reprinted from a paper by the author, published in the "Medical Mirror," and containing an epitome of various communications on this disorder, made at different times to that and other professional journals.

The affection is one of great interest, both on account of the mystery which surrounds the earlier history of the disorder, its prevalence throughout the world, its peculiar symptoms, and the tenacity with which, having once shown itself in any individual, it continues its hold upon the unhappy sufferer during the whole or greater part of life. Nor do sex, age, or temperament furnish any safeguard against its attacks.

Taking all these circumstances into consideration, it is a matter for astonishment that greater efforts have not hitherto been made to elucidate the doubtful points relating to its history, causes, and treatment, and thus to obtain a more certain guide to the relief or cure of the disorder.

This apparent apathy may, in great measure, be attributed to the authoritative manner in which it has been laid down as an incontrovertible *dictum* by the few writers on the subject, that hay-fever is not curable. The author of the following pages has endeavoured, in different communications made at various times to the medical periodicals, to disprove the tena-



bility of this doctrine, and increased experience has only tended to confirm him in the opinion that the affection may be generally palliated and not unfrequently cured, especially if the case has not, through neglect, been allowed to assume a chronic character. The predisposition to the disorder must, of course, remain inherent in the patient's constitution ; but, when once the remedies suitable to his case have been ascertained, he need never in future years be at a loss to know how to ward off the annual attack as soon as the easily-recognised symptoms begin to manifest themselves.

Yet, many instances have occurred to the author's knowledge, where persons, hopeless of obtaining alleviation to their sufferings, and further dispirited by the thoughtless want of sympathy too often shown by others who are themselves fortunately free from any predisposition to this affection, and who consequently do not comprehend the misery which they endure, have, like Dr. Bostock, whose case is referred to in the following pages, voluntarily confined themselves to their houses or their rooms during the continuance of their annual illness, without making any other efforts to check its progress.

It was at one time the author's intention to have written a larger work upon this affection, embracing all the details connected with it, but the complete monograph of his friend, Dr. Phœbus, "*Der Typische Frühsommer-Katarrh*," published at Giessen in 1862, to which he had the pleasure of contributing, gives such full information concerning the history, &c., of hay-fever, that, for the present at any rate, the author, whose other engagements do not allow of his writing now at greater length upon the subject, gladly refers those of his readers who wish for additional particulars to Dr. Phœbus' book.



## PREFACE TO THE SECOND EDITION.

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THE rapid exhaustion of the First Edition of this pamphlet in a few days, and the demand which has been made for an immediate new issue, preclude any possibility of the author's introducing, as he had intended to have done, fresh matter, with cases throwing additional light on the subject of Hay-Fever, and corroborating the views expressed in the following pages. The publication of these details must consequently be postponed until some future period, when more literary leisure offers itself.

He cannot allow this opportunity to pass without expressing his deep obligations to the numerous correspondents, both in and out of the Medical Profession, who have kindly favoured him with accounts of interesting cases of the peculiar affection on which he has written; and, he may also add, that other contributions of this nature towards the elucidation of the various points connected with Hay-Fever will be most acceptable.

*June 19th, 1865.*

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## OBSERVATIONS ON HAY-FEVER,

&c. &c.

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THE affection to which the different names placed at the head of this communication have been variously applied—according to the relative intensity of the febrile, bronchial, and catarrhal symptoms—is one of much peculiar interest.

Although it is a disorder in which the symptoms are often unmistakable, and in which the sufferings of the patient are not unfrequently very severe, scarcely any references to it are to be found in any of the older works on Medicine. Heberden, writing on the subject of Catarrh, observes: "I have known it (catarrh) to return in four or five persons annually in the months of April, May, June, and July, and last a month, with great violence." (*Commentarii de Morborum Historia, et Curatione*. A posthumous work, edited by his son, Dr. W. Heberden, 1802.) The author, from whose work this solitary passage is taken, seems to be the only medical writer who noticed the occurrence of this peculiar affection, previous to the publication of Dr. Bostock's remarks on *Catarrhus Æstivus*, which appeared in the "Medico-Chirurgical Transactions," for 1828.

Dr. Bostock was himself a sufferer from hay-fever, and was consequently greatly interested in its history and treatment. The result of his investigations showed that the disorder was one which prevailed throughout England, and the other particulars elicited by his inquiries into the subject were of considerable importance. Since his time, although it has been recognised as a distinct complaint, little has been done towards the advancement of our knowledge of the pathology and treatment of hay-fever, so far as English medical literature is concerned, but a very interesting and complete monograph, entitled "Der Typische Frühsommer Catarrh, oder das sogenannte Heufieber, Heu-Asthma," (On the Typical Catarrh of Early Sum-



mer, or the so-called Hay-Fever or Hay-Asthma), from the pen of my esteemed friend, Dr. Phœbus, Professor of Medicine in the University of Giessen, has lately been published in Germany.\*

In connection with the meagre records of hay-fever,† and, in fact, with the almost complete non-recognition of it until the last thirty or forty years, arises the question, Is hay-fever a disorder of recent origin, or did the older physicians know of it without thinking it worthy of special notice? To the first half of this question we must naturally answer in the negative, for the causes of the affection are so common, and so universal, that it is highly improbable that the disease can have arisen only in recent times; as regards the second part of the question, it may be observed that, although the moderns are apt to pride themselves upon their superiority in Medicine, our ancestors were keenly observant of the phenomena of disease, and were unlikely to ignore the existence of an affection which recurs annually during a considerable portion (and according to some writers, during the whole) of the patient's lifetime. So common, indeed, is hay-fever, that even animals are subject to an analogous disorder. Some instances of this nature are mentioned in Dr. Phœbus' book, and amongst these that of two dogs, which exhibited all the prominent symptoms of hay-fever after having had their kennels strewn with freshly-cut hay. This fact occurred under my own observation, and was communicated by me to Dr. Phœbus with some other points bearing upon the subject, which he has also done me the honour to quote in his book. As it would serve no important purpose to attempt to explain why hay-fever is not mentioned by the older writers, it will be best to pass on to the consideration of the disorder itself.

The symptoms of hay-fever are of varied character. Dr. Phœbus arranges them into six groups; and as his classification is an useful one, I shall follow it here. Of course, they seldom occur in the same regular manner as is detailed in the classification; sometimes those of one group, sometimes of another group, prevail; sometimes, several symptoms occur simultaneously.

The first group of symptoms are connected with the nose, and are those of a severe common catarrh, especially sneezing, which is very loud and frequent, and recurs in paroxysms of ten, twenty,

\* Lest I should happen to be accused of plagiarism, I take this opportunity to state that some portions of this communication are extracted from a review of Dr. Phœbus' book, which appeared anonymously in the "Medical Mirror" some time since, but which was from my pen.

† As the affection is attributable to other causes besides the smell of hay, Dr. Phœbus prefers to designate it by the name of "Frühsommer-Katarrh," which may be abbreviated to "Summer-Catarrh," thus corresponding with Dr. Bostock's term of "Catarrhus Æstivus." Hay-fever being, however, the name by which the disorder is commonly known, that term will be chiefly used in the following remarks.



or more sneezings in rapid succession, occurring at short intervals; so that the patient may be heard to sneeze several hundred times in the course of the day. At the beginning of the attack there is no discharge of nasal mucus; but after a few days a considerable quantity of watery limpid fluid is discharged from the nostrils. The nose is very frequently swollen, red, and inflamed, but the sense of smell, although occasionally diminished, is seldom completely lost.

The second group of symptoms are observed in the eyes, and the patient complains of catarrhal ophthalmia, with increased lachrymal secretion. The flow of tears is often very excessive, and the conjunctival lining of the eyelids is red and swollen, especially at the margins, and secretes a thick, yellowish matter. The eyesight is weakened, particularly in the morning and evening, and more or less intolerance of light is present. The eyelids are frequently swollen, and even cedematous. When these symptoms occur, both eyes are usually affected at the same time.

The third group of symptoms affect the throat, and are similar to those observable in catarrhal sore-throat. The pharynx appears red, and is rather swollen; the mucous secretion is at first diminished, but is subsequently increased, and becomes very abundant; the tonsils and uvula seldom share this morbid condition.

The fourth group of symptoms are those of headache, sometimes only slight, sometimes very severe, and situated either at the forehead (when it may be mistaken for hemicrania), at the occiput, or over the whole of the head. The pain is very often induced and increased by the paroxysms of sneezing. The patient complains of an unpleasant feeling of irritation and itching about the forehead, the nose, the chin, and the ear, extending along the meatus auditorius externus. Sometimes the patient also complains of giddiness, of noises in the ears, and other symptoms of congestion of the brain, especially if the sneezing has been very great.

The fifth group of symptoms are situated in the whole of the mucous membrane of the larynx, extending as far as the bronchi, and the patient is affected with bronchial catarrh and cough. In some cases the cough is insignificant, while in others it is very severe and loud, and is then accompanied by expectoration, which is sometimes copious, and in rare instances streaked with blood. Not unfrequently, a sensation of irritation is felt in the larynx, or in the trachea, and there is a feeling of pressure and weight behind the sternum; the patient's voice becomes muffled and often hoarse. The difficulty of breathing is occasionally very distressing, and sibilant râles may then be heard throughout greater part of the lungs. The attack is more strongly marked towards evening, and continues during the whole of the



night. In the intervals of freedom from the difficulty of breathing, no organic lesion of the chest can be discovered upon auscultation.

The sixth group, in which are comprised the general symptoms, are the symptoms of catarrhal fever, together with disturbance of the nervous system. The pulse is not greatly increased in frequency, excepting towards evening, when the number of beats may amount to as many as a hundred, or more, in a minute. Shivering and perspiration come on alternately after the more severe paroxysms of coughing and sneezing. The patient is uncomfortable, restless, and unfit to attend to his ordinary avocation, and complains of weariness, defective memory, and heightened susceptibility to external impressions. The digestive powers are not often greatly impaired; when they are, loss of appetite, furred tongue, and constipation or diarrhoea will be observed.

The premonitory symptoms are not of long duration, and they consist chiefly of a general feeling of ill-health and *malaise*, and of various uncomfortable sensations in the different organs where the affection subsequently becomes localised. The permanent symptoms usually make their appearance suddenly, and remain for some weeks, or even, in severe cases, months. The parts which are first affected are the eyes and nose; next, the soreness of the throat comes on; and, as a general rule, the bronchial symptoms occur still later in the course of the disorder. The severity of the different symptoms bears some relation to the state of the temperature: when the temperature is lowered, the bronchial symptoms are more marked, while an increase of temperature causes their disappearance, simultaneously with which the irritation and inflammation of the mucous membrane of the eyes and nose are intensified. The symptoms connected with the nose and eyes are generally most severe in the morning; on the contrary, the difficulty of breathing and the fever are more marked towards evening. As the disorder wears off, the local symptoms are diminished, and gradually disappear, and there remain only general debility, and a feeling of ill-health, with heightened sensitiveness of the mind and body. The patient is for some time liable to a relapse, if he should happen to be again exposed to the exciting causes of the malady.

The duration of the attack varies in different persons. The average duration of the prominent symptoms is six to eight weeks; but in some individuals it lasts for as long a period as three or four months. It seldom continues for a less period than three or four weeks, unless cut short by treatment. During the earlier years in which a patient is subject to the attacks of hay-fever, the length of the illness increases; but at a later period of life, it gradually diminishes, and in some instances



almost fails to recur as old age advances. Bostock says that the disorder increases with the advance of life rather than the contrary; this rule holds true, perhaps, until a certain period, but after this the affection gradually declines in severity. Hay-fever is most commonly a disease of adult life, but it may occur at all ages. I have seen young children suffering from it, and the author just named says that it commenced in him at the age of eight years. The age at which it makes its first appearance varies considerably,—generally between the tenth and thirtieth year of the patient's age,—although it may occur at a still earlier period, as in Bostock's case, and the other instances to which I have referred, as having come under my own observation. No case has been put on record in which the first attack occurred after the patient had attained the fortieth year of his age.

One special characteristic of hay-fever is its periodical return, which happens almost invariably at the end of May, or the beginning of June, in every succeeding year after it has made its first appearance, the period of recurrence bearing a direct relation to the first heats of summer. This year, a case has come under my notice in which the symptoms broke out with sudden violence during the sultry, close weather which occurred early in May. In some patients, the affection shows itself even earlier still, namely, towards the end of April, if the weather happens to be exceedingly warm for the time of the year.

Amongst the causes of hay-fever, a predisposition to its attacks may be ranked as one of the principal. Although a very great number of persons are exposed to the various predisposing and exciting causes which give rise to the disorder, only a very limited proportion of the population suffers from it; and in those who are attacked by it, the disorder is so severe, and very frequently so little amenable to treatment, that this peculiarity can only be accounted for by the assumption that it is connected with a predisposition which is inherent in the individual, and is situated in the mucous and nervous systems. It has been commonly put forward by writers on Medicine that women are more subject to hay-fever than men; the contrary is probably the case, or, at any rate, the sexes suffer equally. The cases collected by Dr. Phœbus from various sources actually give a proportion of two males to one female, affected with hay-fever.

The majority of the patients whose cases have been brought together by this author were persons of the nervous diathesis. Dr. Bostock was of opinion that hay-fever was a disorder confined exclusively to the wealthy classes, and the researches of Dr. Phœbus appear in some measure to confirm this opinion.



One thing must, however, be borne in mind before arriving at a positive conclusion on this point—viz., that the poor, being less able to spare either time or money than persons who are better off, are in a great measure prevented from seeking medical aid until they are almost incapacitated for work, and, consequently, when suffering from an affection which, like hay-fever, runs a definite course, and then ceases, are less likely to come under medical observation than richer individuals. I have certainly seen well-marked cases of hay-fever amongst the poorer classes, and I must therefore demur to the broad rule laid down by Dr. Bostock.

Hay-fever has been more frequently observed in England than in any other country, but the apparent greater prevalence of the affection in this country as compared with others may be due to the attention which has been directed to it by the writings of Bostock and some others. According to Dr. Phœbus, the disorder is not unfrequently seen in Germany, Belgium, and France, and cases have been recorded of hay-fever occurring in Italy, Austria, Russia, Denmark, and other European countries. It has also been known to occur in China and India, and Dr. Dunglison, in his "Practice of Medicine," bears testimony to the fact that summer-bronchitis, as he terms the affection, is as common in America as in Europe. I recollect seeing an undoubted case of this disorder in a native of the United States, when I was in New York some years since.

Hay-fever is more observed in the country than in towns, and in the suburbs than in the central parts of large cities; and is more frequent in countries where grass lands abound than where wheat crops are principally cultivated, or near the sea-coast.

Although hay-fever is generally observed in rural districts, it does not follow, as some writers have advanced, that residents in large towns are altogether exempt from its attacks. I have seen the affection on several occasions in persons living in London, and the following case, originally published in a paper of mine on Hay-Fever in the "Medical Times" for 1863, furnishes a good illustration of the fact that persons susceptible of its attacks do not escape, even in London.

T. G., a young man of sound constitution, and usually enjoying good health, presented himself amongst the out-patients at the Metropolitan Free Hospital in June, 1863, in consequence of his suffering from severe catarrhal symptoms, which were accompanied by intense frontal pain, headache, giddiness, lassitude, and prostration of strength. The patient had a harsh, dry cough, and he complained of a disagreeable sensation of itching and irritation in the fauces and trachea. The pulse was weak and rapid, averaging from eighty-five to ninety-five beats in a minute; the tongue was dry, and partially covered with a white



fur; the urinary secretion was of a high colour, and very scanty, and the bowels were obstinately confined. Learning that the patient was in the employ of a wholesale hay-salesman, I suspected the real nature of the case, and on further inquiry, I elicited the important facts that he lived in a house situated in a yard where large quantities of hay were stored, that the attack of illness could be traced back to a period when some loads of very fresh hay had been brought to the yard from the country, and that the patient's wife was suffering from symptoms somewhat similar to, although not so intense as, his own. I directed the patient to reside temporarily at a distance from the hay-stores, to take a saline aperient every morning, and the ethereal tincture of lobelia, in half-drachm doses, four times a day; subsequently the mixture was changed for one containing quinine, with dilute sulphuric acid. The man soon recovered, and the same treatment proved equally efficacious in the case of his wife, who also came under my care as an out-patient.

Mr. Cheyne has recorded in the "Medical Gazette" for 1842 a well-marked case of hay-fever, in which the wife of a stable-keeper, living near Regent Street, whose lofts were filled with hay recently brought in, and having an unusually powerful odour, received no relief from ordinary remedies, but was speedily relieved from all the distressing symptoms by removal to lodgings at a distance.

The exciting causes of hay-fever are the following:—1. The flowering of wheat, rye, and grasses. The fresh plant is not so often looked upon as the cause of the disorder as the hay into which the ripe grass is made. (Hence the name of hay-fever or hay-asthma.) The species of grass which are considered to be most productive of hay-fever are the *Lolium perenne* (Rye-grass), the *Anthoxanthum odoratum* (sweet-scented vernal grass), and the *Holcus odoratus* (sweet-scented soft grass). In connection with this point it is not out of place to notice that the peculiar aroma of the grass at the period of flowering is principally due to the two last-named species of the Graminaceæ. M. Vogel ascertained many years since that benzoic acid exists in both of these grasses, and that their odour is mainly owing to its presence. This fact is interesting when considered in relation to the circumstance, kindly communicated to me by Messrs. Davy, MacMurdo, and Co., manufacturing chemists, and corroborated by other practical authorities, that the inhalation of the vapour which accidentally escapes during the process of sublimation of benzoic acid causes considerable irritation of the throat, and violent paroxysms of coughing and sneezing. May not hay-fever be in some degree attributed to the irritating effects of the benzoic acid which is liberated from the *Anthoxanthum odoratum* and the *Holcus odoratus* by the agency of the summer heat?



In support of this suggestion, it may be observed that the attacks of hay-fever are almost invariably worse during the continuance of hot, dry weather, while they are of a milder character in wet weather, and when the temperature is much reduced; at such times the sublimation of the benzoic acid contained in the flowers would be less than in hot weather. This exacerbation of the affection also points to local vascular congestion of the nasopulmonary mucous membrane as one of the causes of hay-fever. Other odours besides that of grasses, as, for instance, of roses, and of other flowers, have been suggested as exciting causes. The odour, or rather the mechanical irritation, of powdered ipecacuanha, and of other substances, minutely subdivided, so that the particles are very small and irritating, will also induce this affection in persons who are predisposed to it. The President of the College of Physicians mentions, in his "Lectures on the Practice of Medicine," the case of a man engaged in the laboratory of St. Bartholomew's Hospital, who was always seized with such violent catarrhal symptoms whenever ipecacuanha was being ground to powder, as to compel him to leave the room in which the process was conducted. 2. The first heats of summer. To these Dr. Phœbus considers that the disorder is chiefly due. 3. The influence of light, because the attacks of summer catarrh are always prevalent during the longest days in the year, when ozone is developed in greatest quantity. Dr. Phœbus quotes one case, that of a professor of chemistry, in which the patient actually complained of a continual unpleasant taste, similar to that of ozone.

Each of these three principal causes has, doubtless, much to do with the production of summer-catarrh, and, as in all other affections, sometimes one, sometimes another cause may preponderate. The majority of sufferers from this disorder attribute their attacks to the presence of hay or ripe grass in their immediate neighbourhood. Dr. Watson mentions the case of a lady, in whom an attack of hay-fever was brought on by the approach of her children, who had been in a hay-field; and once a paroxysm was induced, some time after the hay-harvest had been finished, upon the children joining her at tea, after playing in a barn, in which that season's hay had been placed. The same lady was in the habit of removing to Harwich, or some other part of the coast, during the hay-season, in order to avoid the chief exciting cause of the malady, in her case. On one occasion, while walking on the shore at Harwich, she was suddenly attacked by all the symptoms of hay-fever, much to her surprise, as she was not aware of any grass being in the neighbourhood; but on the following day she discovered that hay-making was in progress upon the top of the cliff at the time when she was passing under it. Another attack was pro-



duced in the same patient under still more singular circumstances : the lady was at Cromer, and had quite recovered from her annual illness, as the hay-making in that neighbourhood was concluded, when she was suddenly seized with catarrhal and other symptoms, and on going into her bedroom she ascertained that a large stack of hay, which had been brought from a field five miles distant, was being put up in a yard near the house. Dr. Bostock thought that his case was not, in any way, dependent upon the effluvia from hay, and attributed his annual attack to bodily fatigue and exposure to the sun's rays. For many years he was in the habit of retiring during the greater part of the summer season to a house situated on the cliff at Ramsgate. There was very little grass within a considerable distance of his house, and on many of the hottest days the wind blew steadily from the south-east, so that the nearest land to windward of his residence was on the French coast, across the Channel ; yet, during this time, whenever he relaxed his usual plan of discipline (abstinence from bodily exercise, and avoidance of the sun's rays) and exposed himself to the direct heat of the sun, or by any kind of exercise quickened the circulation, the symptoms recurred in full force. The temperature has certainly a great influence over the severity or mildness of the attacks of this disorder ; in very hot, dry weather the patient's sufferings are invariably aggravated, while a reduction of temperature, or a heavy fall of rain, almost as invariably brings temporary relief. Strong light, as well as great heat, induces or aggravates the symptoms, although the ozone theory advanced by Dr. Phœbus appears to me an insufficient explanation of this circumstance. Closely connected as hay-fever is with excessive sensibility of the nervous system, I should feel rather disposed to look upon the influence of strong light in the development of the symptoms of this disorder as dependent on the intimate relationship which exists between the branches of the ophthalmic division of the fifth pair of cranial nerves. These branches, the lachrymal, frontal, and nasal, are distributed to the ball of the eye, the lachrymal gland, the mucous membrane of the nose and eyelids, the integument of the nose and forehead, and the muscles above the upper half of the circumference of the orbit. Any irritation to the lachrymal nerve causes sneezing and coryza, owing to the connection which exists between this nerve and the nasal nerve ; on the other hand, any irritation to the nasal nerve, such as the application of strong snuff to the inside of the nose, produces lachrymation. In like manner, it does not seem improbable that powerful solar light may cause lachrymation, coryza, sneezing, and frontal pain (all of which are prominent symptoms of hay-fever) through the sympathetic



irritation which it produces in the various branches of the ophthalmic nerve.

The disorder is made worse by any causes which weaken the patient, or disturb the nervous system; and like common catarrh, it is aggravated by sudden changes of temperature, windy, or stormy weather, and other variable conditions of the atmosphere.

The diagnosis of hay-fever is generally unattended with difficulty. The affections for which it may be mistaken are catarrh, catarrhal ophthalmia, bronchial catarrh, asthma, influenza, and vesicular emphysema of the lungs; but the periodicity of the attacks of hay-fever, which returns every year about the same time (in many patients not varying more than one or two weeks in the date of its recurrence, for several years in succession), will serve to distinguish it from most of these disorders, and the progress and character of the symptoms, the almost incessant sneezing, coryza, and watery running from the eyes, conjoined with the absence of any signs upon auscultation or percussion of the chest, will satisfactorily confirm the diagnosis.

As regards the prognosis, it is usually favourable, so far as any danger to life is concerned, for after the attack has quite passed off, the patient is in as good a state of health as he enjoyed previously. According to most writers on the subject, including Bostock and Phœbus, when hay-fever has once shown itself in an individual, it will continue to recur yearly, as long as the patient lives. To some extent, this is contrary to my own observation of the disorder. It not unfrequently presents a marked tendency to disappear, or, at any rate, to diminish in severity, as the age of the patient advances; and I certainly see no reason for doubting that the symptoms may generally be much mitigated. I believe, also, that, unless in cases where the predisposition is strongly marked, careful avoidance of the exciting causes and judicious treatment may, if they do not succeed in eradicating the disorder, at all events reduce the proneness to its attacks to a minimum.

The uncertain etiology and pathology of hay-fever have led to very wide diversities of treatment. Without entering upon a discussion of these I shall content myself with briefly pointing out the remedial measures which I have found most useful. These are:—The removal of the patient, when it is practicable, to the sea-side or some other locality situated beyond the influence of the exciting causes; warm fomentations to relieve the swelling and pain of the conjunctivæ and eyelids; the application of glycerine or cold cream to the interior of the nostrils by means of a camel's-hair brush or a feather; the frequent inhalation of the steam of warm water (either plain



or medicated, as described in my recent pamphlet on Inhalation\*) to alleviate the irritation of the mucous membrane of the nasal and other air-passages; small pieces of ice, to be occasionally dissolved in the patient's mouth, so as to obviate the heat, dryness, and tickling sensation felt in the fauces†; the administration of lobelia (half-drachm, or drachm, doses of the tincture three or four times a day) or of some other sedative and antispasmodic. I may here observe that tobacco-smoking, as in asthma, often does wonders in diminishing the severity of the paroxysms. Bromide of potassium in five-grain, or larger doses, according to the age of the patient, given in infusion of quassia; bitter vegetable tonics, such as quinine in full doses, and the preparations of iron, arsenic, zinc, and other mineral tonics; dilute sulphuric acid, best given in combination with quinine; daily bathing of the whole of the body with tepid or cold water; an occasional saline aperient, such as the sulphate of magnesia, and the general regulation of the secretory and excretory functions by appropriate medicines.

The patient's diet should consist of good, easily digested food, with pale ale or wine at lunch and dinner; vegetables, excepting potatoes, should be avoided, as should also tea, for which the patient may substitute cocoa or coffee. Moderate exercise should be taken daily in the open air, in a shady, cool place, at as great a distance as possible from the exciting causes of the affection.

\* "On the Treatment of Consumption and other Pulmonary Affections by the Inhalation of Gases and Medicated Vapours." London: Hardwicke.

† In a case which I saw in the summer of 1862, the patient's sufferings were unusually severe, and the feeling of heat and constriction of the throat and chest was such as to make the patient dread imminent suffocation. This local complication, after resisting several remedies which were tried, yielded upon the use of the inhalation of the steam of hot water, and the occasional sucking of small lumps of ice. The medicine administered to this patient was chiefly quinine, with dilute sulphuric acid, and the compound infusion of roses.



## WORKS BY W. ABBOTTS SMITH, M.D.,

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### ON HUMAN ENTOZOA: Comprising the Description,

Pathology, and Treatment of the Intestinal, Hydatid, and other Species of Worms found in Man. (This work includes, with M. Davaine's permission, an abstract of some portions of his "Traité des Entozoaires.") Octavo, cloth, pp. 251, with Wood Engravings, and Glossary of Terms, price 8s.

"The opinion which we have formed of this work is so favourable that we have no hesitation in recommending it as deserving of a place in every medical library."—'Brit. and For. Med. Chir. Review.'

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