PROVINCIAL MEDICAL JOURNAL

And Retrospect of the Medical Sciences.

No. 172.]

LONDON, SATURDAY, JANUARY 13, 1844.

PRICE SIXPENCE.
[Stamped Edition Sevenpence.]

SOME OBSERVATIONS

ON

THE ORIGIN OF CATARRHS.

By J. BOWER HARRISON, M.R.C.S.L., &c.,

Surgeon to the Ardwick and Ancoats Dispensary.

[For the Provincial Medical Journal.]

In a changeable climate, like that of England, it might naturally be supposed that much of the attention of the profession would be drawn to the consideration of the influence of atmospheric causes on the body. It does not appear, however, that the great bulk of the profession are in possession of any precise information on the subject, not do we meet, in the majority of medical works, with more than vague and general allusions. On the other hand, in common parlance, we are in the habit of attributing all our ailments to changes in the weather, so that our ordinary salutations, for the most part, turn on this subject. The constant dread is wet and cold, and everything is attributed to this source. Even where the malady cannot be directly referred to this agency, the patient still entertains a lurking idea that the disorder ought to be ascribed to cold—"I suppose," says he, "I must have caught cold, though I took every precaution, and cannot tell how it was acquired." In a word, it is the dread of our lives, and, strange as it may appear, some people will shut themselves up for six or eight months in close, ill-ventilated rooms, or ride only in carriages with the windows carefully closed, lest they should catch cold. It deserves at least some consideration whether there be really the danger apprehended, or whether we do not, in point of fact, create the evil we are anxious to escape.

During the course of my reading I have met with several interesting passages relating to this subject, which I shall here present to the reader, with a few remarks of my own. The first is from the pen of a writer who was probably unequalled as an original thinker, and whose quaint, lively, and amusing style materially contributed to embellish his productions, and, if I may so say, to scatter flowers on the rugged paths of philosophy.

But before I proceed any further, I must here most distinctly state that I do not bring forward these quotations with a view to prove that wet and cold are not injurious. On the contrary, I believe them to be a very fertile and common cause of disease; I every day see the baneful effects of deficient clothing—of damp cellars, and injudicious exposures—and I feel persuaded that, in the severity of winter, many lives, especially in infancy and old age, fall direct sacrifices to the inclemency of the weather. But even whilst I make this assertion, I should still fear that I might be misunderstood if I did not further remind the reader that, in giving prominence to a particular

view, we are of necessity called upon to exalt it from its due rank; in fact, we raise it from its position to point out its individual nature and character, nor do we discover its relative importance until it is again replaced and regarded from a remoter situation. My object is not to deprecate the importance of cold and wet as agents in the production of disease, but to call more general attention to another source of mischief, the effects of which are too often mistaken for those of cold, and which is perhaps more largely concerned in the production of what are called *colds*. I allude to the malaria generated in ill-ventilated rooms, by the crowding together of numbers of people. I do not profess to subscribe entirely to the quotations which I bring forward, but I think they serve as arguments to establish the conclusions which I have drawn.

In writing to Dr. Rush, July 14, 1773, Dr. Franklin observes, "I have long been satisfied, from observation, that besides the general colds, now termed *influenzas* (which may possibly spread by contagion, as well as by a particular quality of the air), people often catch cold from one another, when shut up together in close rooms, coaches, &c., and when sitting near and conversing so as to breathe in each other's transpiration, the disorder being in a certain state. * * * * * From these causes," he continues, "but more from too full living, with too little exercise, proceed, in my opinion, most of the disorders which, for about 150 years past, the English have called colds." In writing to Dr. Percival, in October 15, 1773, he proceeds much in the same strain:—"We abound in inconsistency. Thus, though it is generally allowed that taking the air is a good thing, yet what caution against air! what stopping of crevices! what wrapping up in warm clothes! what stuffing of doors and windows, even in the midst of summer! Many London families go out once a-day to take the air, three or four persons in a coach, one perhaps sick; there go three or four miles, or as many turns in Hyde-park, with the glasses both up close, all breathing over and over again the same air they brought out of town with them in the coach, with the least possible change, and rendered worse and worse every moment. And this they call *taking the air*. From many years' observation on myself and others, I am persuaded we are on a wrong scent in supposing moist or cold air the causes of that disorder we call a *cold*. Some unknown quality in the air may, perhaps, produce colds, as in the influenza; but generally, I apprehend, they are the effect of too full living in proportion to our exercise."

In a paper which Dr. Franklin wrote on the Correction of Smoky Chimneys, and which, by the way, is a very sensible production, he incidentally observes, "that it is not the mere water contained in damp air, but the volatile particles of corrupted animal matter,

mixed with that water, which renders such air pernicious to those who breathe it. And I imagine it a cause of the same kind that renders the air in close rooms, where the perspirable matter is breathed over and over again by a number of assembled people, so hurtful to health. After being in such a situation, many find themselves affected by that febricula which the English alone call a cold, and, perhaps from the name, imagine that they caught the malady by going out of the room, when it was, in fact, by being in it."

In the very entertaining biography of Sir A. Cooper, lately published by his nephew, the following passage occurs :—

"Mr. Coleman maintained some rather original ideas with respect to the causes of the phenomena usually attending catarrh, or what is commonly called a cold. He believed that it much more frequently originated from residing in heated and crowded rooms, and therefore inhaling an impure atmosphere, than from exposure to cold, draughts of air, or the other causes to which the symptoms are ordinarily attributed. He used to illustrate this opinion by referring to the example of the horse when laboring under the same complaint. 'Why,' he used to say, 'who ever heard of a horse taking cold when turned out?—but, on the contrary, every one knows that if you put him into a close stable you will give him a cough directly.' The fact is also well known that after this has occurred, there is no remedy so certain as turning him out to grass, for his cough will leave him in six hours."

Dr. Franklin had evidently contemplated writing a paper on catarrh, and, in his correspondence with his philosophical friends, we find frequent allusion to his particular notions. Besides these incidental references to the subject, there are also to be found amongst his papers some memoranda made professedly with this intention. Although Dr. Franklin was not free from the peculiar errors on the physiological part of his subject which then prevailed, whatever comes from his pen must be interesting, and has that mark of originality which distinguished the mind of this truly eminent man. In his paper, Dr. F. enumerates, in his own characteristic style, "the difficulties that first put me on thinking on this subject. People get cold by less, and not by more, viz., by putting on a damp shirt on a dry body? Yes.—By putting on a dry shirt on a wet body, though this wets the shirt ten times more? No.—By sitting in a room where the floor has been newly washed? Yes.—By going into a river, and staying there an hour (no sheets so wet)? No.—By wetting the feet only? Yes.—By wetting all the clothes through to the body, and wearing them a whole day? No.—By sitting in a room against a crevice? Yes.—By sitting as long in the open air? No.—Few of these effects take place if the vessels are kept empty."

The whole of this paper is deserving the attention of the reader, and is as curious as it is interesting. The only regret that will be felt will be that the outline is not filled up. In places it cannot fail to remind us of the notes which the Spectator lost in the coffee-house, being intelligible only to the author. Two sentences run as follows :—

"Germans, and all the northern people,
Aldermen and turtle."

In a pamphlet on the Influence of Weather, written in 1819, by Dr. Foster, I find the following observation :—

"With respect to catching cold, I may observe, that either there must be some state of the body, previous to catarrh, which renders it particularly susceptible of a check to perspiration, or some state of atmosphere which has a tendency to excite catarrhal affections; for persons frequently take cold when they take most care, and when they least suspect it. I have been exposed to repeated checks of perspiration, to cold, and to fatigue; I have slept exposed all night to wind and snow, during journeys in mountainous countries, without injury; but afterwards, when living higher in cities, notwithstanding care, have I become the subject of catarrhal complaints."

Dr. Heberden seems to have had an idea that catarrhs were not altogether attributable to the causes which are generally alleged.* In Sir Gilbert Blane's Medical Logic, in alluding to Dr. Heberden, he remarks, "A very eminent physician has argued that the opinion of this (cold, &c.) being dangerous, or even hurtful, is little better than a vulgar error."

Mr. Thackrah remarks, in his able treatise on the Effects of Arts, p. 129, "Whether we examine the agency of moisture on men in the open air, or those under cover, we find it much less than common opinion would expect. In this country almost all our maladies are ascribed to the agency of wet, or to 'taking cold.' Medical men adopt this notion. It is constantly heard in their expressions; it constantly appears in their writings. The people, of course, have gradually adopted the medical doctrine, and carry it even further than its founders. A reference, however, to the history of cases attributed to wet and cold, and an examination of the reasoning of the patients, are enough to expose the insufficiency of the evidence and the incorrectness of the inference. We might show, moreover, that persons most careful to avoid cold, protecting themselves with every variety of clothing, and shrinking at every change of weather, are not exempt from the evils which they fear. In fact, they are far more subject to catarrh, to pulmonary inflammation, and other disorders commonly attributed 'to cold,' than persons who habitually expose themselves." This is exemplified in the case of scourers of wool, dyers, fullers, brushers of cloth by steam, giggers, hatters, brewers, and paper-makers. In speaking of sudden changes of temperature, as not necessarily producing catarrhs, he observes, "Look at the fire-feeders, particularly those at a glass-house, men one moment exposed to a temperature of 130° or 150°, the next in the coldest air of winter, rendered still more piercing by strong artificial currents; at the bakers on the continent, who come out of the ovens almost naked into an atmosphere almost below zero; and reflect on the well-known fact of the Russian who, emerging from the hot bath, immediately rolls himself in the snow. How is it that these persons do not immediately fall victims to such transitions, or, in tea-table phraseology, 'catch their death of cold?' The inhabitants of this country are brought up from childhood in the fear of taking cold. It is the bugbear of our youth; it haunts us through

* Transactions of the College of Physicians, Vol. II., p. 521, 1772.

life." (p. 158, *ibid.*) Remarks to the same effect pervade Mr. Thackrah's very able treatise, but for further examples we would refer to the work itself.

Dr. Holland, in his *Medical Notes and Reflections*, has touched upon many subjects with great ability, as well as ingenuity. Amongst the rest, this has not escaped him:—

"The effects of perspiration suddenly checked by external cold, are the subject of general apprehension, and influence many of the details of medical practice. Though, in some instances, mischief may arise from this source, I believe the alarm to be unwarranted in degree, and many of the effects so attributed to be due to other causes, acting concurrently; such as exhaustion from fatigue, the perspired fluid left on the body, and the influence of cold itself in suddenly changing the balance of the circulation between external and internal parts. The latter effect may equally happen, independently of perspiration; and there is no ascertained reason why this, previously occurring, should alter or change its amount. The customs of some countries, and the necessary habits of particular avocations, show how suddenly these changes may be made without any injury, if other causes of mischief are excluded; and prove the uselessness, or wrong selection of many of the cautions current on the subject. This is a point on which just views are very desirable to the practitioner. It is, in every case, important that his judgment should be unfettered by common opinions, exaggerated or unproved; and though here, as in other instances, it may be well to concede sometimes, yet must he ever maintain the prerogative of applying his better knowledge when circumstances require it."—p. 468.

In his practical inferences, Dr. Holland makes an assertion which may be somewhat startling to common notions. "Almost may it be taken as a rule, that wherever there is a hot and dry skin, cold, in one degree or other, may safely and expediently be applied to change its state."—*Ibid.*

Dr. Currie is well known to have advocated the use of cold affusion in fevers—a doctrine which was, no doubt, very startling to the prejudiced opinions of his day. In the present age of cold water cures, it would have been a mere orthodox opinion.

Habit has, of course, a great influence in increasing the tolerance of cold and moisture. I shall not, however, stop now to inquire into its influence, because I admit the fact, and I know it to be generally admitted.

I may remark, by the way, that the popular ideas of *hardening the system* are, in many cases, injurious. We should, on no account, despise the use of sufficient clothing and exercise; and we may feel assured that we are always wrong in permitting a continued sense of chilliness. Delicate children and invalids are often sacrificed to wrong notions in this respect. We should, of course, seek to increase the *tolerance* of cold, before the cold is augmented; and this must be done by sufficient food and clothing, and exercise; and if these fail, it must not be attempted.

Again, a great deal is attributable to the state of the body, in producing the effects which are thought to be the *sole* results of external agents. The exercise of the body seems essential to the excretion and

removal of effete matter. The late researches of Dr. Liebig have thrown great light upon many physiological inquiries; and amongst the rest, on the direct advantage of exercise.

Repletion.

Repletion has, perhaps, more influence in bringing about catarrhs and rheumatic affections, than may be suspected by those who see the causation of all diseases in cold and moisture. In a letter which Mr. Small addressed to Dr. Franklin, in 1771, he writes thus about the origin of catarrhs:—"A modern author, who ought to have understood this subject, for he has written so great a book about catarrhs, that you had better have twenty colds than read it, is of your opinion. 'Illa, illa, inquam cibi, potusque abundantia citat catarrhos. Eosdem abigunt frugalitas et labor. Ut ex luxu et otio nascuntur catarrhi, ita horum medicina est in sobrietate, in continentia, in exercitationibus corporis, in mentis tranquillitate. In dies quisque vero hæc precepta has leges vivendi custodit? Homo frugi est rara avis. Hinc nemo mortalium fere est sine catarrhis.'" This was the celebrated Schneiderus. A passage from Celsus is also alluded to:—"Utilis etiam in omni tussi est perigrinatio, navigatio longa, lora maritima, natationes."

I think it may be concluded, from these remarks, that wet and cold are not to be considered as the only sources of catarrh. I think it may be inferred, that if the body be previously in good health, if the animal heat be kept up by exercise and sufficient clothing, and if there be a free change of air, there will not be so much danger as is imagined, even from sudden transitions of temperature. I believe the common opinion, as to the danger of rapid alternations of heat and cold, requires some modification. If the body be warm, provided the vital energy be not previously exhausted, it is in the best position to resist the influence of cold. It is not the suppression of perspiration which we have to dread, but the exhaustion which may accompany it. There is much confusion and misunderstanding in regard to this so-called suppressed perspiration; and even medical men use phrases which have little signification, or involve theories which they would scarcely be inclined to subscribe to, if they only heard them fairly stated. As to perfect suppression of perspiration, Dr. Edwards states it to be impossible; for, however cold and moist the air may be, that in immediate contact with the body becomes sufficiently warmed to enable it to take up more fluid from the surface of the skin; and if, on the other hand, the humid atmosphere be of equal temperature with that of the body, the true secretion of perspiration is augmented, though it be not evaporated.* Certainly many of the effects attributed to cold and moisture arise, in reality, from the crowding together of people in ill-ventilated rooms. That perspirable matter may generate noxious emanations does not seem difficult of belief. The spread of contagious diseases, in the atmosphere of sick rooms, shows the existence of baneful exhalations. Persons suffering from dysentery, hospital gangrene, puerperal fever, typhus, erysipelas, small pox, &c., when confined in close apartments, are capable of communicating the disease. The peculiar odor which accom-

* See his work on the Influence of Physical Agents on Life.

panies some of these disorders, also goes to establish the fact that they are extended by the effluvia from the body. But even the most healthy people, crowding in small apartments, generate disease, especially if there be the concomitants of heat and moisture. Dr. Franklin thought it ascribable to the putridity of the animal matter in the perspiration. Diseases are well known to be engendered in animals which are long confined in close apartments. When the glanders in the horse is not immediately propagated by contagion, it appears to arise from this cause. It would seem, from the facts adduced by Mr. Coleman, Dr. Ashburner, and Dr. Elliotson, that the glanders may be produced by shutting up horses in confined spaces for a long time. Now the glanders has many points of similarity to catarrh, though it is of a much more severe and fatal character. It is characterised by inflammation of the pituitary membrane, with chancrous sores, and an offensive discharge. The conjunctiva is implicated, the eyelids swelled, the respiration laborious, and the glands enlarged. The circumstances most favorable to the generation of malaria are heat and moisture; a cold moist air may, undoubtedly, be injurious; but it does not seem to operate in the production of malaria. Hufeland states that, in 1815 and 16, in the North of Germany, the seasons were remarkably wet, and the temperature low, and yet the public health was very good, even in the marshy districts.* A crowded room might be endured, if the air were dry and freely removed; but as the exhalations of the body are principally composed of water, and as the animal heat is freely radiated, it follows that heat and moisture must generally exist, even in crowded rooms which are not artificially warmed; heat and moisture favor the putrefactive process, and in this way they, no doubt, occasion disease. Simple water cannot, of course, undergo any decomposition; but it often contains a vegetable and animal matter. It seems curious that the mere contact of wood and water may exercise a deleterious influence on the air. That damp floors may extend or create various diseases appears to be borne out by a variety of facts; and, indeed, is supported by common observation. It seems to favor the spread of erysipelas and other complaints, or probably to generate them. The effects of damp floors in public hospitals, and on board ships, has attracted attention. Dr. Armstrong remarked that, in the French vessels, where it is customary to wash between decks, disease is much more common than in the English, where dry rubbing is used. In the Manchester Royal Infirmary, a system of dry rubbing is now adopted, and it is found that erysipelas is not nearly so prevalent as it formerly was.

"The crowded wards of hospitals, ships of war, and transports," says Dr. Copland (art. Infection, in Dict.), "generally continue healthy, as long as dryness and freshness of air are preserved. But as soon as these requisites to health are neglected, when the floors of the former, or the decks of the latter are frequently washed, so as to render the air moist, the emanations from the healthy, as well as from the sick, readily accumulate or acquire activity." As to the nature of malaria, there is, of course, great ob-

scurity; but the learned author we have just quoted, supposes it to exist in "aqueous vapor holding in solution the subtile particles of decomposed animal and vegetable matter." It thus happens that, though it originates in heat and moisture, it may afterwards exist in lower temperatures, diffused through fogs and vapors. The dews in Africa, which descend in the night season, have been considered by travellers to be greatly injurious. In the late expedition under Captain Trotter, to find the source of the Niger, it was a point of consideration to avoid the "night air." The malaria which arises in the heat of the day is deposited with the dew; and all writers agree that, in the malarious district, the fogs are especially prejudicial. For the same reasons, epidemics follow hot seasons; but the consideration of this subject would lead us too far from the immediate object of our inquiry.

Much confirmation of the view that catarrhs may originate from a specific irritation, might be derived from the contemplation of that very singular disease called the hay asthma, and which Dr. Bostock, who, I believe, was the first to describe it, called the *catarrhus ætius*. There is a very amusing description of this extraordinary affection in the lectures which Dr. Elliotson delivered at University College. I am myself acquainted with a gentleman who is the subject of this curious and interesting malady. After all, I would not undertake to say that catarrhs are never produced by the simple agency of cold and moisture; I believe we are not yet in full possession of the exact combination of circumstances to which they owe their origin, and the common doctrines are evidently exaggerated or erroneous. If we are careful to maintain the animal heat by plenty of warm clothing, and by proper exercise, and allow ourselves to be guided, to a certain extent, by our sensations, we need not fear wet and moisture, nor dread the vicissitudes of temperature. On the other hand, it would appear that catarrhs and other febrile diseases may arise from animal exhalations diffused through a warm and humid atmosphere, probably in a state of putrefaction. It is well, therefore, to avoid crowded and ill-ventilated rooms, or small apartments which do not admit of a free change of air. In many instances, the evil effects of such places are greatly increased by sedentary habits and repletion of the system.

PRESENCE OF HYDROCYANIC ACID IN THE SPIRITUS ÆTHERIS NITRICI OF COMMERCE.

Mr. W. Bastick stated, at a recent meeting of the Pharmaceutical Society, that he had detected one-fifth of a grain of anhydrous hydrocyanic acid in one hundred grains of nitric æther, prepared on the continent, after a peculiar process recommended by Liebig, which consists in adding a little starch or sugar to the ingredients employed in its manufacture. Mr. Redwood said that a similar contamination was liable to occur in nitric æther prepared from the residual liquor, consisting chiefly of alcohol and nitric acid, obtained from manufacturers of fulminating mercury.—*Pharm. Journ.*, Dec. 1843.

* Copland's Dict, Art Epidemics.